LEARNING RESOURCES AND OPEN ACCESS IN HIGHER EDUCATION INSTITUTIONS IN IRELAND

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Strengthening Ireland's evidence base for teaching and learning enhancement in higher education

NATIONAL FORUM
FOR THE ENHANCEMENT OF TEACHING AND LEARNING IN HIGHER EDUCATION

National Forum Collaborative Research Project: University of Limerick, Dublin Institute of Technology, National University of Ireland, Galway, Royal College of Surgeons in Ireland

Learning resources and open access in higher education institutions in Ireland

FINAL REPORT

This report arises from the findings of a collaborative project led by Dr. Angelica Risquez from the Centre for Teaching and Learning in the University of Limerick. The project was funded by the National Forum for the Enhancement of Teaching and Learning. The project team included Dr. Claire McAvinia, Learning Development Officer, Learning, Teaching and Technology Centre, Dublin Institute of Technology; Dr. Anne O'Keeffe, Director of Teaching and Learning, Centre for Teaching and Learning, Mary Immaculate College, University of Limerick; Ms Catherine Bruen, Technology Enhanced Learning Manager, Royal College of Surgeons in Ireland; Ms. Yvonne Desmond, Manager of the Library Central Services Unit, Dublin Institute of Technology; Dr. Pauline Rooney, Learning Development Officer, Learning, Teaching and Technology Centre, Dublin Institute of Technology; Dr. Sharon Flynn, Assistant Director, Centre for Excellence in Learning and Teaching, National University of Ireland, Galway; Dr. Deirdre Ryan, Teaching and Learning Officer, Blended Learning Unit and Centre for Teaching and Learning, Mary Immaculate College, University of Limerick; Dr; Fiona Farr, Dean Teaching and Learning, University of Limerick; and Dr Ann Marcus Quinn, University of Limerick. Dr. Ann Coughlan was appointed to the project as Senior Research Fellow at the Centre for Teaching and Learning, University of Limerick.

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PREFACE TO NATIONAL FORUM FOCUSED RESEARCH PROJECTS

The National Forum for the Enhancement of Teaching & Learning in Higher Education is a key consultative forum and an evidence-based change agent for teaching and learning enhancement and innovation for impact. It works in partnership with students, teachers, experts, learner support providers and researchers - and with institutional and system level leadership throughout the sector to provide thought leadership on developing future-orientated aspects of teaching and learning on Ireland's emerging higher education landscape.

As part of Forum's commitment to leading and facilitating enhancement from an evidence-based standpoint, it has funded a series of Focused Research Projects to be conducted over a six month period by higher education researchers in partnership with the Forum. These projects were designed to facilitate rapid and focused research on specified themes to inform academic practice and guide enhancement activities, including:

- Transitions to higher education
- Student completion and retention in higher education (qualitative studies)
- Open Education Resources and Open Access
- Recognition of Prior Learning
- Research on Higher Education Teaching & Learning in Ireland

Successful projects were awarded funding by the Forum following competitive selection, based on international peer review and were initiated in December 2014. They ranged in scope from national analysis of existing practices and policies to in-depth case-studies located in small clusters of institutions. Ethics approval for the projects was granted through the higher education institutions involved and the National Forum's Research Ethics Committee.

Collectively the projects have now created a baseline understanding in a national context on these topics, as well as a springboard for future enhancement activities and further practice/policy developments. Importantly, the successful completion of these projects attests to the collaborative partnership and engagement between the Forum and higher education institutions in developing a shared common purpose for evidence-based enhancement activities. In addition they also demonstrate the potential for contributing to the research and scholarship of Irish teaching and learning locally and internationally through peer-reviewed publications. The Forum in line with its scholarship strategy will support project teams to achieve this objective.

Learning Resources and Open Access in Higher Education Institutions in Ireland

This project, a national analysis, set out to examine strategies for sharing open educational resources (OERs) to enhance teaching and learning in Irish higher education. Drawing on the collective expertise and experience of colleagues, with on-going involvement in open educational resources, the study explored current practices and potential approaches for future sharing of resources. The experiences gained through the National Digital Learning Resources project, were also considered along with options for the management and discovery of digital teaching and learning resources through local repositories. As part of the exploration focus groups were held with selected groups of academic, library, educational development and educational technologists.

Consequently this report provides a considered account of some of the key issues which influence the sharing of open educational resources from primary data gathered and also from a survey of current research literature. The relevant issues incorporate questions of awareness and understanding of open educational resources at individual as well as institutional level, and in particular the value placed on openness as a positive incentive for academic engagement and sharing. Alongside the increasing growth of social media and online sharing platforms which have altered the way resources are shared amongst some groups, there is also the question of how in an Irish context distinctive institutional missions and approaches can determine levels of OER engagement. Acknowledging the complex interplay between these factors, the study suggests important practical steps to take forward OER engagement, including: awareness raising; professional development for academic staff; capturing excellent OERs and continuing relevant and targeted research to support particular OER initiatives.

Thanks are due for the commitment and energy invested by the Project Team led by Dr Angelica Risquez, with Dr Claire McAvinnia, Dr Anne O Keeffe, Ms Catherine Bruen, Ms Yvonne Desmond, Dr Pauline Rooney, Dr Sharon Flynn, Dr Deirdre Ryan, Dr Fiona Farr, Dr Ann Marcus Quinn and Dr Ann Coughlan. The National Forum looks forward greatly to its ongoing partnership with the Project Team in sharing the outcomes of this projects for the benefit of the wider higher education sector during the next academic cycle and beyond.

For further information on all of the National Forum Focused Research Projects please see: http://www.teachingandlearning.ie/t-l-scholarship/national-forum-research-projects/.

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1 Introduction

1.1 Background

Over the past decade or so the open education movement has continued to gather momentum in higher education, spurred on by increasing demand for more flexible education options; by the potential of developments in technology and infrastructure; by advocacy at policy level; and by initiatives and developments at national and international levels. Open educational resources (OER[1]), one element of the open education movement, have seen exponential growth in this period. Navigating this OER landscape poses a number of important issues and questions for the practice of teaching and learning. From an educational development perspective, the focus rests on investigating how both students and teachers can use and share open educational resources in ways that optimally enhance teaching and learning.

There is a wealth of data and literature from research, projects and initiatives on OER at international level. In Ireland too there are a number of initiatives that this project can learn from and build upon, particularly in relation to the use of digital repositories. Furthermore, there are policy contexts at international, European and Irish levels that provide a backdrop to the project.

In this context, the research sets out to examine how open educational resources can be utilised, developed and shared in order to enhance teaching and learning in Irish higher education. The project is led by the University of Limerick, in partnership with Mary Immaculate College, University of Limerick; Dublin Institute of Technology; the Royal College of Surgeons in Ireland; and the National University of Ireland, Galway. The study is funded by the National Forum for the Enhancement of Teaching and Learning.

1.2 Objectives and definitions

The aim of this study is to examine how open educational resources (OER) can be utilised, developed and shared in order to enhance teaching and learning in Irish higher education. Stakeholders therefore include all those with a stake in Irish higher education.

To address the project aim, three research questions were developed as follows:

1. How are open educational resources currently being used and shared in Irish higher education institutions and what can we learn from such experiences?
2. What do we know from the National Digital Learning Resources (NDLR) experience about how OER might be shared, utilised, maintained and developed?
3. How can the digitisation of teaching and learning resources be ingested, managed and discovered using local repositories?

The definitions being used for the purposes of this project are outlined hereunder.

[1] In this report the same abbreviation – OER – is used to denote open educational resources both in the singular and in the plural.

- Open Educational Resources (OER)[2]**:** "OER is defined as 'teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others.' Unlike traditionally copyrighted material, these resources are available for "open" use, which means users can edit, modify, customize, and share them"[3].
- Digital Learning Resource**:** An educational resource in digital format which is used to facilitate the achievement of a learning outcome.
- Higher education institutions: Both publicly- and privately-funded higher education institutions[4] in Ireland.

1.3 Limitations of study

A number of study limitations need to be highlighted as caveats for interpreting findings and recommendations.

1.3.1 Time constraints

The OER field of study is a fledgling but vast one with many calls for more research and deeper investigation. Working within the time allocated for this study, the focus is on providing an overview of key issues and an exploratory empirical investigation, while scope exists for further in depth analysis of the dataset collected.

1.3.2 Empirical research

Both survey participants and focus group participants were self-selecting. The project study sample is not, therefore, necessarily representative and does not support generalisations about the sector.

There are many other groups whose views on OER could have been collected in this study in order to gain a more balanced and comprehensive understanding of issues around open educational resources in higher education e.g. students; teaching team and subject coordinators; librarians; and management staff.

1.3.3 The broad range of higher education institutions

This study includes both publicly- and privately-funded higher education institutions in Ireland. It is not differentiating further between the broad range of institutions falling within its remit. It is acknowledged that each institution has its own unique learning mission and goals with regard to the type of education each is attempting to provide and the type of learning design that best meets these goals.

The existing literature on open educational resources is in the context of the university sector, for the most part. The context provided for the project may not therefore be applicable to all institutions falling within the remit of the study. For example, the NDLR project discussed in Section 3 did not include private colleges. It is also the case that many private colleges may not have institutional repositories. Similarly, because data discussed in the literature is principally

[2] There are many, often contested, definitions of OER. (See Section 2.)

[3] Babson Survey Research Group, 2014:9.

[4] The following are publicly-funded higher education institutions: the 7 Universities, the 14 Institutes of Technology and, in addition: Mary Immaculate College, Mater Dei Institute, National College of Art and Design, St. Angela's Sligo and St. Patrick's College, Drumcondra.

in the context of the university sector, primary data collected in this study (from both publicly- and privately-funded institutions) is not directly comparable.

It is acknowledged, therefore, that not all aspects of this study will be relevant for all institutions that fall within its remit.

1.4 Project methodology

Working within the limitations outlined in Section 1.3, this exploratory research project was designed to meet the objectives outlined in Section 1.2. Ethical approval was granted by the Research Ethics Committee at the University of Limerick. A mixed methods approach was adopted involving analysis of secondary data as well as primary research with academic staff, library staff, educational developers and technologists.

In order to answer the research questions identified, the following research activities were planned and instigated.

Research question 1: How are open educational resources currently being used and shared in Irish higher education institutions and what can we learn from such experiences?
Research activities: (a) A survey of academic staff and (b) three focus groups with a mix of academic staff, library staff, educational developers and educational technologists in three different geographic locations. (See Section 4 of report.)

Research question 2: What do we know from the National Digital Learning Resources (NDLR) experience about how OER might be shared, utilised, maintained and developed?
Research activities: A review of the lessons learned from the NDLR project. (See Section 3 of report.)

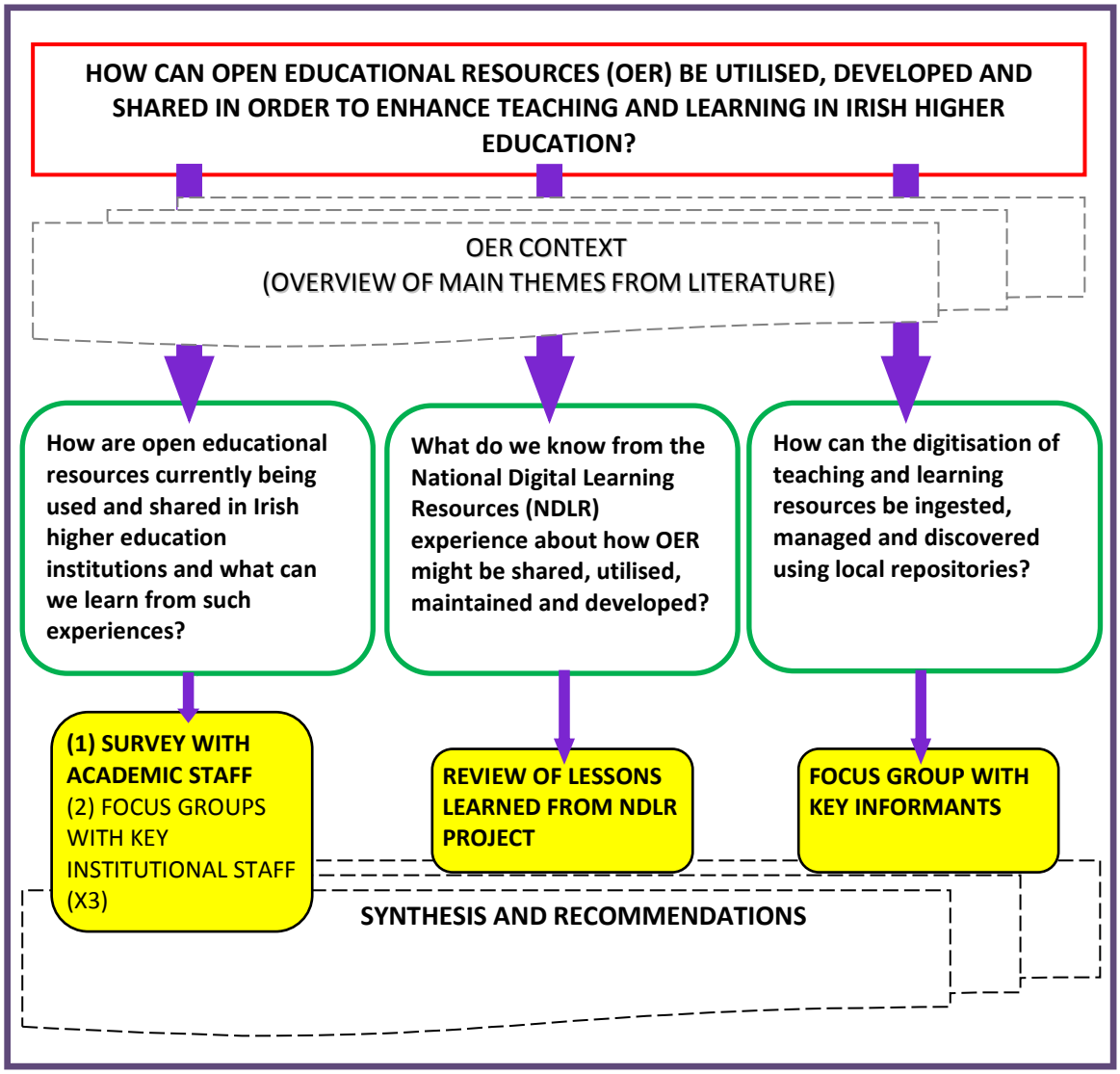
Research question 3: How can the digitisation of teaching and learning resources be ingested, managed and discovered using local repositories?
Research activities: A focus group with key informants. (See Section 5 of report.)

Further notes on methodological issues can be found in the relevant sections of the report (4, 3 and 5 respectively).

To contextualise the study, a brief overview of the main themes highlighted in the literature was undertaken. Finally, recommendations were made, based on analysis of primary data collected and informed by the literature overview.

Figure 1 presents an overview of the project design. The researcher work plan is presented as Appendix A.

Figure 1 Project design



2 Context for study: overview of main themes in literature

2.1 Introduction

A comprehensive review of the extensive literature on open educational resources (OER) was beyond the scope of this study. Although a relatively new field (c. 12 years), there are political, economic, social, cultural, technological, legal and pedagogical perspectives and intersections that could be investigated.

A review of the literature undertaken by Wiley *et al.* (2014:781) began by reviewing the many definitions of OER and summarised the main themes in open educational resource research as follows:

> Research regarding open educational resources focuses on methods of producing OER, methods of sharing OER and the benefits of OER. Significant issues relating to OER remain unresolved, including business model and discovery problems.

Some of the themes identified by Wiley relate to 'big OER' (see Section 2.3 below). There are also emerging critiques of 'openness' as a construct and criticism of the OER movement that could be explored, time permitting (see e.g. Bates, 2011; Knox, 2013; Oliver, 2015).

In summary, a perusal of the literature reveals a myriad of themes, as captured in Figure 2.

Figure 2 OER literature: themes

Created at www.wordle.net

Drawing on a selection of studies, the themes hereunder were extrapolated as most relevant for this study.

2.2 Defining open educational resources (OER)

This first theme is the most pervasive and reveals that there is a multiplicity of interpretations and motivations behind the development of OER. A substantial amount of the literature is devoted to unravelling and clarifying definitions of the term 'open educational resources'. Wiley (*ibid*.: 781-782) provides a large number of citations for such work.

Many studies (see e.g. Thomas *et al.,* 2012; Weller, 2014) provide historical background on the chronology and evolution of the OER space, providing often essential context for particular audiences. These analyses situate the **open educational resources movement** within the **open education movement**, which in the context of higher education includes open scholarship, open pedagogy, open data, open courses and open access publishing, as well as open educational resources and more recently, the MOOC (massive online open course), with some studies (e.g. Butcher, 2015) positioning the MOOC as a subset of OER. The open education movement in turn is situated within a broader **open movement**.

The open educational resource movement grew out of earlier work around 'learning objects'. While the vision for reusable learning objects never materialised, due to issues around reusability, sustainability and culture, they can be considered an essential first step (Weller, 2014). In a review of the literature on learning objects, Wiley (2008:346) distinguishes between learning objects and open educational resources as follows:

> A *learning object* is a digital resource that can be reused to mediate learning. An *open educational resource* is a learning object that can be freely used, reused, adapted, and shared.

The term 'open educational resource' first came into use at the UNESCO Forum on Open Courseware in 2002 (UNESCO, 2002:24), when OER were defined as:

> [t]he open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes.

The definition adopted for this project (see Section 1.2) was drawn from a survey undertaken by the Babson Research Survey Group (2014:9) in the US. It is based on the definition used by the William and Flora Hewlett Foundation (Atkins, Brown and Hammond, 2007:4). There, OER are described as:

> [t]eaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge.

The broad range of definitions in the literature differ mainly in relation to the extent of legal permissions understood to determine the 'open' in OER. For example, Wiley (http://opencontent.org/definition) in his '5Rs Framework' expands on the term 'open content' in the context of licensing as follows:

> The term "open content" describes any copyrightable work (traditionally excluding software, which is described by other terms like "open source") that is licensed in a

manner that provides users with free and perpetual permission to engage in the 5R activities:

1. Retain - the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage).

2. Reuse - the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video).

3. Revise - the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language).

4. Remix - the right to combine the original or revised content with other open content to create something new (e.g., incorporate the content into a mashup).

5. Redistribute - the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend).

The UNESCO Paris Declaration on OER, signed in 2012 (UNESCO, 2012:1), provides a definition of open licensing, describing OER as:

> teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work.

The Declaration, which emanated from the World OER Congress, called on governments worldwide to support the development of OER.

The short discussion here shows some of the varying interpretations of what an OER might be. Each word – 'open', 'educational' and 'resource' can be examined in order to arrive at a definition. An educational resource could be described simply as a resource that meets a learning outcome, though some definitions specifically relate to 'digital learning resources' while others include all learning resources. It is the 'open' aspect however that requires most clarification. In conclusion, it is important to bear in mind that the definition of OER is broad and is still under discussion.

2.3 'Big OER' and 'Little OER'

The spectrum of OER can range from complete courses to a single image. There are, obviously, different approaches and motivations behind say MIT open courseware and a diagram developed to support a concept by an individual lecturer. Martin Weller makes a useful distinction in a blog post (attributing Michelle Hoyle) between 'big OER' and 'little OER' or 'top-down' and 'bottom-up' OER respectively, as follows:

> Big OERs are institutionally generated ones that come through projects such as openlearn. Advantages = high reputation, good teaching quality, little reversioning required, easily located. Disadvantages = expensive, often not web native, reuse limited.
>
> Little OERs are the individually produced, low cost resources that those of us who mess about with blogs like to produce. Advantages = cheap, web (2) native, easily remixed and reused. Disadvantages = lowish production quality, reputation can be more difficult to ascertain, more difficult to locate.

In the context of the enhancement of teaching and learning and the potential of OER to shift teaching and learning practice in the direction of openness, little OER could be considered to be more relevant. As Weller (*ibid.*) states:

> [Higher Education] institutions are implementing big OER projects to release their traditional material, whereas individual academics are creating new types of content.

There is a large body of literature on 'big OER' in the context of making higher education more available and accessible to the global population, and in the context of the marketisation of higher education. The big headline-grabbing digital 'story' in recent years around MOOCs has muddied the waters somewhat in relation to the 'open' project, leading to despondency among originators about the reinterpretation of 'open' as 'free' or 'online' without some of the 'reuse' possibilities originally envisaged. The subject is explored by Weller in his book, 'The Battle for Open'. Weller (2014:3) states:

> At this very moment of victory it seems that the narrative around openness is being usurped by others, and the consequences of this may not be very open at all.

He continues, making reference (*ibid.*: 4) to a conference talk by Gardner Campbell:

> 'What we are seeing,' he said, 'are developments in the higher education landscape that seem to meet every one of the criteria we have set forth for open education – increased access, decreased cost, things that will allow more people than ever on a planetary scale, one billion individual learners at a time … Isn't that what we meant?' But as he explored different successes of openness his refrain was that of T. S. Eliot: 'that's not what I meant at all'.

For the purposes of this study, this and other literature on 'big OER' is not considered relevant at this point (for example the literature on open courses and MOOCs and the associated production models, etc.).

That is not to say that 'big OER' are irrelevant. For example, there may be some 'big OER' that can be taken apart and broken down into their constituents and they can add significantly to the supply of 'little OER' for reuse. They may also be relevant in some of the other ways academics use OER (e.g. benchmarking practice, getting ideas for developing modules, etc.).

2.4 From OER to OEP (Open Educational Practice)

Related to the last theme (Section 2.3), open educational resources, as part of the open education movement, are linked with the broader principle of open educational practice (OEP). However, educational culture often militates against the changes in practice required around the large scale sharing and reuse of OER.

One of the findings from the extensive investment by the Higher Education Funding Council for England (HEFCE) in OER in the UK between 2009 and 2012, as identified in the UKOER/SCORE Review Final Report (McGill *et al.*, 2013a:12), is that there is :

> empirical evidence of emerging OEP through activities around OER.

In other words, for those who were involved in the UK OER projects and initiatives, the act of participation and engagement was transformative and worked as a catalyst for changing values

and teaching practices. Moreover, inter-institutional collaboration, an intrinsic part of the projects, contributed further to the change process as highlighted by McGill *et al*., 2013(a):

> Cross-institutional working fostered culture change through sharing of resources and practice.

However, the OER Impact Study (McGill *et al*., 2013b: 9), funded by JISC (the Joint Information Systems Committee), found that:

> Although we have evidence of significant practice change, projects are also aware that there is still a fair way to go to make this practice mainstream.

Neither do we know the extent of this change towards 'openness' (see Section 2.6).

2.5 Awareness and use of OER

In the US, a nationally representative survey of 2,144 faculty members, undertaken in 2014, found that the majority of respondents remained unaware of OER. A conclusion (Babson Survey Research Group, 2014:2) was that:

> [a]wareness and adoption of open educational resources (OER) has yet to enter the mainstream of higher education.

In an article looking at the impact of OER, 10 years after their debut in 2002, Kortemeyer (2013) states:

> ..In the roughly 10 years since, OERs have not noticeably disrupted the traditional business model of higher education or affected daily teaching approaches at most institutions.

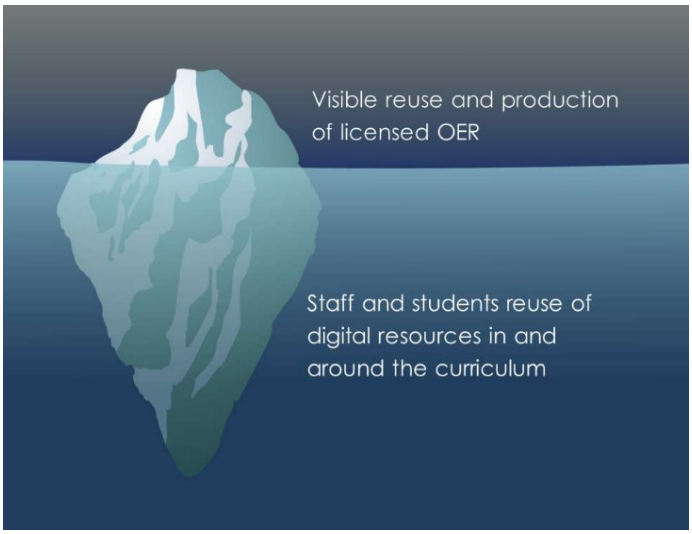
Following the aforementioned UK three-phase HEFCE-funded OER projects, general awareness of OER remained low. According to McGill *et al*., 2013(c)

> Projects in phase three still reported on challenges around general awareness of OER and OEP, and also lack of knowledge around appropriate use of third party materials.

Related to the last point in this quote, the metaphor of an iceberg (Figure 3) is used by White and Manton (2011:5) in the OER Impact Study funded by JISC. They distinguish between the visible reuse and production of licensed OER that bear the name of the institution, and the invisible reuse by staff and students of digital learning resources in and around the curriculum. The majority of reuse takes place in contexts that are not publicly visible. Much of that reuse is possibly illegal, but the risk is considered acceptable.

In relation to students they found that they were generally oblivious to OER and lacked the requisite digital literacy skills. Another finding was that students value the curation of learning resources.

Figure 3 The iceberg of reuse



Source: White and Manton, 2011:5**.**

McGill *et al.* (2008) would agree with White and Manton suggesting that there is plenty of literature about reuse and repurposing, but a lack of evidence to show that it is actually happening. Lane and McAndrew record several types of reuse in relation to OER i.e. 'as-is' reuse; technical, cultural, pedagogical and linguistic adaptations; and annotation. They conclude that

> the idealised cycle of adoption, reworking and recontribution has only had limited success.

There is consensus in the literature that much more research is needed on how and why OER are being (re)used.

The JISC research showed that staff were mostly interested in 'little OER', stand alone resources that supplemented their courses and met a specific teaching need e.g. a diagram to explain a concept. This is no different to how academics would have used more traditional learning resources in the past. Lecturers and teachers have always searched for and shared learning resources (e.g. at conferences, through discussion with peers, etc.). The abundance of available online material (whether OER or not) presents more choice and possibility. If licensing is the defining characteristic of OER, it does not assume the same importance for use below the waterline. The term and indeed the concept of OER may not have gained mainstream currency, but digital learning resources, including OER, continue to be reused and shared. The challenge is that in this new environment many teachers remain unaware or unsure of how to deal with third party materials. Because OER are based on a clear copyright and creation process, this is the reason they are said to be part of digital literacy and copyright education (Grodecka and Śliwowski, 2014:25).

2.6 Open pedagogy

Continuing on from the last point, if digital learning resources, including OER, are for the most part being used in much the same way as learning resources have been used in the past, what are the implications for open educational practice (Section 2.4)? Wiley (2013) uses the analogy of driving an airplane down the road. Driving an airplane around, simply because that is how we have always travelled in the past, misses out on the huge potential of the airplane. The

additional capabilities of OER are that they are free to access, free to reuse, free to revise, free to remix and free to redistribute. (See Section 2.2.) Wiley (*ibid.*) asks:

> [W]hat is the relationship between these additional capabilities and what we know about effective teaching and learning? How can we extend, revise, and remix our pedagogy based on these additional capabilities?

He gives some interesting examples of student assignments that leverage these capabilities and clearly demonstrate the concept of open pedagogy. One such example that is often used to exemplify effective open pedagogy is Murder, Madness, and Mayhem: Latin American Literature in Translation.

Weller (2014:11) also gives examples of courses that exemplify open pedagogy. One of these

> ...encourages learners to create daily artefacts, suggest assignments, establish their own space online and be part of a community that extends beyond the course both geographically and temporally.

Another has learners create their own blogs, and these are

> used for all their solutions. The course then automatically aggregates all of these contributions into one central blog. All of this is conducted in the open.

He (*ibid*.) points out that there is no 'one-size-fits' all, but rather an underlying principle.

> This is not to suggest that any of these examples should be the default or adopted by others. They are suited to particular contexts and topics. The point is a more general one, in that openness is a philosophical cornerstone in these courses.

Wiley (*ibid.*) maintains that if the teaching and learning approach or technique that is being used is possible *without* the free access *and* the permissions characteristic of open educational resources, then

> you may have an effective educational practice but you don't have an instance of open pedagogy.

It would of course be possible to use open approaches and open resources without an effective learning design (e.g. use of OER – textbooks and other resources - with an open-book, multiple-choice final exam; or the use of OER in solely lecture-based, teacher-centred approaches). It would also be possible to have an effective learning design without using open approaches and/or resources (e.g. using a PBL approach to tackle a real world problem but using 'closed' resources and working in 'closed' spaces – e.g. traditional face-to-face classrooms behind an LMS[5] firewall).

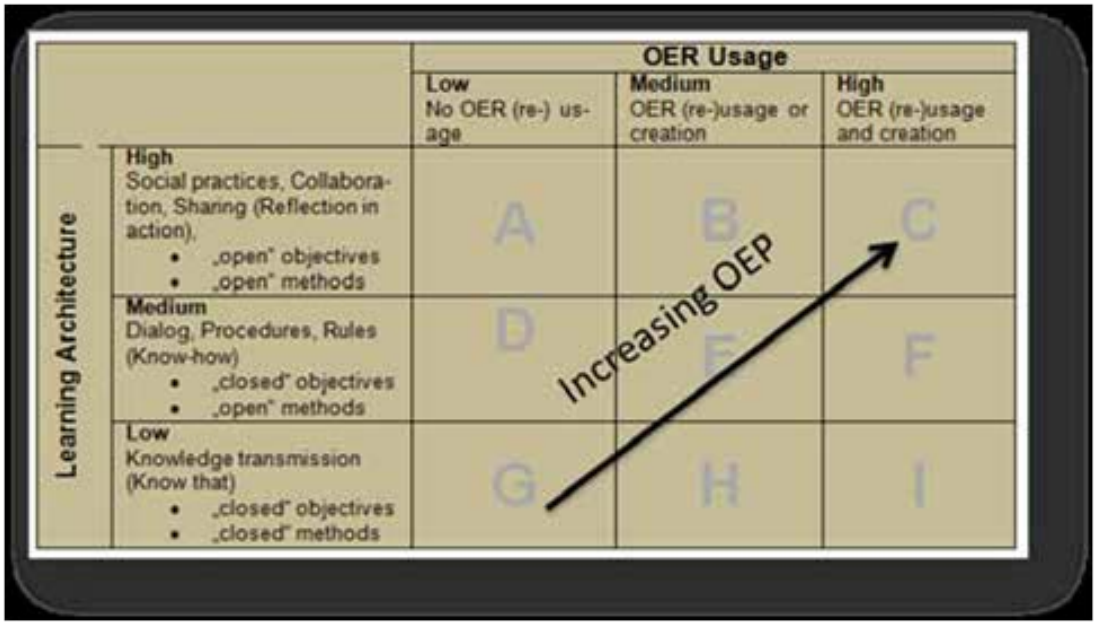
In a blog post following attendance at the Open Education Conference (OER15), Cronin describes open educational practice (OEP), as the highest of 4 levels of 'openness', after open access (available to all); free (available at no cost) and openly licensed (available in the public domain or with a Creative Commons license – OER). OEP is

> characterised by sharing OER and ideas, working across open networks, and supporting students in doing the same.

[5] Learning Management System e.g. VLE (Virtual Learning Environment) such as Blackboard.

Ehlers (2011) developed a useful matrix which can be used to locate the degree of openness in open educational practices, in relation to both the learning approach used and OER usage, as shown in Figure 4.

Figure 4 Matrix - Constitutive elements of open educational practices (OEP)



Source: Ehlers, U., 2011:4.

In terms of learning approach (architecture/design) he (*ibid*.) describes three levels of openness within this framework (low, medium and high), as follows:

> 'Low' if objectives as well as methods of learning and/or teaching are rooted in "closed" one way, transmissive and reproductive approaches to teaching and learning. In these contexts, the underlying belief is that teachers know what learners need to learn and mainly focus on knowledge-transfer.
>
> 'Medium' if objectives are still predetermined, but methods of teaching and learning are represented as open pedagogical models. They encourage dialogue oriented forms of learning or problem based learning (PBL) focusing on dealing with developing "know how".
>
> 'High' if objectives of learning as well as methods (e.g. learning pathways) are determined and governed by learners. Questions or problems around learning are determined by learners (SRL – self regulated learners), and teachers facilitate through open and experience-oriented methods which accommodate different learning pathways, either through scaffolding and tutorial interactions (ZPD Vygotskian inspired approaches) or contingency tutoring.

In terms of OER use, the range is from 'no usage' to 'OER usage' and finally to 'OER (re-)usage and creation.

As an example of a pedagogic model that brings together both open practice and open educational resources, Laurillard's approach to learning design is useful and could be considered an example of an open pedagogic model. She (2012) advocates a shift from the individual design of learning to the co-design of learning where teachers are part of an innovative, professional learning community. In her book (*ibid*.) she reconceptualises teaching as a 'design science' where teachers:

- build on the designs of others;
- articulate their pedagogy;
- adopt, adapt, test and improve learning designs; and
- co-create and share learning designs.

Drawing a comparison between the processes of research and teaching Laurillard *et al.* (2013:18) commented:

> …an improving knowledge and practice of learning design may only ever be developed as a natural and ongoing part of the process of teaching. It could be similar to the development of knowledge and practice in the context of research, where academics are familiar with the requirements of knowledge-building: to build on the work of others (from a literature search), to develop and test their own ideas (through experiment or debate), and to share their results (through publishing). Could the knowledge-building process for conventional and digital pedagogies work in a similar way. Could we support academics as 'teacher-designers'… with respect to their role in creating and designing learning activities.

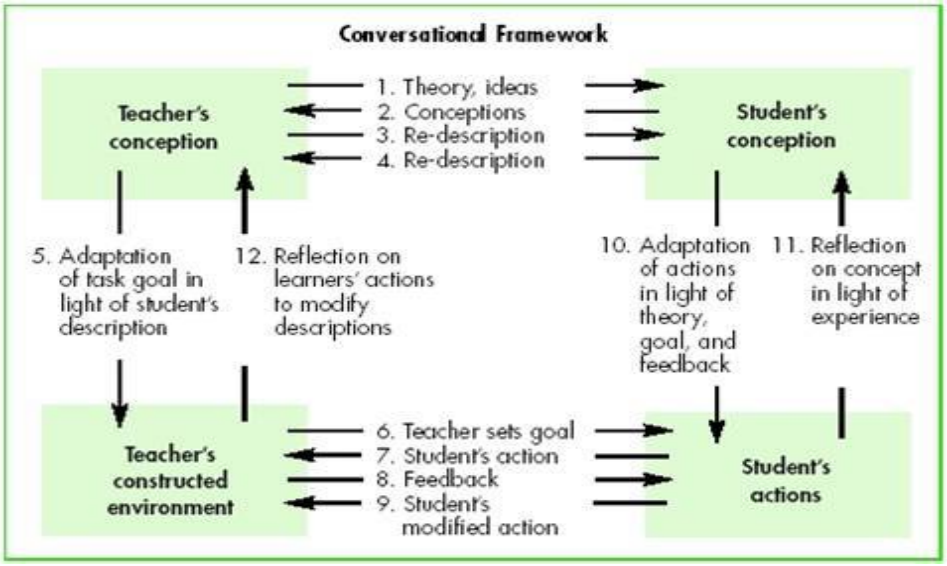
Laurillard (2012) and her colleagues have developed a design tool (The Learning Design Support Environment) which is a software interface to help teachers to:

- articulate their effective teaching ideas for others to adopt;
- to adopt 'pedagogical patterns' of good teaching and open resources; and
- to model pedagogical and logistical benefits/disadvantages.

The Learning Designer has a 'pedagogical patterns collector' tool for capturing and articulating good pedagogy and a 'learning design support tool' for teachers to find, adopt, adapt, analyse, experiment, trial in practice, redesign, and share designs. The importance of open educational resources (OER) in learning design is highlighted.

Her work is grounded in a theory-based framework of the learner learning and based on earlier analyses of how students learn, from which she developed her 'conversational framework' (Figure 5) (Laurillard, 2002). The purpose of the framework is to assess if the environment can foster all aspects of the learning process (acquisition/instruction; inquiry; practice (with meaningful intrinsic feedback); production; discussion; and collaboration). It can also be used to assess and evaluate whether educational media, including OER, support the learning process.

Figure 5 Laurillard's Conversational Framework



Source: Laurillard (2002)

A lot more could be said about Laurillard's learning design framework. The purpose of including it here is to situate the discussion on open educational resources within open educational practice and to provide an example of a pedagogic model that brings open practice and open educational resources together in a meaningful way.

2.7 Open educational resource management

Open educational resource management could be interpreted in the broadest sense as covering the whole life cycle of the resource from creation through to release and beyond (Thomas *et al.*, 2012). However, much of the literature focuses on managing the storage and dissemination of OER. Thomas *et al.* (*ibid*.: 668) provide the following rationale for OER management:

> If OER practices are to be sustainable, they need to include good practice in the management of the OERs themselves. There is no single approach to resource management, it depends on the platforms, the institutional system architectures, personal workflows, policy frameworks and so on. There are scaling issues to consider: just "sticking it online" might work for one person but individual approaches rarely scale up to work for teams or organisations.

In terms of hosting and dissemination, there are a wide range of systems used for resource management e.g. conventional repository systems such as DSpace and EPrints; repository systems that have been created or adapted for managing learning resources, such as EdShare or IntraLibrary; courseware platforms; virtual learning environments such as Moodle, adapted for open access; RSS Aggregators; Web 2.0 services such as YouTube, SlideShare and Flickr; and WordPress.

It is beyond the scope of this study to evaluate these management systems or investigate the technical aspects of resource management such as resource description (metadata, microdata, paradata); licensing and attribution (authorship, ownership, identity); search engine optimisation and discoverability; tracking of OER; and accessibility issues. The literature suggests that choosing a model for the storage and release of OER is dependent on the specific

context, motivation and intended outcomes of OER projects. Factors such as the requirements of stakeholders; sustainability; existing institutional policies and practices; practical issues around technical infrastructure; and staff skills and understanding (be they librarians, learning technologists, web officers or academics) all impact on choosing and adopting a particular approach. As Thomas *et al.* (*ibid*.) state:

> By thinking through the way in which resources will be stored and accessed, those producing and releasing OERs can work more effectively.

(In relation to resource management, see also Section 2.10.3 below.)

2.9 Value and benefits of OER

Most of the studies reviewed for this research highlight the value of OER through a range of potential benefits, justifications and motivating factors for participation in the OER project (e.g. D'Antoni, 2009; Hylén, 2006; Wiley, 2014; Weller, 2014; White and Manton, 2011; McGill *et al.* 2013 (a), (b) and (c); and others.) At the broader level, and often in relation to 'big OER', are benefits such as the enabling of free access to and reuse of human knowledge through reducing barriers to education (e.g. access, cost, format and language). More specific benefits are brought together and summarised under two headings below, though they are not necessarily mutually exclusive.

2.9.1 Value and benefits for institutions

- Improving efficiency, cost and quality:
  - Cutting down on duplication through sharing and reuse of materials;
  - Justifying a better use of public money;
  - Enhancing pedagogy and the students' learning experience;
  - Butcher and Hoosen (2014:15) state that OER:

    > can be leveraged to improve quality through capacity building, by providing institutions and teaching staff access, at relatively low cost, with the means to create and adapt high quality teaching and learning materials. This can help to develop competence in producing such materials and in carrying out the necessary instructional design to integrate such materials into high quality programmes of learning.

- Building an institution's reputation:
  - A public relations/marketing investment for institutions, enhancing public image and attracting and recruiting future students;
  - Increasing students' employability.
- Public engagement: building productive, reciprocal partnerships with other sectors through collaborative approaches to OER production and use;
- Opening access to knowledge and widening participation;
- Building technological momentum;
- Engaging with OER can be a focal point for leveraging change in mainstream activity in institutions.

2.9.2 Value and benefits for teaching and learning

The enhancement of teaching and learning is central to this report. Some of the potential value and benefits for students and teachers are outlined below. Again, these are not necessarily

mutually exclusive. Furthermore, teachers have always used their judgement to source, critically evaluate and adapt learning materials for use in their teaching. The availability of OER presents more choice and possibility and could ultimately offer time and cost benefits.

Enhanced learning experience for students

- A more open learning experience that equips students for the realities of the world they live in;
- A change in the balance of power in relationships with teachers through a more collaborative approach to learning (e.g. through the co-creation of OER);
- Enhanced peer-to-peer and external collaboration both nationally and internationally;
- Network development;
- Enhanced digital capacity, communication skills and lifelong learning skills;
- Enhanced employability.

Enhanced teaching practices for educators

Engagement with OER leads to:

- Change towards open educational practice and enhanced student centred approaches;
- Changes in the relationship with students (related to the last point), flattening the traditional hierarchy;
- Educators modelling open practice for students;
- Reflection on teaching through sharing, collaboration and co-creation;
- Enhanced collaboration between individuals, communities and across disciplines, nationally and internationally;
- (Re)professionalisation of teaching and parity of esteem with research.

Motivating and enabling factors for teachers

- Attaining global reach for work and increasing reputation;
- Achieving recognition for teaching outputs (on a par with that for research outputs);
- Engaging with and developing an understanding of the OER landscape means that educators can:
    - Be confident that they are using digital learning resources legally;
    - Not feel bound by textbook content;
    - Produce or co-produce learning materials that better meet students' needs;
    - Find resources that they might otherwise lack the skills, means or time to create themselves;
    - Create more innovative approaches to engaging with content that better address the interests and preferences of students;
    - Provide targeted supplementary material to meet the needs of individual learners.
- Ongoing professional development and learning through networking and collaborating with colleagues and students both locally and globally in an environment of reciprocal sharing by:
    - Reusing resources authored by others in order to enhance one's own practice;
    - Developing, creating and co-creating resources to fill specific gaps identified in resources available to support a particular subject domain or learning objective;

- Testing new approaches and building on the work of others;
- Learning from giving feedback and receiving feedback on OER and OEP;
- Increasing digital literacy;
- Continuously improving practice and resources though an iterative academic process.

Despite the potential value and benefits outlined above, studies report that the majority of educators still own or create most of the material they use for teaching, using OER as supplementary material or for ideas only. Many studies speculate that this will change when there is solid evidence to support the *potential* benefits outlined above. However, it is also the case that it will take time for the positive impacts (and cost benefits) to filter through, relative to the investment by institutions in technology and staff expertise.

2.10 Challenges and conflicts

Similar to what was stated at the beginning of Section 2.9, most studies reviewed also included a range of challenges, barriers and potential problems related to the OER project. Many of these stem from perceived contradictions in the benefits outlined in Section 2.9. Similarly, many are interlinked and do not easily stand alone.

2.10.1 Challenges for institutions

- The initial costs involved in developing mechanisms, processes and procedures and balancing those costs against anticipated or actual use of OER;
- Evidence of impact thus far is mixed;
- The development of methodologies for evidencing impact;
- Functional complexity;
- Choosing appropriate production and sharing models;
- Inadequate technical infrastructure;
- Sustainability (see discussion below).

2.10.2 Challenges for teaching and learning

- Ambiguity around definitions of 'open' confuses both educators and students. Some of the 'big stories' in digital education (e.g. MOOCs) are at best ambivalent about 'open'. At the same time the term OER is little known and grappling with the pedagogical, technical and legal aspects can be complex.
- Lack of institutional support, strategy and/or investment;
- Cultural issues around sharing, leading to reluctance by educators to engage;
- Concerns about intellectual property rights and copyright procedures;
- Lack of sufficient evidence to support the perceived value and benefits of OER;
- Achieving a critical mass of resources particularly in some discipline/subject areas; this leads to problems finding relevant OER and ultimately to lack of engagement;
- Time taken to search for and adapt OER, and to prepare and upload resources;
- Employment conditions e.g. part-time status may not provide the time or space necessary to engage in OER projects or develop open practice, for a number of reasons (see e.g. Coughlan, 2015; EDIN and HECA, 2015);
- Gap in discourse between learning technologists and the majority of academics;
- Gaps in technology and digital literacy skills amongst staff and students;

- Lack of reward and recognition;
- Lack of confidence (in many cases 'perfect as the enemy of the good');
- Contextualisation/localisation. This relates to what Wiley refers to as the 'reusability paradox': the more context a resource has, the less pedagogical value it has in terms of reuse. While students need context to make learning meaningful, OER should have as little context as possible to enable their reuse.
- Sustainability (see discussion below);
- The 'quality' problem (see discussion below).

2.10.3 Focus on the challenges of sustainability and quality

In his review of the OER literature, Wiley (2014) discusses five challenges that remain unresolved in the OER arena that require further intensive research. These are:

- The discovery problem – making OER easier to find;
- The sustainability problem – making OER programmes financially sustainable;
- The quality problem – dealing with the perception that because OER are free they are of inferior quality;
- The localisation problem – improving our understanding of how to make OER more useful in a wide range of contexts;
- The remix problem – understanding why people do not exercise their revise and remix permissions in OER.

Problems in relation to sustainability and quality are discussed further hereunder.

The sustainability problem

Wiley (2007:5) defines sustainability as 'an open educational resource project's ongoing ability to meet its goals'. He proposed three models of sustainability, which he labelled according to the universities that had deployed them:

- The MIT model – OER are created and released by a dedicated, centralised, paid project team.
- The USU (Utah State University) model – OER are created by a hybrid of a centralised team and decentralised staff.
- The Rice model – This is a decentralised model based around a community of contributors.

Weller (2014: 79) describes an alternative model from the open textbook experience:

> Current costs allocated to purchasing textbooks for colleges can be instead diverted to creating textbooks which are open and free to use.

Many of the issues around sustainability discussed in the literature are in the context of 'big OER' or OER projects that aim to stimulate OER and OEP. The sustainability issue arises when funding runs out and projects come to an end before practice has been normalised. Practice change brought about by programme funding can be sustained in the longer term through appropriate support (policy, strategy, technical) and space/time to be experimental with open practice.

Sustainability of OER can only be achieved through critical mass and the normalisation of use in daily practice. McGill *et al.,* 2013 (a) stated that:

> The long term value of OER release and use in 'normal' practice remains one of the most significant actions for sustainability.

And in relation to open practice they (*ibid.*) stated that

> Embedding open thinking into curriculum design processes is seen by many to be a significant factor in ensuring long term sustainability of practice change.

The latter point could be linked back to open pedagogical models and the kind of learning design model developed by Laurillard (see Section 2.6.)

Finally, learning from the UK experience suggests that communities of practice were a significant enabler in sustaining collaboration within departments and across institutions. However, they cautioned that in the longer term these communities can result in the release and reuse of very context-specific OER that may not be truly open (McGill *et. al.*, 2013a).

The quality problem

Concerns about quality have been significant on a number of levels: for those searching for OER online; for institutions considering the release of OER; and for practitioners in relation to making their educational resources open.

Wiley (2014:786) maintains that people remain suspicious of the quality of free resources in line with the common saying: 'you get what you pay for'. This is further exacerbated by the discovery problem. As Wiley states (*ibid*.), 'when it is difficult to find high quality OER, it is difficult to argue persuasively that they exist'.

Trying to define what quality is in relation to OER is problematic. It can relate to technical as well as pedagogical aspects. It could be argued that the iterative nature of OER - reuse, repurposing and remixing – leads to increased quality of OER over the longer term.

In a later blog article, entitled 'Stop saying high quality', Wiley (2015) states that the phrase 'high quality' dodges the core issue. He explains that

> [t]he core issue in determining the quality of any educational resource is the degree to which it supports learning. But confusingly, that's not what people mean when they say that a textbook or other educational resource is 'high quality'.

He goes on to ask:

> If an educational resource is written by experts, copyedited by professionals, reviewed by peers, laid out by graphic designers, contains beautiful imagery, and is provided in multiple formats, but fails to support learning, is it appropriate for us to call it "high quality"?

And he answers:

> No. No, no, no. A thousand times no.

Ultimately, quality ratings fail to recognise that quality is not a property of the resource alone. The quality, or effectiveness, of an open-educational-resource is a joint property of a resource-

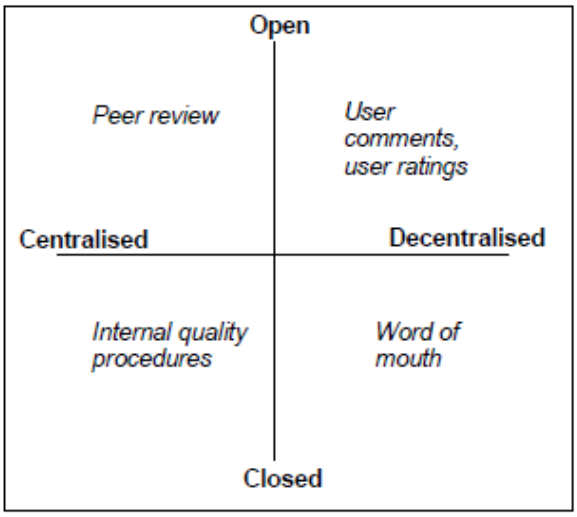
and-user (Wiley 2014). He (*ibid*.) refers to item response theory in this regard but does not elaborate further in relation to how this might be used for evaluating the 'effectiveness' of an OER. It would suggest however that the users of OER– other academics and students - are best-placed to make this call.

Butcher (2015:12) also problematises the definition of 'quality' in the context of OER. He concludes that assuring the quality of OER is 'practically impossible' (p.12) and

> ....masks the reality that the definition of quality is subjective and contextually dependent.

Nevertheless, there are a number of categorisations of approaches to managing quality in the literature. Hylén (2006), for example, categorises such approaches by mapping them against open/closed and centralised/decentralised axes as summarised in Figure 6. These range from closed, centralised forms of internal quality review to open, decentralised user ratings.

Figure 6 Quality management processes for OER initiatives



Source: Hylén, 2006:8.

Hodgkinson-Williams (2010) categorises a range of quality assurance strategies from the literature according to where responsibility for quality assurance lies. She found that there were 8 broad categories and 18 models within these ranging from 'pride of authorship' and 'experts in their fields' models in the 'individual academic' category, to 'recommender systems' such as 'the lens system' model in the 'other institutions or organisations' category. She (*ibid*: 14) concluded that:

> responsibility for QA is clustered primarily around the pride-of-authorship models advanced by MIT [and others] and the institutional QA model supported by the OU [and another]. In addition, some institutions capitalise on Web 2.0 affordances and solicit user opinion. The most versatile QA mechanism is the 'lens' system which enables organisations and individuals to give their stamp of approval to content in the Connexions repository, allowing for a more sophisticated 'external quality assurance' process.

There is much disagreement around the area of quality assurance, what it means in the context of OER and how it can be measured. As always, educators will exercise their judgement in choosing and critically evaluating the learning resources they wish to (re)use and/or adapt or (co)create in order to meet their learning objectives, with student feedback a key determinant

of quality. Ultimately, the responsibility for the quality of learning resources lies with the individual teacher and thereafter with the institution.

In conclusion, the ‘quality problem’ with regard to OER remains unresolved.

3 The Irish context: policy and practice

3.1 Introduction

In the context of emerging international policy and practice in the area of open educational resources, as outlined in Section 2, this section turns to the Irish context. Following an outline of the policy context, there is an overview of the development of the institutional repository infrastructure for research outputs. (Section 5 will focus on the perceived suitability of this infrastructure for the accommodation of teaching and learning outputs.) Finally, lessons learned from the National Digital Learning Resources (NDLR) project, established to enable the development, sharing and distribution of digital learning objects, will be presented. The NDLR service ceased to operate in 2012.

3.2 Policy context

Two major reports provide a context for this project in the European and Irish contexts respectively. In their second report on new modes of teaching and learning in higher education, the High Level Group on the Modernisation of Higher Education (2014) make a number of recommendations in relation to new technologies and new approaches in higher education at the European level. In Ireland, the National Forum for Teaching and Learning is tasked with taking forward the recommendations of the High Level Group. As part of its enhancement and transformation agenda it has put forward a number of recommendations in its report: 'Teaching and learning in higher education: a roadmap for enhancement in a digital world, 2015-2017'. In the context of this project, Recommendation 3, Priority 5 of the Roadmap (National Forum for the Enhancement of Teaching and Learning, 2015: 41) is to:

> Develop and implement open education principles and practices for Irish education that are aligned with EU policy and emerging international practice.

Finally, the recently published Horizon report on the technology outlook for higher education in Ireland (Johnson et. al., 2015) identifies OER as one of 12 'very important developments' for Irish Higher Education over the next 'two to three years', and goes on to describe a number of initiatives at institutional level in this direction (see page 17).

3.3 The institutional repository infrastructure

3.3.1 Development

The development of open access in the research context in Ireland has been based on the repository and in particular the building of institutional repositories. Repositories are basically databases and the distinguishing feature of institutional repositories is the concept that such a repository can be a component in a distributed international service. This distributed service in turn becomes a virtual database composed of a user defined set of cooperating databases on a network. This permits non-commercial publishing that has a professional look and feel and provides researchers with a showcase for their research on a global level. In this way, a wider audience is accessed, potential collaborators and partners are found and areas of expertise and research strength are highlighted, all indicating a return on research investment that is widely displayed and promoted.

In technical terms, an institutional repository is a server conforming to the OAI-PMH protocol (Open Archives Initiatives Protocol for Metadata Harvesting). The protocol is a low-barrier, platform-independent harvesting standard. The standard renders all compliant servers interoperable so that their metadata and digital content can be shared.

An institutional repository:

- aggregates all the university's open access publications in one place;
- disseminates and communicates the research outputs globally;
- preserves the intellectual output; and
- operates as a university press/publisher.

The establishment of repositories in Ireland was greatly stimulated by a project funded under the Strategic Innovation Fund, managed by the IUALG (Irish Universities Association Librarians Group). This coincided with the availability of open source software in this area. The project started in 2007 and finished in 2010 with the cost of approximately €1.6 million being split between Science Foundation Ireland and the universities.

The objectives of the project were:

- An institutional repository built, functioning and staffed in each university.
- Establishment of a national harvesting service, aggregating and exposing metadata (RIAN).
- Implementation of uniform standards.
- Coordination of copyright policies.

Table 1 shows the situation at the end of the project.

Table 1 Repositories built during RIAN project

Repository	Institution	Platform	Address
Tara	Trinity College Dublin	DSpace	tara.tcd.ie/
Doras	Dublin City University	DSpace	doras.dcu.ie/
ePrints and eTheses	NUI Maynooth	EPrints	eprints.nuim.ie/
Research Repository UCD	University College Dublin	DSpace	researchrepository.ucd.ie/
Aran	NUI Galway	DSpace	http://aran.library.nuigalway.ie/
Cora	University College Cork	DSpace	cora.ucc.ie/
Institutional Repository	University of Limerick	DSpace	http://ulir.ul.ie/

In parallel to this, other institutions independently built their own repositories, as shown in Table 2 below:

Table 2 Repositories built independently

Repository	Institution	Platform	Address
WIT Repository	Waterford Institute of Technology	EPrints	http://eprints.wit.ie/
MIC Institutional Repository and Digital Archive	Mary Immaculate College, University of Limerick	DSpace	http://dspace.mic.ul.ie/

Arrow@DIT	Dublin Institute of Technology	Digital Commons	http://arrow.dit.ie/
Lenus	Health Services Executive	DSpace	www.lenus.ie
Open Access Repository	Marine Institute	DSpace	http://oar.marine.ie/
T-Stór	Teagasc	DSpace	http://t-stor.teagasc.ie/

It must be remembered that institutional repositories will be used for different purposes depending on the institution. The exposure of metadata for harvesting by aggregators is only one service. Each institution is responsible for the quality of its content and compliance with publishers' policies. While staffing levels may vary within institutions most are managed by librarians and operate to professional standards.

A major deliverable from the project was the National Harvesting Service which came to be known as RIAN: the National Research Portal**.** For the purposes of RIAN, the Dublin Institute of Technology (DIT) was included in the university project to ensure that the service could accommodate different software.

3.3.2 RIAN: The National Research Portal

RIAN, the national research portal, currently harvests a core set of metadata (metadata only and not content) from institutions. The harmonisation of metadata was a major part of the RIAN project. Metadata is the key to discovering and identifying digital content. Digital documents only exist by virtue of machine protocols, operating systems and applications software. They may be stored as single files or be made up of several files and each document will have a number of rights and permissions associated with it. This core set is also harvested by DRIVER (European aggregator) and DART-Europe (European aggregator).

Other countries have followed the same model with most large universities having a repository and many countries taking the same approach in coming together as that of RIAN (Portugal being an early example).

3.4 National Digital Learning Resources (NDLR)

3.4.1 Introduction

As summarised in Section 1.4, research question 2 sought to learn from the National Digital Learning Resources (NDLR) experience, asking:

> What do we know from the National Digital Learning Resources (NDLR) experience about how OER might be shared, utilised, maintained and developed?

This section reports on the lessons learned from the NDLR experience. In the absence of any external evaluation, the material presented here is an analysis of the grey literature produced by the NDLR team and partners, and the published research deriving from the project. Comprehensive reports were formally submitted to the HEA from 2005-2012, as well as having been disseminated to all NDLR partner institutions throughout the lifespan of NDLR.

Since the current report is concerned with the development, use and sharing of OER, learning points from the NDLR in relation to these areas will be drawn from the NDLR evaluation of 2008 and subsequent reports leading up to the final Impact Report in 2012.

3.4.2 Development

In 2004-2005, the NDLR project was established by the HEA as a partnership between the seven universities and 14 institutes of technology in Ireland. The NDLR allowed educators to develop, share and distribute learning objects. The NDLR initially used Intrallect software and was closed to users outside the sector. However, in the latter phases of the project the repository was migrated to DSpace and became open access.

From 2005-2006 onwards, the NDLR invested in subject networks termed "Communities of Practice" (CoP) to support and accelerate the development of learning objects in specific subject disciplines in the third level sector. The rationale for this was that similar initiatives had been part of successful international repository projects, or alternatively that successful repositories such as JORUM in the UK had been preceded by the formation of subject networks for learning and teaching. In the UK, these included the Discipline Networks of the early 1990s, the Learning and Teaching Support Network (LTSN) and the HE Academy Subject Centres from the early 2000s onwards. In Ireland, no such networks existed, at least not in the sense of a 'network of networks' with coordination and support from the centre. NDLR CoPs were established in a selected number of subjects, with Project Officers or interested academics in the partner institutions co-ordinating training and development events for the CoP members. NDLR funding was made available to support CoP activities leading to the development of OERs for the repository.

3.4.3 NDLR Evaluation of 2008

Revisiting the evaluation of the NDLR, undertaken in 2008, is a useful first step in identifying the lessons to be learned from this initiative. The key objective of the evaluation in 2008 was to build a picture of the NDLR as experienced by people participating in CoPs, and using the repository. The focus of the evaluation was to document and discuss this experience, but also to make proposals for the future. The evaluation was undertaken at the mid-point of the lifespan of NDLR when its pilot phase was concluding, and the eventual service to be mainstreamed to the sector was being designed. Three phases of work were designed to evaluate (a) the experiences of users of the repository, (b) the technical design, implementation and technical support issues associated with the repository, and (c) the communities of practice formed to support the collaborative development of OER. The evaluation involved participation from all partners in the project. Surveys, key informant interviews and focus groups with users all formed part of the evaluation. Log file data from the repository itself was retrieved and analysed. A sample of 31 objects from the repository was evaluated by an external evaluator, Claire Bradley of London Metropolitan University/RLO-CETL in the UK. Recommendations arising from the technical evaluation led to the migration of NDLR from Intrallect to DSpace, and to the Open Access model adopted in the latter years of the project. The evaluation of the Communities of Practice led to the development of the three-stage model to support collaborative development of OER (McAvinia & Maguire, 2011).

The NDLR evaluation showed that for most people who had joined an NDLR community of practice (CoP), the experience had been positive. However, there were mixed motivations for joining CoPs, and there was evidence of a disconnect between CoPs and the repository. The CoPs had brought people together who might not otherwise have collaborated or networked together. The networks were regarded as innovative and potentially transformative, with

members beginning to share and use resources. However, they did not always use the repository for this purpose.

The majority of people who participated in the evaluation had not used the NDLR resources in their teaching. However, there was a very small amount of evidence to suggest a positive link between participation in a CoP and the use of objects from the repository in teaching. Many CoP members, as well as people who did not count themselves as members, stated that they would like to give the CoP more time and to use the repository more. Various factors were inhibiting them, including time, and the usability of the software. It was found that involvement in CoPs tended to stem from an external push, rather than an organic pull from peers. The push tended to come from institutional NDLR representatives or CoP Coordinators, rather than from online or print media relating to the NDLR.

A number of ambiguities arose across the data. For some respondents, there was a lack of clarity about what the CoP was doing, and the role of the co-ordinator. There was a tension between needing a Coordinator to do the work of running the network, and members' desire for more autonomy. Many respondents felt unsure that they could answer questions about the CoP as they did not feel they were involved enough in it to comment. However, the dataset also included responses about CoPs from people who had said they were not members of any NDLR CoP. It is worth recalling this experience since it indicates that even when stakeholders are engaged with and supported in a very direct fashion, such as that of the NDLR CoPs, there remained ambiguity in their relationship with the project and with the OER mission as a whole.

The evaluation also picked up mixed responses to questions about where and how learning objects should be produced: some people felt that the NDLR should 'commission' resources, or that CoPs should respond to demand for particular resources. Others felt that CoP community and collaboration (with resources as a by-product) were more valuable, and would prioritise these activities over the repository. Again, this reflected some mixed perceptions of the purposes of the CoPs overall, and the link with the repository itself.

Reluctance to share resources did not emerge as a significant barrier to the growth of the NDLR in the dataset, but this had to be offset against the poor usability of the interface which emerged as a greater barrier at that time. Most people felt that the NDLR CoPs needed more time to grow, and that the NDLR overall needs more time to establish itself in the sector. There was need for greater awareness-raising at all levels, and it was noted at the time that this mirrored the experience of the UK's JORUM project. While respondents mostly wanted the CoPs and the NDLR to continue and grow, they did not commit to areas for greater personal involvement and nor did they suggest ways for this to happen.

The usability of the software emerged consistently throughout the evaluation as an inhibiting factor to the use of the repository, and in turn to participation in the CoPs. For some, this issue was significant enough to prevent any access to the repository, and in turn their experience of the CoPs was adversely affected. This should be seen in the context that specific training workshops were being offered across all the partner institutions at this time. Many short visits to the repository were evidenced by analysis of its logs, with only a small amount of 'deep' usage of the system. Almost half of the users were those supported in some way by the NDLR

at that time (e.g. Project Officers or CoP members). A subset of 700 objects (out of almost 2000 at that time) accounted for 80% of use. It was not fully possible to attribute particular OERs to particular CoPs, but there was some data available to suggest that longer-established CoPs had produced the largest numbers of objects. The logged data from the repository suggested that community and number of objects may be positively linked in terms of age/longevity of the community, but perhaps not in terms of hits which could indicate extent of use/re-use of objects.

NDLR resources were diverse in terms of format and subject matter. The learning objects evaluated in the external review demonstrated good diversity in terms of media used, and also high potential for reusability. However, the sample of objects reviewed also tended towards the transmission mode, rather than involving the student actively in constructing meaning and understanding. Many did not have a clearly stated learning outcome or objective. The external evaluator suggested that clearer labelling and metadata would be needed to address this. The evaluation highlighted the need for continual housekeeping both in terms of metadata and in terms of removing some of the extraneous material from the repository (e.g. promotional material).

In summary, the NDLR evaluation in 2008 indicated that the purpose of the CoPs needed to be clarified, since they were essentially trying to do two things: foster community amongst practitioners, but also generate resources for the repository. The data indicated that CoP participants could not commit to both purposes at once. It was also recognised that other people were engaged with using the NDLR who were not members of CoPs (bearing in mind that only a subset of subjects had CoPs at this stage). Ways were needed to support individual users more effectively, or to support those coming together temporarily without a view to committing to a network. Evaluation of the CoPs identified different models for their organisation and support: the roles of the Coordinators had been conceived of differently in different CoPs. There were varying degrees of technical training and support provided by Coordinators, for example. The sustainability of these models was not fully clear either.

Taken together, these findings and recommendations led to the development of a three-stage model for the subsequent years of the NDLR. This was based on the premise that the eventual CoP needed to emerge and evolve through gradual stages, and that within these flexibility could be provided for smaller or more temporary projects. Participation in the NDLR overall could be widened in this way. Funding was tied to this model to encourage interest and competition, raising the status of the NDLR and of OER development amongst the stakeholders. The three-stage model proposed was as follows:

1. Local Innovation Projects (LIPs): small-scale, managed by institutions.
2. Learning Innovation Community Support Projects (LInCs): collaborative, cross-institutional, managed by a lead partner and NDLR.
3. Sustainable Manageable Active Relevant and Reflective Targeted (SMART) CoPs: self-sustaining networks growing from the existing NDLR CoPs or formed from successful collaborations at stages 1 and 2, self-managing.

This model, in combination with the new DSpace software and open-access NDLR site, provided a completely different platform for the NDLR from 2009-2012. The pilot phase of the project

had been concluded and the lessons learned from this had informed the next stages of its development.

3.4.4 Reported experience and impact 2012

The NDLR service was paused before any further formal evaluation or external evaluation could take place in 2012. Annual Reports had been produced each year, and key data from these as well as the current use of the repository were analysed to produce a final *Impact Report* in 2012. This report offered some insights into the impact of the project from the perspective of those who lead and managed it, and must be interpreted from a participant observer perspective. Reported insights from the NDLR team indicated that the project had achieved its objective of engagement across all 21 HEA-funded higher education institutions in Ireland. Open access infrastructure and a robust system had been provided to the sector for teaching and learning resources. Community networks were continuing, and the framework for collaboration established by the three-stage model had been successful. The resources produced through these collaborations were high quality, being showcased nationally and locally by their authors. Scholarship around the repository was developing through the research of the project team and interested academics. Relevant training and events were continuing to support the professional development of practitioners in the partner institutions and to support them in creating OERs. The profile of the service was growing nationally and internationally. There was evidence that resources from the NDLR, and the service itself, formed part of the formal professional development programmes for academics (e.g. postgraduate diploma programmes in teaching and learning or e-learning). The open access structure allowed non-HEA-funded institutions to use the service too.

In terms of usage data, the Report pointed to 27,000 available resources downloaded 446,000 times, with 184 subject areas represented. There were some 37 SMART CoPs documented with many further smaller collaborations evidenced by the LIP and LINC data.

3.4.5 Lessons learned and points for consideration

Analysis of the pilot phases of NDLR, and its subsequent impact, as documented through the comprehensive and manifold reports produced, highlights several insights for the current project along with points for consideration:

1. *Uniqueness*

   The NDLR project was tasked to address not only the issues of learning object creation and sharing, but also collaboration between the HEA-funded institutions. NDLR was the first collaboration between all HEA-funded institutions in the state, and it was until 2014 the only funded sectoral e-learning initiative. Its responsibility to deliver presented many challenges in the early phases of the project, but yielded collaborative relationships which continue to this day. NDLR's progress towards developing a nationally-recognised and used open access OER repository by 2012 should be set in the context of the challenges the project had to meet. This poses an important point for consideration in the context of the current research project: *should OER initiatives focus only on resource sharing, or on supporting collaborative development of learning resources (with all that that entails)?*

2. *The online environment*

Poor usability in the early implementation of the NDLR negatively affected its uptake and use. Licensing was complex and required sign-off from institutions. The migration to DSpace in 2009, along with the development and acceptance of Creative Commons licensing, changed the user experience completely and allowed an open access system to be created. The experience of the NDLR highlighted that without clear and simple usability, a repository will tend not to be used. Straightforward and clear licensing is also essential for users. Technological infrastructure, licensing and cultures of use of online resources have all changed radically since the inception of the NDLR in 2004, which logically questions if ongoing advances in freely available resource-sharing platforms on the web obviate the need for a national OER service.

3. *NDLR and OER use, re-use and sharing*

   The NDLR was ultimately widely used and led to the generation of many thousands of learning objects/OERs. However, it may be difficult to disentangle this data from the NDLR initiative overall, in order to extract lessons as to the sharing and reuse of OERs. Resource creation and sharing was in the first instance supported through the CoPs, and subsequently through the three-stage model. There were far fewer examples of academics independently uploading their resources to the repository. The lesson here may be that development of high quality OERs does not happen automatically, even in a digital age, and that individual academics are not minded to share their resources without a supporting framework of some kind. Through providing funding for projects that would lead to the collaborative development of OERs, NDLR could ensure these resources were not too specific to be shareable, were of high quality, and had a degree of currency for some years. Two points for consideration follow in the context of this research project:

   - OER use and re-use may need some model of support and reward similar to the models used particularly in the latter phases of the NDLR.
   - Future models of support for OER creation and re-use must take sharing, quality and currency into account.

In addition to these learning points, there were some additional comments in relation to the NDLR made in the survey and focus groups (see Sections 4, 5) and these, together with the findings of this chapter will be discussed further in Section 6.

4 Snapshot: use of OER and repositories in Irish higher education institutions

4.1 Survey of academic staff

4.1.1 Methodology

In line with project aim and objectives, as outlined in Section 1.2, the objective of the survey was to address research question 1, as summarised in Section 1.4.

To recap, research question 1 asked:

> How are open educational resources currently being used and shared in Irish higher education institutions and what can we learn from such experiences?

With this question in mind, the project team developed a questionnaire for academic staff in higher education institutions in Ireland. A mix of open and closed questions were developed, informed by the project remit and the ongoing literature review.

In order to allay any possible concerns about participation, an information and consent form was included at the beginning of the questionnaire. This contained information about the purpose of the project, the intended use and storage of project data and assurances about confidentiality and anonymity. The final questionnaire, together with participant information/consent form is attached as Appendix B.

In addition to the limitations outlined in Section 1.3, creating a representative sample of staff working across the higher education sector in Ireland is problematic. In the first instance, it is not possible to precisely define the survey population. While the Higher Education Authority collects data from publicly-funded higher education institutions[6], figures do not include all categories of part-time staff. Neither is it possible to precisely determine the numbers of academic staff with teaching responsibilities. As of December 2014, there were c. 17,066 core-funded staff in publicly-funded higher education institutions in Ireland (HEA, 2015). There is no data available on staff numbers in the private higher education sector. Without a figure for total population it was not possible create a strictly representative sample of intended subjects. Furthermore, the sample of respondents is self-selected. The data, therefore, do not support generalisations about the higher education sector in Ireland. However, despite limits to generalisations, the data set may offer important insights into attitudes towards, and use of, open educational resources and repositories.

The survey was administered online in Survey Monkey, with a link thereto from the project website. After upload, the survey link was distributed through the designated contacts list developed by the National Forum for Teaching and Learning. Contacts, in turn, disseminated the link to academic staff within their institutions. Attention was also drawn to the survey through newsletters and social media. The survey ran for three weeks during April 2015.

4.1.2 Analysis

The demographic data and open questions allowed a descriptive picture to emerge regarding staff attitudes to and use of open educational resources. Analysis of open-ended responses was through thematic analysis.

In all, there were 339 respondents recorded in Survey Monkey. Of these, 300 got to page 2, that is, 39 people dropped out after one question (agreeing consent). Subsequently, 250 respondents got to page 3, 217 to page 4 and finally 192 completed all 5 pages of the survey. Given that this was an online survey, it could be that people were interrupted, abandoned the survey and perhaps returned to it later, starting again. Because questions relating to institutional repositories, including motivations and barriers to use, were located towards the end of the survey, the incomplete questionnaires were eliminated from the analysis, leaving 192 valid surveys.

[6] The following are publicly-funded higher education institutions: the 7 Universities, the 14 Institutes of Technology and, in addition: Mary Immaculate College, Mater Dei Institute, National College of Art and Design, St. Angela's Sligo and St. Patrick's College, Drumcondra.

Without knowledge of the numbers of academic staff in Ireland (or the number who were invited to participate) it is not possible to determine the response rate for the survey. It is safe to surmise[7] however, based on the HEA data referred to in Section 4.1.1, that the response rate is low. On one level this might be considered disappointing and indicative of a level of apathy in relation to open educational resources (or perhaps a lack of awareness of the survey). However, on another level, almost 200 responses in a short time frame to a relatively lengthy questionnaire could be seen as encouraging. In any case, findings must be considered in the context of the methodological limitations inherent to self-selected survey responses and conclusions should not be generalised beyond the scope of the responding sample.

4.1.3 Findings

Profile of respondents

The purpose of part 1 of the questionnaire was to develop a profile of respondents. Questions 2 to 6 probed information in relation to role, discipline area, age bracket, gender and employment status.

Question 1 requested respondents to agree consent and confirm that they had read and understood project aims and information.

Question 2 asked respondents to describe their roles. The majority of respondents (77%, or 148) had lecturing roles, with 24% (or, 46) of these describing their roles as either senior or junior (assistant) lecturing roles. 8% of respondents were in the administrative support category and 5% described their roles as 'professor'. The remaining 10% were spread amongst postgraduate, postdoctoral and technical roles. After appropriate recategorisation, 4%, or 8 respondents, remained in the 'other' category (5 describing themselves as 'tutors', 1 as a 'web developer', 1 as an 'academic consultant' and 1 as a 'researcher'). Results are presented in Table 3.

Table 3 Respondents' roles

Roles	No. responses	% respondents
Lecturer	102	53
Senior Lecturer	25	13
Junior (Assistant) Lecturer	21	11
Administrative Support	15	8
Professor	10	5
Postgraduate Teaching Assistant	5	3
Postdoctoral Researcher	3	2
Predoctoral Researcher	2	1
Technician	1	1
Other	8	4
Totals	**192**	**100**

[7] If, for example, we work solely on the FTE figure for core-funded staff in publicly-funded higher education institutions (17,066), the response rate would be just 1%. If staff numbers in private colleges were included together with non-core funded teaching staff, and all part-time staff who teach, this rate would drop considerably.

Question 3 probed the discipline/subject areas in which respondents teach. The UNESCO (United Nations Educational, Scientific and Cultural Organisation) International Standard Classification of Education (UIS, 2014) was used to categorise discipline areas. There were 219 responses to this question (from 192 respondents), which indicates that a number of academics teach in more than one discipline area. As shown in Table 4, responses come from across a wide range of subject areas and departments in both publicly- and privately-funded higher education institutions in Ireland. Arts and Humanities and Education were most represented with a fifth of respondents working in each of these categories.

Table 4 Disciplines/subject areas in which respondents teach

Discipline/Subject Area	No. responses	% responses
Arts and Humanities	47	21
Social Sciences, Journalism and Information	17	8
Business, Administration and Law	20	9
Health and Welfare	29	13
Education	44	20
Information and Communication Technologies (ICT)	15	7
Generic programmes (e.g. study skills, personal skills dev.)	4	2
Natural Sciences, Mathematics and Statistics	26	12
Engineering, Manufacturing and Construction	15	7
Agriculture, Forestry, Fisheries and Veterinary	1	0
Services (service industries e.g. Transport, Tourism, etc.)	1	0
Totals	**219**	**100**

Question 4 asked respondents to choose their age bracket. Results are captured under an almost perfect bell-curve, representing normal distribution, as presented in Table 5. Over a third of respondents were between 41 and 50 with 27% in each of the categories 31 to 40 and 51 to 60. Only 4% were in the under 30 category and 7% were over 61.

Table 5 Age brackets for respondents

Age Brackets	No. responses	% respondents
21-30	8	4
31-40	52	27
41-50	67	35
51-60	51	27
> 61	14	7
Totals	**192**	**100**

Question 5 sought to elicit respondents' gender. There were more females than males in the sample, with female academics accounting for 59% (113) of all respondents and male academic staff accounting for 41% (79), as shown in Table 6.

Table 6 Gender breakdown of sample

	No. respondents	% respondents
Male	79	41
Female	113	59
Totals	**192**	**100**

Question 6 asked respondents whether they were employed on a full-time or part-time basis. Table 7 show that the majority, 72% (or 138 respondents), were working on a full-time basis with 28% (or 54 respondents) working on a part-time basis.

Table 7 Employed on full-time or part-time basis?

	No. respondents	% respondents
Full-time	138	72
Part-time	54	28
Totals	**192**	**100**

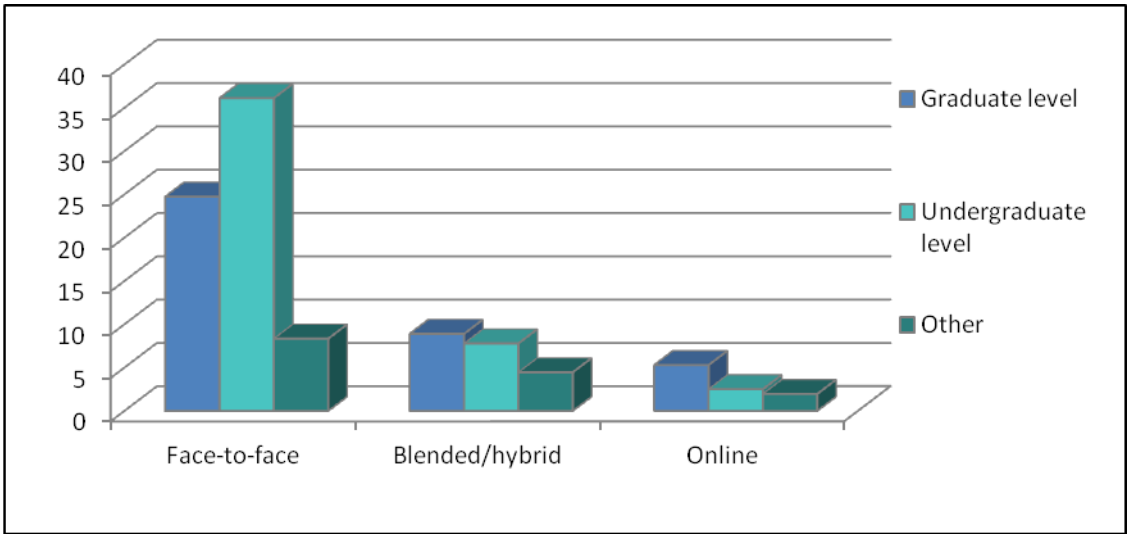
Question 7 asked respondents about the kinds of courses they taught during the most recent academic year. The following options, together with definitions[8] were provided:

> Face-to-face course: A course where all meetings are face-to-face, may use a learning management system (LMS) or web pages to post the syllabus and assignments.
> Blended/hybrid course: A course where sufficient content is delivered online to create a reduction in the number of face-to-face class meetings.
> Online course: A course in which all, or virtually all, the content is delivered online. Typically have no face-to-face class meetings.

As shown in Figure 7, many respondents taught in more than one type of course. Face-to-face courses accounted for 69% of all responses. Blended/hybrid courses were second in popularity attracting just over a fifth of responses (21%) and finally only 10% of responses related to online courses.

[8] Babson Survey Research Group, 2014:41.

Figure 7 Courses taught in most recent academic year, % responses



Use of open educational resources

Questions 8 to 16 of the questionnaire focused on determining respondents' current use of open educational resources.

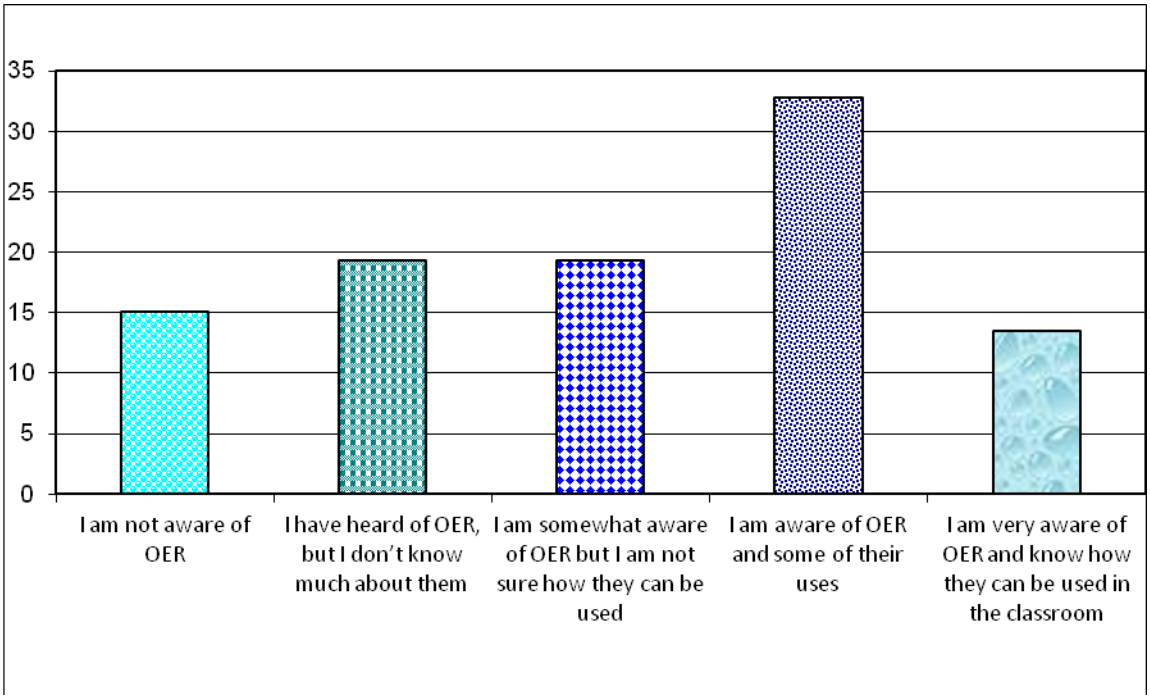
Question 8 sought to determine how aware respondents were of open educational resources (OER). The following definition[9] was provided:

> OER is defined as 'teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others.' Unlike traditionally copyrighted material, these resources are available for "open" use, which means users can edit, modify, customize, and share them.

Figure 8 shows that 15% of respondents, or 29, were not aware of OER. A further 19% (or 37 respondents) had heard of OER, but did not know much about them. A similar number (37) were somewhat aware but not sure how they could be used. A third of respondents (63) were aware of OER and some of their uses and finally 14% (or 26) were very aware of OER and knew how they could be used in the classroom.

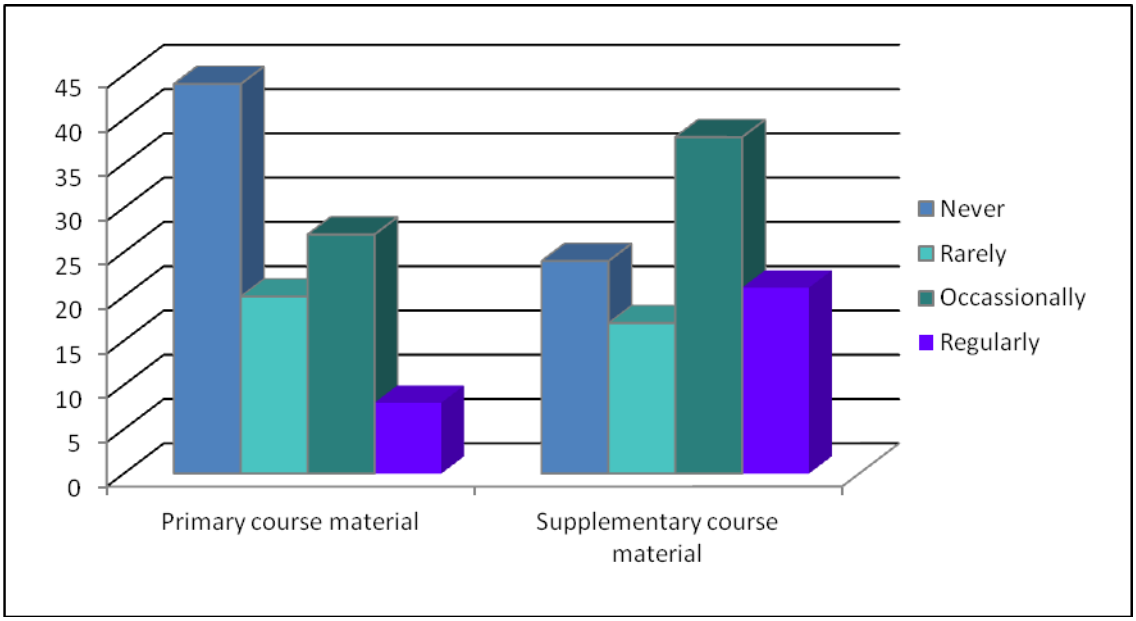
[9] Babson Survey Research Group, 2014:9.

Figure 8 Awareness of open educational resources (OER), % respondents



Question 9 asked respondents to what degree they had used open educational resources as part of their primary course material and their supplementary course materials (supporting material to enhance teaching, or as further reference for students). Results are presented in Figure 9. There was more use of OER as supplementary course material with 38% (or 72 respondents) reporting occasional use and just over a fifth of respondents (21%, or 41) reporting regular use.

Figure 9 Use of OER in primary and supplementary course materials, % respondents



Question 10 sought to establish how respondents looked for open educational resources to reuse. Results are presented in Table 11/Figure 15. The use of search engines (e.g. Google) and

YouTube accounted for 34% of all responses. Sharing among known colleagues was the next most popular way to find open resources, accounting for 11% of responses. Library subscriptions, conference presentations & journal articles and professional & discipline associations accounted for a further 25% (10%, 8% and 7% of responses respectively). Both online courses/MOOCs and SlideShare accounted for 6% of responses each. The use of open learning repositories accounted for just 5% of all responses, ahead of Twitter, LinkedIn, commercially authored content licensed to institutions and iTunes.

Finally, 23 responses fell into the 'other' category. For 12 of these the question was not applicable. Three responses were re-coded into existing categories, and the remaining answers highlighted the additional sources listed below for finding open educational resources. Apart from Facebook which got 2 mentions, all other sources got just 1 mention.

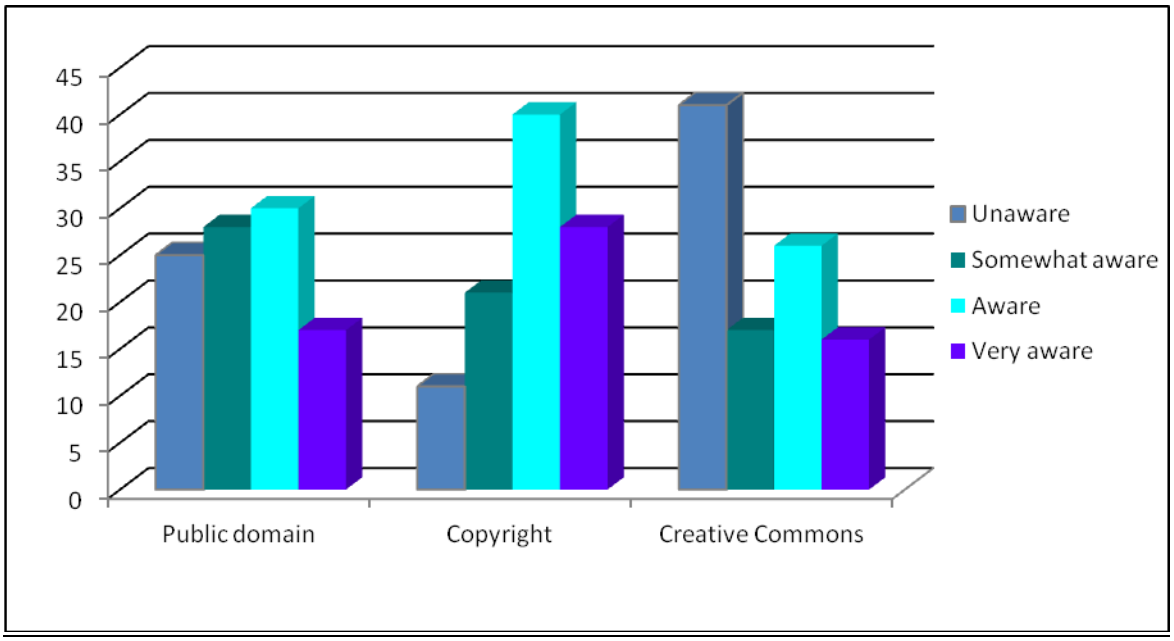
- Facebook;
- Prezi;
- National Centre for Case Study Teaching in Science;
- Cambridge;
- MIT;
- Harvard;
- TED Talks.

Table 8 How respondents look for open educational resources to reuse

How respondents look for OER to reuse	No. responses	% responses
Library subscriptions (e.g. ebooks and ejournals)	74	10
Search engine (e.g. Google)	149	20
Open learning repositories (e.g. NDLR, MERLOT, Jorum)	40	5
Sharing directly amongst known colleagues	84	11
Twitter	33	4
LinkedIn	15	2
Professional/discipline association	56	7
Conference presentations and journal articles	63	8
Online courses/MOOCs	43	6
Commercially authored content licensed to your institution (e.g. Pearson, Epigeum, Al Pro)	15	2
YouTube	102	14
iTunes	11	1
SlideShare	42	6
Other	20	3
Totals	**747**	**100**

Question 11 investigated respondents' awareness of licensing mechanisms. Results are presented in Figure 10. Respondents were most aware of copyright licensing (68% aware or very aware). Over half of respondents were unaware or just somewhat aware of creative commons and public domain licensing (58% and 53% respectively).

Figure 10 Awareness of licensing mechanisms, % respondents



Question 12, an open question, asked respondents how they deal with copyright issues for the OER that they reuse. The question was not applicable for 37 users who stated that do not use OER. Excluding these from the analysis, four discrete categories emerged from the data (155 responses) as follows.

(i) Do not deal with copyright issues; ignore them; unsure

50 respondents (32% of those for whom the question was relevant) do not deal with copyright issues or are unsure how to deal with copyright issues for the open educational resources that they reuse. Some of the answers given included the following:

> I don't think about it; Since I am not making money from the material I don't deal with any issues; I copy for myself; I ignore; I didn't think there were copyright issues; If for educational use only, no action; I don't take any notice at all of these issues!; I trust that what is freely available can be reused; Not very attentive to the issue – presume most of what I source is not a problem; Don't get into these issues due to low usage levels; Actually, I'm a bit vague on this; Not conscious of the issue; By using a variety of resources and not taking too much material from any one website/resource; Generally ignorant about copyright issues; Press the green button on the photocopier. No one has ever checked; I haven't considered it; Unsure; Since OER are free, I would not have thought that copyright might be an issue; I mostly use images and don't acknowledge – don't know if these are OER.

(ii) Acknowledge the source

The most frequently cited course of action for dealing with copyright issues was to reference the source of the material being used. 56 respondents (or 36% for whom the question of relevant) stated that this was how they addressed the issue. 5 of these respondents stated that they direct students to the original material for reference purposes. Some answers suggested a less than rigorous approach though e.g.

> I *generally* let students know where I have accessed materials from (emphasis added)

> *If* author is stated on material I am sure to include that.... (emphasis added)
>
> I *sometimes* acknowledge in my lecture ... (emphasis added)

(iii) Contact the author for permission

For 8 respondents (or 5% for whom the question was relevant), contacting the author to check if they could reuse the material was the course of action they would take.

(iv) Check copyright/licence and act accordingly

There were 41 respondents, or 26% of those for whom the question was relevant, who specifically stated that they take cognisance of specific copyright issues pertaining to the open educational resources that they reuse. Comments included:

> Adhere to guidelines and copyright advice; Check the copyright status and make sure that I comply with the terms; Check copyright and only share within parameters; I only use CC resources; I only use OER that have licences for educational resources; I check the licence. I would usually look for Creative Commons as the easiest system to follow and be sure of; Limit level of use by using permalinks so students gain access through library subscriptions; I am careful not to copy more than 5% of a book; I work within the laws; Ask librarians; Check the conditions of use; Follow college policy and check with our learning technologist for clarification; Check if there is a copyright restriction; Check the copyright and comply as required; I ensure that the use is consistent with the licensing terms. I am proactive in avoiding potential infringement; I err on the side of caution. Unless something specifically mentions that it is free to share/recommend and use in an educational setting, I don't use it.

3 respondents were non-committal in their responses, answering: 'with care'; 'carefully'; and 'with caution'.

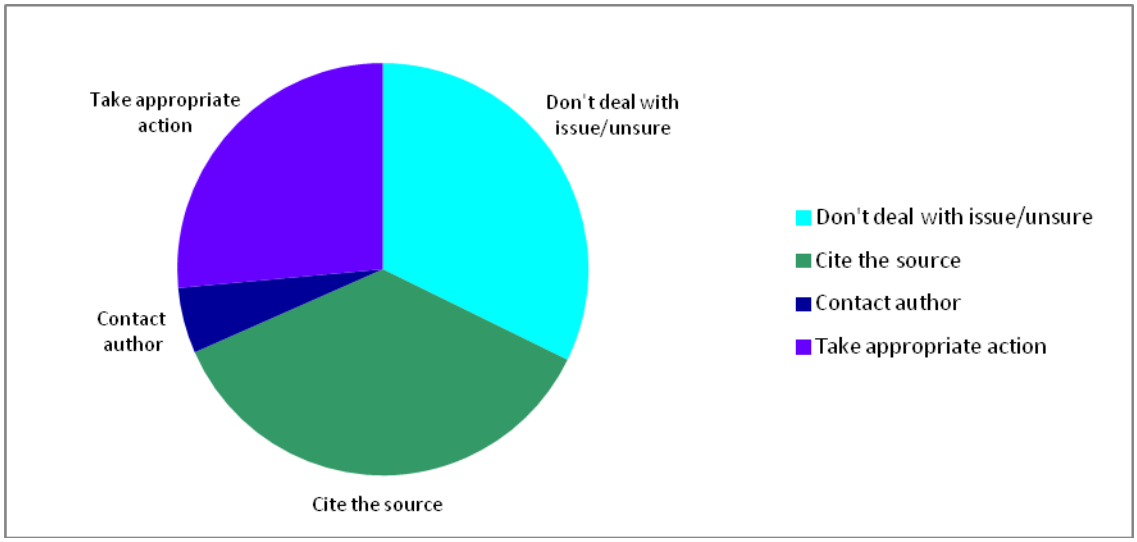
There were also some answers here that reflected a certain looseness of approach e.g. 'I *generally* use OER with CC licences' and 'I would *usually* look for Creative Commons insignia' (emphasis added).

Certain respondents stated that they would avoid certain material depending on requirements. For example:

> As directed by guidelines, I always acknowledge and fully reference the material used. If the requirements are more complicated than this, I tend not to use the material.
>
> If known to be copyright, probably wouldn't use. In theory could seek permission from copyright holder but am more likely to seek out similar material that is public domain or creative commons.

Figure 11 presents a summary of responses to this open question.

Figure 11 How respondents deal with copyright issues for OER that they use, % respondents*



*Note: This question was not relevant for 37 respondents (or 19%)

Question 13 sought to elicit whether or not respondents share the educational resources that they produce themselves. As shown in Table 9, 65% of respondents (or 125) stated that they share resources, with 35% (or 67) stating that they do not share resources.

Table 9 Do you share educational resources that you produce?

	No. respondents	% respondents
Yes	125	65
No	67	35
Totals	**192**	**100**

While almost two-thirds of respondents stated that they 'shared' resources, when they were asked to specify how they shared, answers revealed that this occurs privately, for the most part, between colleagues. Sharing resources with students, either through course delivery or Virtual Learning Environments (VLEs) was also put forward as an example of how respondents shared their educational resources. These two methods of private sharing outweighed public sharing, implicit in the premise of open educational resources, by a factor of more than 2 to 1.

13 responses (9%) were not applicable, two of which related to not understanding the question. Excluding these, there were 133 mentions of sharing mechanisms from the 112 respondents who stated that they shared their educational resources and gave valid responses.

Sharing privately with colleagues accounted for 44% of mentions (or, 59 mentions). Some made it clear that this was a conscious decision e.g.

> Yes, but only internally with trusted colleagues as part of, or working towards, team teaching or shared modules – not in the public domain.
>
> When asked and where there is reciprocity/sharing ethos.
>
> Privately.

> Privately, with my colleagues.

A further 23% of mentions (or 31) related to sharing with students either through the delivery and production of course materials or through VLEs.

9% of mentions (or 12) related to sharing through repositories as follows:

- NDLR (8 mentions);
- Jorum (1 mention);
- PRIMO (1 mention);
- Sulis (2 mentions) (Referred to as repository).

Personal websites, SlideShare and YouTube accounted for 17 mentions, or 13% of all mentions i.e. 5% (or 7), 4% (or 5) and 4% (or 5) mentions respectively. Sharing through participation in funded projects was mentioned twice. The following mechanisms were each mentioned once:

- Conferences;
- Professional networks;
- Prezi;
- Vimeo;
- LibGuides;
- Presentation booklets;
- Academia.edu;
- Free Technology Academy;
- Educational Commons;
- Social Media;
- Facebook;
- Google Docs (to those with link and under licence).

Question 14, an open question, asked respondents to explain why they share, or why they don't share, their educational resources. 88 respondents (or 46%) gave reasons for sharing; 74 respondents (39%) gave reasons for not sharing; and 30 respondents (16%) gave answers that were not applicable. There was some inconsistency here with answers to question 13, where 67 respondents said that they don't share, and 125 respondents said that they share. Some of the responses to this question contained a mixture of both reasons to support sharing and reasons not to support sharing of resources.

Reasons for sharing (90 reasons from 88 respondents)

(i) Collegiality and the facilitation of student learning

As would be expected from question 13, the most mentioned reasons were in the context of sharing privately with colleagues and students. 50% of all mentions (or 45) fell into this category, citing collegiality and the facilitation of students' learning as their reasons for sharing. A flavour of the answers provided in this context follows:

> So my students and co-lecturers can use them; In the spirit of collegial sharing we help each other out if we think someone could use what we have generated; to facilitate teaching; I co-teach a number of courses so we share; Would prefer to share content

> rather than let my colleagues start from scratch; To support learning; To network and collaborate with my colleagues; Supports student learning; To increase efficiency in our unit; Sometimes I have something that is useful to a colleague and sometimes they have something useful for my work; If a co-worker requests notes, I will send them as a means of support and consistency; To help others, especially new staff; I share because I believe in collaboration with colleagues; For students to access; We act as a team and therefore sharing is a natural part of that; Resources may help a colleague or student; We have always had a culture of sharing as a discipline; If we have a large number of students in a cohort, we break them into groups. Then the lead tutors prepare the presentations which are circulated to all tutors so that we are all singing off the same hymn sheet. It ensures standardisation of tutorials.

Some respondents in this category qualified their answers e.g.

> I share so that we can all improve our teaching, though with some people, their first reaction when asked to teach something new is to ask others for material. I don't agree with that.

> I share because I have put time into something that I hope will be useful and there is no need for others to reinvent the wheel. Sometimes I don't want to share resources with lecturers who I feel have not put work into developing their own material and are just hoping to 're-use' my material to save them writing their own.

(ii) Philosophical convictions

The second most mentioned reason (12 mentions, or 13%) related to philosophical convictions, though some were weaker than others. The sorts of responses that were grouped under this heading include:

> I believe in the principles of Free and Open Source; Cause sharing is what teaching is about; My teaching is publicly funded and therefore I consider the results of all my work a common good which should be made available for free; Because I'm happy to share; Sharing knowledge is a pleasure; I am a lecturer in education, part of a public institution offering developmental opportunities – why would I not?; Because it's part and parcel of my teaching philosophy; I believe in altruistic use of the educational resources – you share, others share; Value base: Assumption that knowledge/information should be shared and that I can use others' resources; I like the model of seek, sense, share and working aloud.

Here too there was some qualification of answers:

> I am happy to share information as long as others don't attempt to pass it off as their own work – hence the use of CC licences etc.

(iii) To develop subject area/learning materials

9% of mentions (or 8) related to the development of learning resources as a reason for sharing. Answers included:

> I feel it is important that people share knowledge and resources in order for these resources to be further developed; It is always useful to get feedback and ideas from others; To further the development of the subject area; Shared and used by others plus comments tends to allow me to improve the material; Sharing can enhance quality and motivation; Feedback can be useful.

(iv) A similar percentage (9%) of mentions centred on the idea of preventing the reinvention of the wheel, as follows:

> Content is cheap: why reinvent the wheel. Would prefer to share content than let colleagues start from scratch; For economies of scale and to obviate repetition; That's the benefit of OER for me – and everyone else – we are reinventing the wheel and should share and share alike; To prevent reinventing the wheel; Since it doesn't make sense for someone else to do the same work; Information is to be shared, not kept to oneself, because it may help others and why reinvent the wheel; Happy to share anything-don't want to reinvent the wheel.

(v) Value to others or to institution

7 mentions (or 8%) related to the value of shared material to others and/or to the institution. For example:

> I share if I think they are of value to others; to create value in a cost-effective way for RCSI; I share resources in the hope that they might be useful for others and I hope they do the same; To save others time; So that others can benefit from content; It's in everyone's interest that as much benefit as possible is obtained from work done.

(vi) Reciprocity

6 mentions (or 7%) pointed to reciprocity as a reason for sharing. Examples of comments included:

> Because I found useful materials online and I thought my work might be useful to others in the same way; I like to use other people's resources and therefore I believe it is only right I share any resources I create; I share because I use a lot of other people's stuff too. The Internet is for sharing; I share because others share; As an educator who has benefited from open material I feel it's important to share what I create with others in the same way.

(vii) Quality issues

2 mentions (2%) referenced quality issues, though the second quotation below relates more to use:

> When the quality is appropriate I would be happy enough to share; Open resources tend to be of higher quality and have higher impact.

(viii) Self-promotion

Finally, 2 mentions (2%) pointed to self-promotion as a reason to share, e.g.

> I feel it is good to get my work out there and have no issues with others using my material.

<u>Reasons for not sharing (77 reasons from 74 respondents)</u>

(i) Copyright issues/intellectual property rights/protection of work

The biggest reason for not sharing related to the protection of rights and work. These accounted for 21 mentions, or 27% of all reasons given for not sharing.

> Will not share all resources so that my intellect remains a valuable resource; If someone asks, I am happy to do so, provided they acknowledge my input. If I am doubtful about their 'honesty' here I don't share; Intellectual copyright – the fact that it takes so long to produce; Would be worried about copyright issues; Intellectual property rights not clearly vindicated; Would not share with opportunists, especially where the amount of time spent

> preparing the material will not be justified or where there is valuable intellectual property or where there is a risk of low quality mimicry; Because I believe in valuing the work of individual instructors; Because it is my intellectual property which I have invested time and money in producing and for which I am underpaid by my university in any case (as an unsecured, part-time worker in a number of institutions); I share my work when I know it can be of interest and helpful to specific people. I am very careful however not to give everything I produce as we live in a world where original work which has demanded a lot of time and effort can easily be reproduced without due acknowledgement; Concern about intellectual property; Not keen on sharing as it is my work and I ought to get credit for it; Protective of my own work; In case I do myself out of a class; They're my work.

(ii) Time

Time was mentioned as a reason 10 times, accounting for 13% of mentions. Some people simply stated 'time'. Others elaborated as follows:

> Not enough time; Don't have the time; Apart from sharing with students and colleagues, further sharing seems time-consuming; Lack of time to package materials so that they can be useful to others; Lack of time; Anyone teaching at the moment is chasing the timetable all week.

(iii) Material perceived to be irrelevant or context specific

7 people or 9% of those who gave reasons for not sharing stated that their material was not relevant to others, often explaining that it was context specific. Again, many responses reflected the understanding of 'sharing' in the context of sharing privately with colleagues. Examples of responses include:

> They are not particularly relevant to my colleagues' needs; I don't think anyone would be interested; I am the only person teaching my modules so there is no opportunity to share my resources as they are module specific; Material is specific to the module I teach; I tend to work alone – I share with students but that would be all; I don't share at the moment as I don't know anyone with a similar position to me but I would happily share if I did; Course-specific – relevant only to the students in the class.

(iv) Never considered sharing, or had never thought about it

6 responses, or 8%, were made by those who had never considered sharing or thought about it. For example:

> It's something I've never thought of doing; I have never thought of it to be honest – teaching part-time, while working full-time means I have put less thought into that side of things; I don't think about sharing; I never thought of doing it; Never considered it; Haven't thought to.

(v) Policies of confidentiality/materials the property of institution

6 responses, or 8% of responses, related to concerns around institutional policy and property, as follows:

> I am uncertain as to what is permissible for me to share in the public domain with regard to my university's policies; Educational resources that I produce are the property of the institute I work for; College restrictions; College confidentiality; While I create material, I understand that it is owned by my employer; The educational materials I produce are, as

far as I am aware, the property of the University. I am therefore not sure whether they can be freely shared.

(vi) Cost/Revenue issues

5 responses, or 6%, related to cost and revenue issues as follows:

> While I see the advantage in sharing resources, my employers would have reservations in terms of loss of revenue; The institution has invested in these materials over many years, we have competitive advantage with them and I take this very seriously – it's not my place to jeopardise that; We have to make money!; If postgraduate students are paying fees for programmes, it does not seem fair to make resources freely available; The additional effort/cost required to produce resources that are re-usable externally cannot be justified.

(vii) Don't know how

5 respondents, or 6%, stated simply that they did not know how to share resources e.g.

> Don't know how; I'm not against sharing material but unaware how to do it; Because I do not know platform where I can upload them; I'm not sure of where and how I can share resources – there isn't any mechanism in place where I work; Don't know how to.

(ix) Lack of incentive/motivation

4 responses (5%) centred on the lack of incentive or motivation for sharing e.g.

> No need to; No incentive to do so; No incentive to do so or any reassurance that this would not affect my position; Don't share as it's not quid pro quo; Lack of motivation – time that could be spent on this could also be spent on activities that will be reflected in annual review.

(x) Not confident enough to share

4 responses, or 5%, related to confidence issues. For example,

> Not confident to release into public domain; I don't feel my material is good enough for sharing; Better material out there – resources and time available don't let me produce good enough quality material; Not fully confident in the quality – perhaps afraid of criticism?

(xi) Lack of opportunity to share/no culture of sharing

4 responses (5%) related to a lack of opportunity for sharing, as follows:

> I haven't got the opportunity to do it; Am still in the atomised box of 'lecturer' – teaching and assessing; Lack of structured means to do so; Do not get the opportunity to do so as the culture of discussion and sharing re out teaching activities in our institution is rather weak among colleagues.

(xii) Quality issues

There were 3 responses (4%) around the issue of quality:

> Am not confident of their merits/quality; Personally, I think sharing 'homemade' day-to-day resources is a big red herring – shareable resources are those made to a good

> specification that do something different – not people's PowerPoints! It doesn't feel like the quality is high enough.

(xiii) Bad experience

While not giving any details, one respondent attributed the reason for not sharing to a bad experience in previous employment.

(xiv) Complications in preparation

Finally, one respondent referred to the complications involved in the preparation required for sharing:

> Some of the resources I use in teaching have been written with colleagues, or with former colleagues, and I would not share without their consent. We would have to trace the provenance of all the materials for copyright/permission to share – there is absolutely zero time available for this.

Table 10 Reasons for sharing educational resources and reasons for not sharing educational resources, % of responses

Reasons for sharing (from 88 respondents)	**% responses**
Collegiality/to facilitate students' learning	50
Philosophical conviction	13
Develop subject area/improve materials	9
To prevent continuous reinvention of the wheel	9
Could be of value to others/institution	8
Reciprocity	7
Quality	2
To promote work/get it out there	2
TOTAL	**100**

Reasons for not sharing (from 74 respondents)	**% responses**
Protect rights/protect work	27
Time	13
Material not relevant/ context specific	9
Haven't considered it/ thought about it	8
Institutional policy/confidentiality	8
Cost/revenue Implications	6
Don't know how	6
Lack of incentive/ motivation	5
Not confident to do so	5
No opportunity/culture	5
Quality	4
Other	2
TOTAL	**100**

Question 15, an open question, asked respondents what factors were most important when selecting resources for teaching. In all, after excluding 8 responses that were not applicable, there were 412 references to factors which, when analysed, were grouped under the following headings.

(i) Quality

26% of responses, or 106, highlighted quality related issues as most important when selecting resources for teaching. These included the following:

> Quality; Authentic; Reliable; Valid: Credible: Excellence; Evidence-based; Scholarly rigour; Peer-reviewed; Authoritative; Trusted; Endorsed; Evaluated; Published; Reputable; Leading edge; Accuracy; Correct; Factual; Referenced; Reliable.

1 of these responses made particular reference to quality of production as follows:

> Production quality is the most important factor (after the content being correct). It's important that resources look good and are well-presented. Poor quality visuals/graphics make resources look untrustworthy, even if content itself is sound.

(ii) Relevance

Considered of equal importance to quality was the relevance of the teaching resource, accounting for 106 or 26% of responses. Relevance was mentioned in a number of contexts e.g. relevant to subject, to student group, to student level, to student needs and to teaching style. The following responses were grouped under this heading:

> Relevance; Suitability; Compatibility; Relatedness; Appropriate; Applicable

(iii) Student Learning

Many focused on aspects of student learning as the most important factors when selecting resources. 65 responses, or 16% of all responses, were grouped under this heading, as follows:

> Support student learning; Meet learning objectives/outcomes; Illustrate concepts; Pedagogy; Good explanations; Well-explained; Well-structured; Interesting; Stimulating; Comprehensible; Intelligible; Easy to understand; Simplicity; Not oversimplify complex issues; Illuminating; Clarity; Effectively communicated; Comprehensive; Concise; Thought provoking; Impartial; Irish.

(iv) Accessibility

Accounting for 15% of responses (60), the following factors were grouped under this heading:

> Accessible; Ease of access; Usability; Ease of use; Availability; Permission to use; Licence; Copyright; Convenience; Usefulness; User-friendly; Free to use.

(v) Student engagement

Related to student learning at (iii) above, the factors grouped under student engagement accounted for 11% of all responses (45 mentions), as follows:

> Student engagement; Practical application; Practical demonstrations; Practical exercises that apply theoretical concepts; Apply theory to practice; Spark discussion; Creative; Innovative; Critical perspective/critical thinking; Student participation; Active learning; PBL; Provocative; Different; Attention grabbing; Attention holding; Alternative approach; Visual appeal; Cool; Beauty; Enhance class dynamic and student interest; Variety; Visual quality/good visuals.

(vi) Current/up-to-date

There were 19 mentions, constituting 5% of all responses, that highlighted the importance for teaching resources to be current, as follows:

> Current; Topical; Up-to-date; Recent.

(vii) Integration

6 responses (1%) related to the importance of integration with existing materials when selecting resources.

> Complementary (to style, material etc.); Compatible; Integration; Supplementary; Enrichment of lecture content.

(viii) Adaptability

There were 3 responses (1%) that highlighted adaptability as a factor that would be important in the selection of resources, as follows:

> Adaptable; Flexible; Transferability.

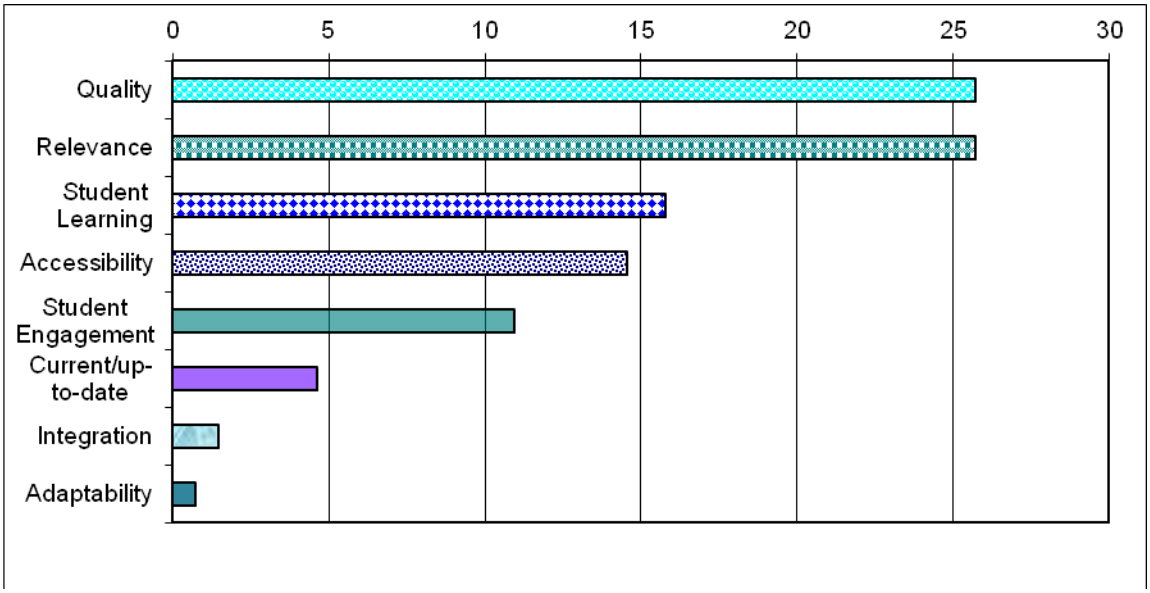
(ix) Finally, there were 2 factors that did not fit easily into the above categories as follows:

> Reducing workload

> Conforming with our Bologna objectives

Results are summarised in Figure 12.

Figure 12 Factors most important in selecting resources for teaching, % of mentions



Question 16, an open question, asked respondents what they considered to be the most important deterrents to the use of OER in their courses. 28 respondents (15% of all respondents) indicated that the question was not relevant, some specifying that they did not use OER. 7 respondents, or 4%, stated that there were no deterrents to the use of OER in their courses. 6 respondents simply answered 'Don't know', representing 3% of all respondents.

Excluding the above 3 categories ('not relevant', 'don't know' and 'none') there were 179 mentions of factors from the remaining 151 respondents that would deter the use of OER in their courses. Following thematic analysis, the following groupings emerged.

(i) Quality-related issues

As in question 15, issues relating to quality were most important for respondents, mentioned 36 times, representing 20% of all mentions. Apart from comments that simply said 'quality', other comments included:

> Lack of quality; The quality of material and trusted sources; Quality would be a key inhibitor; Trusted sources; Sufficient quality materials; Worries about the accuracy of material; Lack of confidence in assessing their merits; That they may not be correct; Lack of quality assurance; Information that lacks evidence, hasn't been rigorously tested, media driven and without facts; Sometimes difficult to verify sources and content quality; The spurious nature of some of the material – vanity productions; No evaluation of same; Reliability of source; Good quality OERs can be difficult to come across.

Included in this sub-heading were comments in relation to the quality of production e.g.

> Poor video/sound quality; Poor quality finish; Advertising in videos.

(ii) Time

The availability of time to engage was the second most referred to factor that would deter the use of OER. There were 31 mentions of time-related issues representing 17% of all mentions. Apart from the response 'time', other comments included:

> Time to learn about them; Time-consuming to sift through the vast amount of material available online; Time to research the material; Time to evaluate and assess their suitability; Time to create new lists and course structures; Time to source; Wasted time searching; The time involved in properly investigating them; Time spent searching for suitable resources; Time to check them out; Time to find them; No time to research them properly to make sure they are right for my students or course; Time spent finding relevant material; Time for research and knowledge of OER; Takes time to trawl through databases; Searching for materials takes up more time than anticipated; Lack of time to find and evaluate them; Lack of time to research them; Time to integrate them into normal teaching; Time spent searching for relevant material: if I devote the same time to reading around my subject I stay up to date and more informed.

(iii) Lack of relevant material

Garnering an equal number of mentions (31) as the time deterrent, those related to a lack of available relevant material also accounted for 17% of mentions. Included here were issues around suitability, applicability, variety, appropriateness and usefulness. Comments included:

> Lack of relevant material; Poor match to specific requirements; Relevancy; Relatedness; Lack of specific relevance; Notation and terminology can be very different to what I use; Irrelevant material; There aren't many suitable resources there; Irrelevant content; That it's not exactly what I need; Availability; If the material is outside the level of understanding of my students; Non availability; Lack of availability of suitable resources.

(iv) Copyright/licence issues/intellectual property

17 mentions (or 9%) related to copyright, licensing and intellectual property issues as follows:

> Unaccredited copyright; Copyright restrictions; Copyright; Copyright limitations; Stringent rules regarding reuse; Permission; A fellow member of staff 'stealing' my subject; Licensing; Fear of breach of copyright/IP rights; If copyright is unclear; Copyright issues – am I referencing correctly?; Intellectual property; Copyright restrictions; Concerns re legalities of accessing materials.

(v) Accessibility

The next most mentioned deterrent, accounting for 8% of mentions (or 14), centred around the issue of access, as follows:

> Complexity in ability to access; Difficulties in accessing and sharing with students; If the resources are not easy to access, that can cause problems; Lack of knowledge re where to access resources; Sometimes the websites are difficult to navigate; Not knowing where to find them; Content that can only be accessed after several layers of logins and navigation; Not easy to access; Broken links; Unreliable in terms of access e.g. website changing regularly; Accessibility; Access.

(vi) Lack of awareness or knowledge about OER

There were 11 mentions (6%) related to a lack of awareness and/or a lack of knowledge about OER. These included 2 comments about lack of training and 1 comment about a lack of awareness of policy in relation to OER. Comments included:

> Lack of awareness; Unfamiliarity; Lack of familiarity; Lack of knowledge about OER is an issue; Unsure as to whether I can.

(vii) Amount and complexity of material

5% of mentions (9) related to the amount and complexity of material as follows:

> Bloated resources that just confuse students rather than assist them; The vast amount of materials; I do not work on the principle that more is more; Overly complex material; Some can be too long; Overly complicated material; Complication of content structure, orientation around material; Too much material – confuses students.

(viii) Context

Context was mentioned 8 times (4% of mentions) as a possible deterrent as follows:

> I use a lot of N.American resources but some are too specific to the N.American context for effective re-use; Contexts which don't apply to my teaching context; Not adaptable to my context; Most seem to come from other countries and are not Irish specific – makes a big difference when teaching something like Social Policy; Culturally/socially sensitive for a range of learners; North American cultural and geographical focus; Not using metric system; Context needs to fit concept of course.

(ix) Deficit in Technology

Technology-related deterrents were mentioned 4 times, accounting for 2% of all mentions:

> Technical support; Not having certain programmes on the computers to run certain resources; Technological 'let-down'; Poor quality IT infrastructure and support e.g. the

> college where I work doesn't even have full WiFi coverage or functioning AV systems in all classrooms – very frustrating!

(x) Out-of-date material

There were also 4 comments (2% of mentions) relating to out-of-date material as follows:

> I teach software development, stuff moves too fast for set-in-stone resources. I usually search for things that are a max of 1-year old; Outdated material; Information goes out of date quickly; Not up –to-date.

(xi) Not tied to syllabus/curriculum

2 people made comments in relation to OER not being tied into syllabus and curriculum.

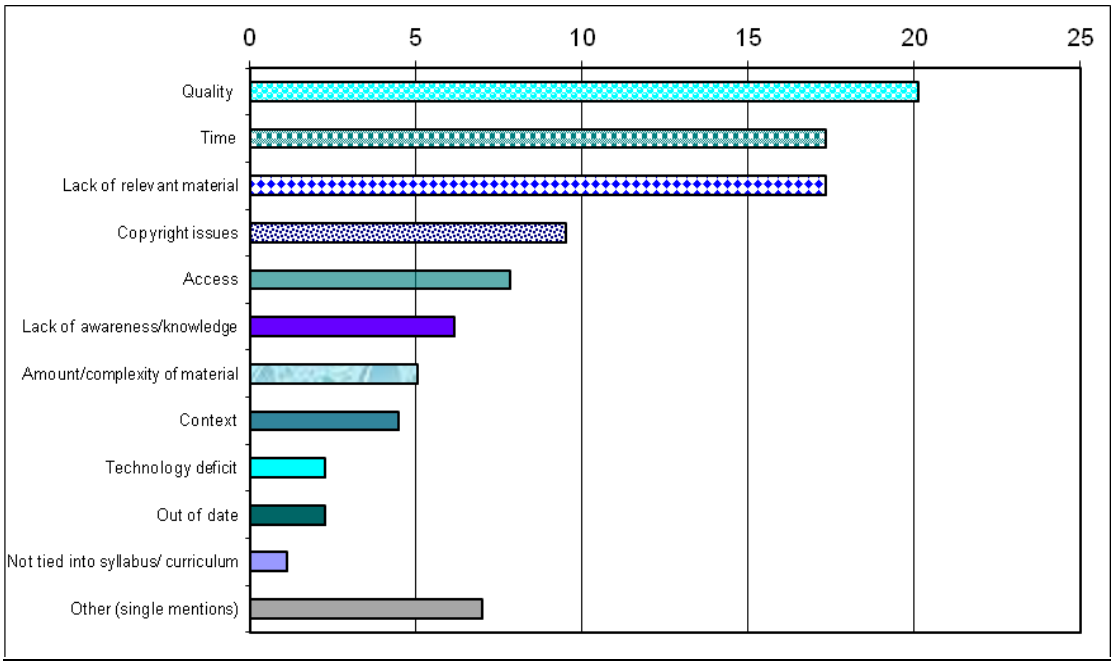
(xii) Other

Finally, there were 12 comments that did not fit into the categories above, as follows:

- I have sufficient quality materials!
- The unregulated graduate employment and commercial marketplace, wherein released course materials and resources could be used without proper licensing or recognition.
- Lack of direction and discussion among colleagues about the usefulness of specific resources.
- Overuse by students of second-hand experiences rather than real, first-hand experiences.
- Being frowned upon by other academic staff as somehow lazy.
- Loss of control.
- Cost.
- Maintenance issue.
- The idea that somebody can access and use your resources while not sharing any of their own.
- Potential consumerist attitude instead of academically inquisitive one on part of users.
- Material being already familiar to target group.
- Student resistance.

A summary of findings for this question are presented in Figure 13.

Figure 13 The most important deterrents to the use of OER in courses, % of mentions



Use of repositories

Questions 17 to 26 of the survey sought to understand respondents' current use of repositories.

Question 17 asked respondents about their use of repositories. 116 people or 60% of all respondents (and possibly more because of the misunderstandings discussed below) had never used a repository. (In question 10, 21% of respondents said that they looked for OER in repositories; in question 13, 6% of respondents stated that they used repositories to share OER.)

Of the remaining 76 respondents (or 40%), many had used more than one repository, as is evidenced in the total number of responses (136). As can be seen from Table 14, the NDLR - National Digital Learning Resources (Ireland) was most used, accounting for 40% of responses from those who used repositories. The UK repository Jorum was the next most popular, followed by the North American repository MERLOT. ARIADNE – the Foundation for the European Knowledge Pool – attracted 7% of responses with CAREO – Campus Alberta Repository of Educational Objects, accounting for just 1%.

Table 11 Use of repositories by 40% of respondents who use repositories

Use of repositories	No. responses	% responses
NDLR – National Digital Learning Resources (Ireland)	54	40
Jorum – UK repository	25	18
MERLOT – North American repository	18	13
ARIADNE – Foundation for the European Knowledge Pool	9	7
CAREO – Campus Alberta Repository of Educational Objects	2	1
I have used other repositories	28	21
Totals	136	100

32 respondents, or 17% of all respondents, stated that they had used 'other repositories'. However, many respondents were not sure what constituted a repository. Immediately, 4 responses were recategorised as they mentioned using SlideShare (x2), Blogs, Forums and Journals, as examples of repositories. This brought the number in the 'Other' category down to 28, representing 15% of all respondents. Some respondents made reference to the fact that they were unsure what a repository was. The following were listed under the 'Other' category and while the majority are not repositories, they are being listed to show the diversity of sources used by respondents and the confusion in relation to repositories.

- I don't know if it's a repository in the sense you mean but there are medicine specific resources such as UpToDate; NICE guidelines, etc. that I use.
- German education resources.
- Vet Anatomy Museum.
- Mathcentre and Mathtutor.
- Patrick JMT.
- Khan Academy.
- The wiki Uni.
- OER commons.
- Website collections, grey lit and research reps etc.
- JSTOR.
- artist.com.
- Statistics site for statistics.
- STÓR.
- The Inclusion Club.
- ChesterRep.
- http://sciencecases.lib.buffalo.edu/cs/
- RIAN.
- Dialnet.
- Consejo Superior de Investigaciones Cientificas Repositorio.
- I have used repositories specific to the discipline I teach.
- Learn Chemistry.
- PETE doctoral programmes.
- Many, shared between colleagues internationally.
- University repositories.
- Harvard Business Review.
- SIOP.
- http://www.schubert-verlag.de/aufgaben/uebungen_b2/b2_uebungen_index.htm; http://www.deutschunterrichtsmaterialien.de;http://www.schule-studium.de/Deutsch/Deutsch-Unterrichtsmaterial.html, etc.
- ComPADRE(American Association of Physics Teachers) and the repositories hanging off it.
- American Society for Microbiology.
- Lynda.com.
- Connexions.
- I'm not sure whether the following qualify as OER ... JSTOR; YouTube; PATHE; Academic Search Complete.
- 3rd level repositories.

Question 18, an open question, asked respondents to list what they considered worked well, in terms of functionality and ease of use, in relation to the repositories that they had used. This question was not applicable for 60% of respondents who had not used repositories.

Of the 40% remaining, 16% or 30 respondents gave irrelevant answers. Some of this was due to the misunderstanding of the meaning of 'repository', as described under question 17 above e.g. 'YouTube is particularly useful and user-friendly' and 'I find all the social media sights very effective as students are well-tuned into them.'

Other irrelevant answers failed to address the question, focusing on the materials rather than the functionality and ease of use e.g. 'Material that has text and grammar questions'; 'Some useful material on NDLR'.

2 respondents (1%) replied: 'Not a lot' and 'A poor experience'.

In all then, 23% of respondents, or 45, provided relevant answers to this question. They made 52 mentions of features that worked well for them in their use of repositories. When thematically analysed, the following groupings emerged:

(i) Search function

The search facility was what worked well for the majority of respondents, mentioned 15 times and accounting for 29% of all mentions. Comments included:

> Search function – the ability to find what I want easily is important – generally Google works better than 'institutional repositories' search function; Good search index; good search engine x 3; Those that were either discipline based or openly searchable; Ease of searching x 2; Search functionality; Good search feature for ease of locating relevant resources; Search capabilities; Good search tools; Easily searched; Easy-to-follow search in key words; Easy to search.

(ii) Access

The second most mentioned aspect was that of access, accounting for 25% of mentions, or 13, as follows:

> I find Jorum quite accessible; Accessibility x 2; Ease of access x 3; NDLR easy to access once you have signed up; Ease of access very important; ease of access x 3; Easy for students to access; Quick log in.

(iii) Review

There were 2 mentions (4%) of a review mechanism, as follows:

> A review mechanism to highlight good resources; Video of actual classes and accounts of exactly how materials have worked for those facing similar challenges to me.

(iv) Clarity on copyright/licensing

There were also 2 mentions (4%) relating to clarity of copyright/licensing as follows:

> Clear CC/Open licensing; Clarity on copyright.

(v) Filter

Also getting 2 mentions (4%) was the subject of filtering, as follows;

> Material carefully filtered on ComPADRE site; Good filter.

(vi) Finally, there were 18 aspects that received 1 mention each (or 2% each) as follows:

- Clear and uncluttered interface;
- Clear menu of availability;
- Good front end;
- Clear guidelines for use;
- Range of navigation routes;
- No membership profile required;
- Lack of red tape;
- Just download and use;
- Easy download;
- Personal spaces and records;
- Specific collections within repositories;
- Quality assured;
- Good metadata;
- Categories by discipline;
- Categorising by university;
- Good classification/indexing of material on ComPADRE site;
- Resources of the week or month featured;
- Networked i.e. accessible via central database or Google (keyword search).

Question 19, an open question, asked respondents to list what they considered did not work well, in terms of functionality and ease of use, in relation to the repositories that they had used. This question was not applicable for 60% of respondents who had not used repositories and a further 1% also answered 'not applicable'.

Of the 39% remaining, 13% or 25 respondents gave irrelevant answers. As in questions 17 and 18 above, some of this was due to the misunderstanding of the meaning of 'repository' e.g. 'Too much available on YouTube and very US-based'.

Other irrelevant answers failed to address the question, focusing on the materials rather than the functionality and ease of use e.g. 'Not much material relevant to social policy and social work in Ireland' or 'Material on subjects that the students feel they have no connection with'.

3 respondents (2%) replied that they were 'Not sure' and 2 (1%) stated that they had 'no idea'.

In all then, 23% of respondents, or 44, provided relevant answers to this question. They made 62 mentions of features that did not work well for them in their use of repositories. When thematically analysed, the groupings hereunder emerged. In many cases responses to this question were the corollary of responses to question 18.

(i) Search function

The search facility was what did not work well for the majority of respondents, mentioned 18 times and accounting for 29% of all mentions. Comments included:

> Search; Searching awkward; Hard to search; Hard to find materials; Long complicated search forms; Advanced searches do not work well; Inadequate tagging to retrieve relevant content; Searching mechanisms; Parameters of search; Search functions sometimes not great; Poor search facilities; Search functionality; Search functions can be too broad; Advanced searches take time; Searching did not always return the correct results; Search engine on ComPADRE could be a bit better; Search takes time; No common system of labelling or organisation of materials so not easy to search.

(ii) Access

The second most mentioned aspect was that of access, accounting for 19% of mentions, or 12, as follows:

> Login a barrier to access; too many log-ins x 2; I keep forgetting my password; The overseas repositories can be difficult to access; Difficult to access – too much 'noise' around the actual resource; Not being able to access; Accessing.

(iii) Clunky, cumbersome, difficult to navigate

Repositories that are clunky, cumbersome and difficult to navigate were the subject of 4 mentions, representing 6% of all valid mentions, as follows:

> NDLR is cumbersome and not intuitive; difficult to navigate; not easy to navigate; they tend to be clunky.

(iv) Formats/software issues

Also mentioned 4 times were issues around formats and software as follows:

> Some may require certain software; Versions of software (even MS Office) affect sharing of resources; Lead time to get maximum benefit from tools due to lack of training; some resources packaged in hard to use formats –wastes time.

(v) Not maintained, not live entities

The following 3 comments (5% of all mentions) were made in relation to repositories not being maintained:

> Those that are not clearly maintained or live entities; Are they cared for and updated?; Material that seems to be languishing in the repository for a long time.

(vi) Finally, there were 21 aspects that received 1 mention each (or 2% each) as follows:

- Information not clear;
- Poor structure/layout;
- Poor front end;
- Inadequate guidelines for use;
- Red tape;
- Download difficult;
- Limited description of resources;
- Poor classification of material;

- Poor filing system;
- Lack of teaching and learning context by peers;
- NDLR did not work well;
- Dull visual interface;
- Not knowing what material is available on each repository;
- Too many dissemination based resources (lecture notes);
- Resources being oversold in terms of what they do;
- Subscription-based only;
- Membership profile required;
- Complicated registration;
- Not networked;
- Insufficient quality control;
- Links not working.

Figure 14 summarises the main findings from questions 18 and 19.

Figure 14 What worked well, and did not work well, in repositories used in the past by respondents, with regard to functionality and ease of use

With regard to the functionality and ease of use of repositories, valid responses from just 23% of respondents revealed that the **search function** and **ease of access** were the main factors that worked well, and at the same time did not work well, in repositories that they had used in the past.

Question 20 was a hypothetical one and asked respondents: 'Even if you have not used a repository before, why would you use a repository? Results are presented in Table 11. The biggest reason for using a repository would be to speed up the process of developing teaching materials. With 142 responses, this reason accounted for 37% of all responses (382 in total). Next in importance was that the resources would be quality assured, garnering 22% of responses (83). 68 responses, or 18%, centred on the reduction of the cost of developing materials. Finally, with 16% of all responses (63), being involved in the community aspect of the repository was the fourth choice of respondents. Although it was the last choice, there were a third of respondents (33%, or 63) for whom this reason was important.

Table 12 Even if you have not used a repository before, why would you use a repository?

Why would you use a repository?	No. responses	% responses
To reduce the cost of developing materials	68	18
To speed up the process of developing teaching materials	142	37
Because the resources would be quality assured	83	22
To be involved in the community aspect of the repository	63	16
Other	26	7
Totals	**382**	**100**

29 respondents (15%) chose 'Other' reasons. 3 of these were re-categorised into the appropriate existing categories. 3 were unaware of repositories or didn't know about them. 1 person would not use a repository, 1 was not sure why they would use a repository and 1 was

not sure they were a good idea. 1 person said the question was not applicable and there were two irrelevant answers. The remaining 16 respondents gave the following reasons for using a repository:

(i) New ideas (5 responses)

> New ideas; Other viewpoints, approaches; Get new ideas; To get new ideas for teaching; to generate new ideas about resource development.

(ii) To facilitate teaching/student learning (5 responses)

> None of the above: I would use those that were particularly well-developed and would achieve my aims; Help students; If I felt the material might facilitate learning; To find resources suited to the topic I am teaching.

(iv) Access to materials not likely to be used otherwise (3 responses)

> To make available materials students would not otherwise use or see; To expand the scope of things I can teach beyond what I currently know-my students should not be limited by my knowledge; To use resources I would not otherwise use at all.

(v) Finally, the following 3 reasons were given by 1 person in each case:

- To academically bolster and support material developed;
- To share content with colleagues and not be a consumer;
- Because I wish to develop and write my own materials/analyses as might be expected.

Use of institutional repositories

Questions 21-26 focused on the use of institutional repositories and issues related thereto.

Question 21, asked respondents if they currently use their institutional repositories. As can be seen in Table 13, over half of respondents (51%) answered that they did not. 52 respondents, or 27%, used their local repositories to share their research outputs. 24% of respondents (47 respondents) used their institutional repositories to look at research profiles and 22%, or 42 respondents, used them to access research outputs deposited by their colleagues. Finally, 37 respondents (19%) their local repositories to publish their research profiles.

Table 13 Use of institutional repository

Use of institutional repository	No. responses	% respondents
Yes, to look at research profiles	47	24
Yes, to access research outputs deposited by my colleagues	42	22
Yes, to share my research outputs	52	27
Yes, to publish my research profile	37	19
No	98	51
Totals	**276**	**144***

* Note: Percentages add up to more than 100% because participants could choose more than one answer.

Those 98, or 51% of respondents, who did not use their local repositories were asked to specify why. Three answers (3%) were not applicable. Following thematic analysis, the following themes emerged:

(i) Almost 60% (59) replied that they either did not have an institutional repository or were unaware of whether or not their institutions had repositories, or were not sure what a repository was. Many private colleges may not have institutional repositories.

(ii) Of the remaining 37 respondents, 13 said that the local repository was not of value/relevance for their subject. For example,

> Not to access outputs deposited by colleagues, since most seem not relevant; more relevant materials accessible via journal search engines – Google, academia; Not relevant; No specific reason to; I prefer to develop my own primary materials because I know they will fit with where I am going with the topic and module. The time it can take to search and find something useful is time you will have your own material developed; I'm not sure it would be specifically relevant to my field of study. If a colleague in my area has published something, I am likely to know about it and access it directly; Material relevant to my work will either have been developed by me (and placed on existing internal and external websites) or have been developed by others external to my institution; Unsuitable for Architecture – drawings not stored, models not stored; I just use the ISI Web of Science as that indicates to some extent the level and quality of the material and quality of the research profile. It's always better to try to source objective data as an academic; I suspect that very little of what is available there would be relevant to my generic skills-centred teaching; My area is specialist and I have an archive of material gathered over the years and repository materials are likely to be generic.

(iii) 11 respondents cited a lack of time as the reason for not using their local repositories. For example,

> I'm overloaded enough trying to learn new material without having to learn new systems too; No time; Lack of time; The thought of ploughing through material without any heads up from someone I trust seems to be too tedious and time-consuming; Time constraints; Don't have time; Time management; My work life is full to the brim with time wasting activities; Time; Don't have time after publication of a paper to go back and upload the author manuscript.

(iv) 7 people indicated that they were not researchers or did not have time for research: hence they had no need to use repositories.

(v) 3 people stated that their part-time status was a barrier. For example:

> As adjunct lecturer, my status is ambiguous and I'm never sure what I have access to; I put it down to being part-time in teaching and full-time elsewhere; Most likely due to my current part-time position – would look more into this as FT staff.

(vi) Only 3 people gave reasons relating specifically to the use of their repositories as follows:

> Most of the deposited material is of insufficient quality; I'm never sure about copyright; It's badly organised.

Question 22 asked respondents whether or not they thought their institutional repositories appropriate for sharing educational resources and probed the reasons for answers. Results

were split down the middle with 51% viewing their institutional repositories as appropriate and 49% as not appropriate, as seen in Table 14.

Table 14 Do you think your institutional repository is appropriate for sharing educational resources?

	No. respondents	% respondents
Yes	98	51
No	94	49
Totals	**192**	**100**

When probed further for reasons as to why, or why not, respondents considered their institutional repositories suitable for sharing educational resources, there was some confusion. A large percentage stated that this question was not applicable or that they did not know enough about repositories to answer. When these were excluded from analysis together with answers that were not relevant there were just 10 answers remaining on the 'Yes' side and '26' on the 'No' side.

The 10 reasons (from 5% of respondents) given to support the premise that institutional repositories were suitable for educational resources were as follows:

> I have always been able to source what I have been looking for.
>
> So that we can all access and benefit from other available material.
>
> It is easily accessible; ease of access.
>
> I think it might enlarge and enrich available educational resources
>
> It is a means to marketing and attracting growth, cross fertilisation and collaboration, thereby ensuring a broader perspective on educational relevance and application of material.
>
> To let colleagues know what I am doing and to allow them to access the resources.
>
> Because (1) our teaching should be research-led and (2) the repository provides an accessible point of access to material for students.
>
> It will allow information to be shared.
>
> Trustworthiness.
>
> For CPD.

The 26 reasons (from 14% of respondents) given for the view that repositories were inappropriate for the sharing of educational resources were categorised as follows:

(i) Other more flexible platforms available (7)

> I don't think institutions should waste their money. Sites such as YouTube, SlideShare etc. can be used ... are more accessible than institutional un-navigable and archaic systems...
>
> There are easier, more user-friendly ways to get to educational resources

Lack of flexibility compared to my own websites

Too cumbersome

Inadequate

OERs should be open and easy to access. Institutional repositories are typically ugly and complicated. Resources need to be shared on a platform that's easy to use.

I was approached by the librarian regarding my research output, but I wouldn't know where to find my own work, never mind anybody else's!

(ii) Lack of visibility (4)

Not sufficiently prominent

Lack of visibility

Only if part of a wider network

How accessible would materials located there be to external parties?

(iii) Research and teaching linkages (3)

Research and teaching/learning material are two different things

Linkages between open access research resources and learning resources not explicit or recognised usually (research led teaching)

Not unless the research and teaching elements are kept separate....

(iv) Critical mass (3)

Too small

Not enough people have deposited material

Critical mass

(v) Devalue education (2)

It may well lead to weakness in the fundamental idea of a University education – diversity of view, methods and approaches.

They create generic topics

(vi) Culture of sharing (2)

Not enough of a community spirit among staff to make it work

Don't believe the institution is focused on sharing educational resources

(vii) Quality control (2)

The lack of quality control over uploaded material

Lack of quality control

(viii) Finally, the following 3 reasons were given by one person in each instance:

> I can't help but feel the increasing number of databases creates confusion
>
> Do your own work to tailor to the students needs as appropriate. Lazy lecturers looking for an easy way out.
>
> Perhaps a themed approach would be better

Question 23, an open question, asked respondents: If your institutional repository was made available for OER what would motivate you to share your resources there?

90 respondents, or 47% of all respondents, did not provide motivations. Of these, 25 (13%) said the question was not applicable; 10 (5%) said they didn't know or were unsure/not sure; 12 (6%) answered 'nothing' or that they would not use a repository; and 43(22%) gave answers that were irrelevant. (Note: in question 22, 49% of respondents stated that they did not think their institutional repository was suitable for sharing).

One respondent to this question, though not directly answering the question, gave a reason that could be added to the 'No' side in question 22:

> I'd prefer a cross-institutional (or even cross-national) teaching-dedicated repository. I wouldn't gain anything from such inner-institutional repository as there is nobody else teaching what I teach.

Just over half (53%) of all respondents (102) answered the question providing 111 responses in all. Thematic analysis revealed a wide range of themes as outlined hereunder.

(i) Altruistic motivations (19 responses)

The most significant motivations for sharing resources in an institutional repository were those centred around altruism, accounting for 17% of all responses. It should be noted however that although most significant, the percentage of all respondents answering this question was just 10% (or 19 respondents). Answers included:

> To give something back; to share; a desire to help other teachers; to contribute; to help others; helping other people; to share my work; I think it's a good thing to do; to make it easier for others; to know that it could be helpful to others; a desire to contribute; to save others time; it's always good to share; sharing knowledge is one of the goals of education in my opinion; to pay forward good resources for others.

(ii) Recognition/credit/profile raising (11 responses)

The second most popular set of motivations were around the issue of personal recognition, accounting for 10% of all motivations and mentioned by 6% of all respondents. Comments included:

> Recognition for the work; recognition; being seen as a 'publication' or some form of kudos attached; building my reputation in the field; if there was more appreciation; acknowledgement of my work; professional profile; recognition in terms of professional development; to allow others to view my work; acknowledgement of contribution to teaching; institutional recognition.

(iii) Collegiality and opportunities for collaboration and networking (9 responses)

8% of all mentions, made by 5% of respondents, related to collegiality and opportunities for collaboration and networking. Some of the comments were as follows:

> To foster collaboration; collaborative efforts; collaboration benefits; collegiality; networking opportunities; we could have enhanced collaboration between different disciplines.

(iv) Reciprocity (8 responses)

The third most mentioned factor that would motivate respondents to share their resources in their institutional repositories was reciprocity, mentioned by 8 respondents, or 4% and accounting for 7% of valid responses. Comments included:

> Reciprocity is key; To share my own research and be able to obtain that of others; the prospect of resource exchange; reciprocity; If others would share theirs also; Sharing by colleagues; Everyone also using it too; Reciprocation.

The remaining motivational factors for sharing resources in institutional repositories were less significant, attracting 6 or less responses in each case, by 3% or less of all respondents, as follows:

Reasons attracting 6 responses (from 3% of respondents) in each case:

- Ease of access/accessibility;
- Content quality (appropriate; proper citation; up-to-date; good; high quality).

Reasons attracting 4 responses (from 2% of respondents) in each case:

- Time (to engage; to make material professional-looking);
- Peer review/feedback;
- If my material was considered appropriate/relevant/useful/helpful.

Reasons attracting 3 responses (from 2% of respondents) in each case:

- Authorship (if guaranteed of being referenced as author; if copyright protected; if attributed properly);
- Degree of openness (only if you could close the sharing to relevant people you share teaching with; would prefer to know who I was sharing with and restrict access to permission granted by me; if it was fully open);
- Benefit to institution/department/course;
- Functionality (functionality x 2; search functionality);
- Not reinventing the wheel;
- Management/organisation (if managed and maintained locally; someone to manage uploading; properly organised);
- Support;
- Ease of use.

Reasons attracting 2 responses (from 1% of respondents) in each case:

- Interest;

- Evidence of downloads (and by whom);
- Training/ongoing training;
- Copyright clarity/guarantees about copyright.

Finally, each of the following motivations attracted just 1 response:

- Accreditation;
- Advertising;
- Wider availability;
- Everyone else using it;
- Promote culture of sharing;
- Reassurance that I would not thereby lose out;
- What others are saying;
- I'm currently looking at setting up an extension of our online MSc programme in which certain educational resources (including research papers) could be made available. This could be somehow connected into the IR.

Question 24, following on from question 23, asked respondents to state what might deter them from sharing resources in their institutional repositories, if that repository was made available for OER.

81 respondents, or 42% of all respondents, did not provide examples of deterrents. Of these, 48 (25% of all respondents) said the question was not applicable, with one person stating categorically: 'I would not share with the community at large'; 11 (6%) said they didn't know or were unsure/not sure; 7 (4%) gave answers that were irrelevant and 15 (8%) answered 'nothing'.

58% of all respondents (112) provided 139 responses in all. Thematic analysis revealed the following themes.

(i) Loss of control/ownership/IPR (32 responses)

Almost a quarter of all responses (23%) related to ownership concerns. 32 respondents (17% of all respondents) highlighted such concerns as deterrents to using their local repository to deposit OER, as follows:

> People using your work without due consideration; Lack of guarantees about copyright. Lack of guarantees about being referenced as the author; Plagiarising by for profit organisations; Intellectual copyright; Use of them by part-time persons not suitably qualified to deliver/use them; The institute may think they have IP rights for the resources; Work in progress might be stolen and published by those with access; Lack of control, taking control over who accesses stuff away from the author; ...as long as they don't use it in situations where I could be liable; Concerns about plagiarism; Not properly acknowledging author; The biggest challenge is intellectual property rights, and who has ownership. I have had my material plagiarised twice; Lack of acknowledgement; ...concern that people might not understand my point/misinterpret my information or misrepresent it; Lack of control over my material; Protective of my own work, compromises originality of modules I deliver; Interfere with protecting ownership; Stuff being plagiarised without credit being attributed; If others were to use my work without acknowledging the source; Improper poaching of materials; Unsure how resources will be used; Loss of control. Fear notes would be misused and out of context; Lack of credit or recognition for developing resources...; People copying material it took me so long to develop; Plagiarism; Protection

> of intellectual property; Somebody altering information I had provided; The chance that people could copy your work as their own; Lack of control on who uses materials; The idea that somebody else could use resources that you've developed, without having to contribute any of their own; Academic theft.

(ii) Repository functionality (20 responses)

The second most mentioned deterrent related to repository functionality and accounted for 14% of all valid responses. 20 respondents, or 10% of all respondents, raised this issue as follows:

> The poor quality of the repository; Not easy to use or manipulate; Looks basic and not sufficiently professional; Problems finding materials; Problems finding useful materials; Not easy to use; Low global profile; Complicated system; It was cumbersome; If there was a lot of red tape and steps involved in the process; Inadequate infrastructure; Too difficult to access; Lack of flexibility in presenting the material compared to my own personal website; Complexity of the process; The interface and the hassle; The easiness of use; The difficulty of repository use; Difficulty of use; If the process was complicated; If it was cumbersome and tricky to upload; As long as it has clear submission criteria.

(iii) Time (17 responses)

Time, as a deterrent, was mentioned by 17 respondents (9%) and accounted for 12% of all valid responses. Comments included:

> Additional time constraints without payment; Time it would take to 'pretty' up something if you want to share it with the world!; Time involved; Time is the major issue-following up on teaching is already very time-consuming without adding this layer of work as well; The time it would take; The time required to manage the material; Time and workload; lack of time; repository time-consuming; Time; Time constraints.

(iv) Lack of confidence in resources/fear of being 'judged' (15 responses)

15 respondents (8%) expressed a lack of confidence in their resources and a fear of being 'judged' harshly. This deterrent accounted for 11% of all responses, as follows:

> Fear of adverse critique; Fear-is it good enough?; A lack of resources means that the resources would be seen as 'substandard'; Lack of confidence; I'd worry they weren't of sufficient quality – I always do; My material being insufficiently academic; Lack of confidence; Feeling they might not be up to standard; Judgement about the quality of my resources; Lack of confidence in the quality of my resources; Hyper critical atmosphere; No time nor good enough resources to make it look professional; Not terribly likely that I would have anything to include; Leaving myself open to criticism from colleagues about the quality of my resources; ..self-conscious about others seeing and evaluating my materials.

(v) Copyright (10 responses)

5% of respondents cited copyright issues as a deterrent, as follows:

> Copyright issues – if my own slides are partly based, for example, on resources associated with a course text, etc.; Copyright concerns – it would be a share alike license, rather than a reformat for their own use licence; In case I get caught on a copyright issue; Copyrightx3; I would have to be very careful regarding copyright issues in any diagrams/figures used; Copyright infringement; Copyright issues; Copyright infringement.

(vi) Quality (9 responses)

Concerns about a lack of quality were raised by 5% of respondents (9) and accounted for 6% of all valid responses. The following comments were made in this regard:

> No screening-poor quality work from others; the lack of quality control over uploaded material; If there was no quality control; Lack of quality oversight; Bad content; Low standards of work from others; As long as it does not take in rubbish; Lack of quality assurance; Lack of credibility and authenticity.

(vii) Lack of participation/reciprocity (5 responses)

5 respondents (3%) made reference to the issues of reciprocity and lack of participation as possible deterrents. This issue accounted for 4% of all responses and the associated comments are presented hereunder.

> Reciprocity; If I could not find appropriate resources to use in return; Lack of participation from others; Lack of response and interest among colleagues; Other colleagues not sharing their work (or not having any work worth sharing).

Each of the following deterrents or barriers to using the institutional repository were made by 2% of respondents, or less

Reasons accounted for by 3 responses (or 2% of respondents) in each case:

- Lack of appreciation/credit/acknowledgement of contribution;
- Degree of openness (degree of closure; depends who with; if it was closed to only registered users).

Reasons accounted for by 2 responses (or 1% of respondents) in each case:

- No benefit (to make it worth my while);
- Loss of my job as a part-time teacher;
- Lack of knowledge;
- Research/teaching nexus (Having research and teaching materials side by side; It is not specifically targeted at teaching. I would not feel I am a member of a community of individuals who are equally interested in teaching.)
- Single institution issue (A repository belonging to a single institution would be unlikely to have a wide audience; I'd much rather have a cross-institutional resource.)

Finally, the following 15 reasons were mentioned by 1 respondent in each case:

- There would be a lot of repetition;
- Not likely to be extensive for my discipline;
- Forced use;
- Would depend on what I hear from those currently using it;
- If I felt they did not facilitate learning;
- They create generic topics;
- The sense that I would be complicit in facilitating lazy, mindless teaching;
- Perceived value;
- I would have to see the terms of use;
- Lack of promotion;

- My previous habit/behaviour of not openly or regularly sharing my material;
- The requirement for ongoing support;
- I tweak my lectures every time I give them, so would not be happy to have old versions as OER;
- If there is any other valuable resources that I could use in my class;
- I don't like the idea that there is another way for the institution of monitoring my work; soon it would become mandatory, too, like the current repository for research. I hate that total transparency of the institution, even though I don't think I have anything to hide, and my teaching materials are probably OK. I'd much rather have a cross-institutional resource that doesn't filter me by staff number.

Figure 15 summarises the main findings from questions 23 and 24.

Figure 15 Summary of most-mentioned motivating and deterring factors for sharing resources in institutional repositories, if made available to OER

Over half of all respondents (53%) suggested factors that would motivate them to share resources in institutional repositories. 58% of respondents suggested factors that would deter them from sharing resources in institutional repositories. The most suggested factors are listed hereunder, in order of importance:

Motivating factors	Deterring factors
• Altruistic reasons for sharing	• Loss of control/ownership
• Personal recognition/credit /profile building	• Repository functionality factors
• Collegiality/Collaboration/Networking	• Time
• Reciprocity	• Lack of confidence/fear of criticism

Question 25 asked respondents: What sorts of issues do you think could arise in relation to Digital Rights Management, that is, the rights of someone uploading a resource to the institutional repository? More than a third of respondents (35%, or 69 respondents) stated that they did not know, were unsure or not aware of what the issues might be, with some qualifying their answers e.g. 'Don't know: this is a legal question.' Another 9% of respondents (or 17) gave answers that were not relevant, with some referring to quality issues or lack of relevant/appropriate materials. 4 people (or 2%) thought that no issues would arise as follows:

> None; Once there is a clearly defined and easily understood process, I don't see an issue: The issues should be understood by anyone uploading with relatively little effort; If the terms of sharing and use are clearly outlined, and authorship acknowledged, there should not be any problems.

The remaining responses were categorised as follows with over 40% of responses being accounted for by issues relating to intellectual property rights and copyright concerns.

(i) Intellectual property rights

25% (50) of all responses related to intellectual property rights with a lot of questions raised about whether the institution or the originator would own the materials once uploaded to the institutional repository. Comments in this category included the following:

> IPR; Ownership; Not being credited as author; Lack of clarity re IPR; Institutions doing nothing about clarifying issues around copyright and intellectual property; Reuse without attribution; Who actually owns it, the Institute or me?; Research data property?; Guarantees about IPR; Institutional interests take priority over intellectual property; Theft of ideas; Fear of someone presenting your material as their own; Plagiarism of work; Misuse of resources; Copying of resources; Ownership of data and material; The institution does not own the data; Who owns the rights at this point – the institution or the producer?; That it would be used incorrectly; Unauthorised alterations; Could institution profit in future from what I create?; Who owns teaching content-author or institution?; The institution claiming ownership; Allegations of theft-people being precious about content; Who owns it-the writer or the university?; Depends how precious someone is over their own intellectual property rights.

(ii) Copyright/licensing issues

32 responses or 16% of all responses centred on concerns about copyright issues, and included the following comments:

> Clarity re work published elsewhere – permission to upload?; Ignorance re copyright issues; copyright concerns; Ensuring that every single part of the resource is completely copyright-free (even pictures); Even with full copyright correctly uploaded, material can be purloined and used inappropriately; Inadvertently mixing up allowed uses.

(iii) Management issues

7 responses or 4% of all answers related to management issues as follows:

> Cost; Material needs to be moderated before being uploaded. No matter what disclaimers you put in place about being the personal views of writers etc., whatever is put up on your institutional repository will be associated with your institution; Monitoring of staff; If they were uploading material that was not properly sourced and referenced etc. and also did not reflect the branding and ethos of the organisation, or was factually incorrect; Maintenance of content; Who is responsible for ensuring resources are appropriately managed? Who is responsible for inaccuracies in resources?

Finally, the following 21 (11%) issues were raised by 1 respondent in each case:

- Legal issues;
- Privacy concerns;
- What would happen if they changed their mind and wanted to withdraw their upload?
- People combine so many images, quotes, charts etc. into slides that rights management there is a nightmare;
- Reuse of diagrams that, for example, you might legitimately include in lecture slides on a closed site (e.g. password-protected VLE) under terms and conditions specified by textbook publishers;
- If people inherit resources from colleagues, rights management particularly difficult;
- Shouldn't somebody be paid for their work?
- Exploitation: if resources used for other monetary purposes as financial asset;
- A person who has outside interests and material that is used elsewhere in other educational institutions;
- Incorrect usage leading to poor pedagogical practice;
- If they had taken things from a source would the University be liable?
- Job security-people could teach according to a repository resource;
- Concerns for academic staff: concerns over general availability of content for 'free': why would someone come to our college?

- I presume the rights remain with the institution (as per our contracts) so I am not sure this would make any difference;
- Liability for incorrect information;
- Legalities too rigid;
- I would be the potential problem. My default would be not to upload anything unless the licensing terms and the potential accessees are known..
- Courses may be team-taught, or resources may be derivative works, and complications in licensing may arise;
- Institutions currently differ in whether they consider course materials to be works for hire - this has IPR implications;
- Current repositories utilise a pre-print exemption accepted by many publishers - if materials are also published, publishers may become less accepting of repositories if materials are more actively and widely shared (e.g. with undergrad students) through these outlets;
- I suppose once you decide to share your work, you accept the likelihood that your material will be used by others without always crediting you. And I suppose it depends if your aim is to cultivate your own career and maintain your original research/work in your name - or if you want to advance your field of interest more broadly by allowing others to take your ideas and build on them.

Finally, **Question 26** asked respondents what kinds of training they thought would be important or essential in using their institutional repositories.

To begin, a quarter of respondents (48, or 25%) stated that they could not say, did not know, were unaware of repositories or unsure in relation to what training was needed. Some provided comments e.g.

> Don't know what I don't know; Cannot answer without detail of what's involved; My institution does not have a repository; Never used it so not sure; Don't even know if my institution has one; Knowing where it is!; Never heard of an institutional repository – do all colleges have them?

A further 11% of responses, or 22, were not relevant, many referring to types of training rather than content e.g.

> Online courses; CPD; Ease of access; Workshops; Face-to-face training; Continuous training and updating; A lot!

Directly addressing the question, there were 13 respondents (or 7%) who felt that no training should be necessary if such repositories were well-designed, or that training would be a waste of time, as evidenced in the following comments:

> None should be needed! A good system would require no essential training; If it requires training then it's badly designed; ...people need to be able to sit down and use a system as few will make time for training; Minimal - simple upload, download surely? If training is needed you have the wrong concept; None-it should be easy; Training in repository use would be a waste of time: it's about the ability of academics to engage in meaningful ways on Internet.

Hereafter, it was difficult to interpret whether respondents were addressing the question of training required to use institutional repositories or broader training required in relation to repositories in general, or digital resources and OER in general. The following 21% of responses

(or 41 responses) were categorised under the heading: 'Training in all aspects/all the basics' and comments included:

> Training in all related aspects; information on how to use it; how to access it; knowledge about using the system; Step-by-step on how to use it; How to use a repository; The kind of training that enables people to use it; Basic training in accessing a repository; Practical training on how to upload and how to re-upload etc.; How to deposit; Guidelines to limit misuse of repository; General awareness/knowledge; Basic training in accessing repositories and how to store resources correctly; Show us how to do it; Basic best practices; A short guide which explains how to use it quickly and how to put up material; A starter pack needed; Full, thorough training on all aspects; How to upload, how to download, how to edit afterwards; Introductory – keep it simple; The initial stages and gaining trust; General training; Basic uploading and searching; The kinds of materials that can be uploaded; What are appropriate materials to upload; What you can and can't make available; Acceptable types of material and formats; How to add in a consistent manner so items can be found, retrieved and reused; Full training and mentorship; Basic training available annually; Writing skills for such materials; Awareness of the types of resources that can be made available and how to get them to acceptable quality; Awareness raising; Guidelines on appropriate content and layout – templates would be useful; Template to follow when sharing resources.

A further 20% of answers, or 39 responses, could clearly be categorised as referring to broader issues around digital resources and OER, rather than training in the use of institutional repositories only, as asked in the question. Comments included:

> How to use different types of technology; The various platforms available; Broader digital literacy; Researching and finding resources and using them effectively; Designing resources for reuse; Using resources properly - what can they do for you as a lecturer?; Technical production and archiving; The benefits and uses in a class environment; The pitfalls and dangers (if applicable); The use of digital resources; What is available in the different repositories; Training in how to create good reusable resources that are not too discipline specific; The kinds of formats that are acceptable online; What sorts of materials should we be sharing?; How are materials best made available for reuse?; How can such resources be best used in classroom?; How to design and develop quality OERs; How to reuse OERs; Quality assurance guidelines; Topics about OERs in general; Uploading and managing resources; Searching for resources; Using resources; Rationale for doing so; Why do it?; What are the best sources for resources? What are the problems with this?; Let us know the consequences of such practice; Functional training on how to search effectively; Searching and navigating and acknowledging; More effective information about how repositories in general can be used and how relevant they can be to various fields of teaching and research; Information on how to use OER and advice about contributing to repositories; How they improve student learning; How to credit; How to advertise resources being available to interested parties; Training in technologies; Training in being sceptical – many of us can be very trusting of materials that are in a library or a repository; Training in how to easily and rapidly find the material I am looking for; How to find suitable content; Training in coding and labelling.

Finally, a category emerged in relation to the requirement for training in the legal aspects of using and sharing resources and the protection of rights. Again, this category could relate to broader issues around digital resources and OER and not only to institutional repositories. 34 responses in this category accounted for 17% of all responses and included comments such as:

> Legal issues; Awareness re copyright/digital rights; DRM; Legal responsibilities; Copyright and implications; Security; Copyright issues; Handling IP; De-personalisation of content shared online; Awareness of copyright; Creative Commons; Anti-plagiarism; Ethical use; Data privacy; Data Protection; Licensing; Acknowledgement and copyright; Digital rights

issues; Clarifying IP rules; Lecturers/tutors would require training on intellectual property rights so that they don't unwittingly steal other people's ideas; Training with regard to fair use – as with copyright; The basics around protecting your work; Copyright ethics; Accessibility rights.

4.1.4 Summary of survey findings

The survey findings provide a snapshot of the experiences of a small self-selected group of 192 academic staff, working in publicly- and privately-funded higher education institutions in Ireland. The majority of respondents had lecturing roles (77%), worked on a full-time basis (72%) and taught in face-to-face courses. There was a normal distribution in relation to age profile. Gender was skewed in favour of females by a factor of 3 to 2.

OER Awareness

Less than half (47%) of respondents reported being aware (aware, or very aware) of open educational resources. This represents less than half of those who, it could be argued, were most interested in OER and/or most motivated to respond, given the self-selected nature of the survey. When combined with the poor understanding of OER that emerged in responses to open questions, it could be speculated that real awareness levels are considerably lower.

Although this is higher than the 20% awareness levels reported in the US (Babson Survey Research Group, 2014), their survey sample was representative. Their research also attested to confusion amongst those reporting awareness which would lower their reported awareness levels further too.

Use of OER

The use of OER as supplementary course material outweighed its use as primary course material. 64% of respondents had never, or only rarely, used OER as primary course material compared to 41% who had never, or only rarely, used OER as supplementary course material. The most popular methods of looking for OER were search engines (e.g. Google), YouTube and amongst known colleagues (used by 78%, 53% and 44% respondents respectively).

Licensing

Respondents were most aware of copyright licensing (68% 'aware' or 'very aware'). Over half of respondents were unaware, or just somewhat aware, of creative commons and public domain licensing (58% and 53% respectively). When reusing OER, just over a quarter of respondents (26%) take copyright issues into consideration. Almost a third are unsure how to deal with copyright issues and ignore them. 36% of respondents deal with copyright issues by acknowledging the source of materials.

Sharing resources

When asked about sharing educational resources that they themselves produce, it was clear that respondents' understanding of sharing did not equate with the 'open' in OER. While almost two thirds of respondents (65%) stated that they shared their resources, 67% of all sharing was reported to be with known colleagues and with students, the latter through course delivery and VLEs. The most mentioned reasons for sharing related to collegiality and the facilitation of the student learning experience (50% of valid responses), together with

philosophical convictions (13% of responses). The top reasons for not sharing related to the protection of ownership rights (27% of responses), time factors (13% of responses) and not having any relevant materials to share (9% of responses).

Selecting resources/deterrents to use of OER

The factors considered most important in selecting resources for teaching were the quality and relevance of materials, accounting for 25% and 26% of all valid responses respectively. These two factors also featured as deterrents. Respondents reported that the most important deterrents to the use of OER in their courses were quality (20% of responses), time (17% of responses) and the lack of relevant materials (also 17%).

Use of repositories

At least 60% (and possibly up to 75%) of respondents had never used a repository. Again, as with awareness levels, this is very significant when the self-selected nature of the survey might suggest that respondents were amongst the most interested in OER. The NDLR was the most popular repository (40% of responses), followed by Jorum (18% of responses). Answers (by 15% of respondents) to the open component of this question re 'other repositories' revealed some confusion in relation to what a repository was with respondents listing blogs, websites and SlideShare as examples of the 'other repositories' they use.

With regard to the functionality and ease of use of repositories, valid responses from just 23% of respondents revealed that the search function and ease of access were the main factors that worked well, accounting for 29% and 25% of responses respectively. These two factors were also the ones that did not work well in repositories that they had used in the past (29% and 19% of responses respectively).

When asked why they would use a repository, respondents ranked speeding up the process of developing teaching materials highest (37% of responses), followed by the fact that resources would be quality assured (22% of responses). So again, as with OER use, time and quality are key factors.

Use of institutional repositories

49% of respondents use their institutional repositories, primarily to share their research outputs (27% of respondents) but also to look at research profiles (24% of respondents) and to access research outputs deposited by colleagues (22% of respondents). There was also a significant number who use them to publish their research profiles (19% of respondents). While 51% respondents stated that they did not use their institutional repositories, reasons revealed that 60% of these did not have an institutional repository or were unaware whether or not their institutions had repositories, or were not sure what a repository was. Many private colleges may not have institutional repositories.

Appropriateness of institutional repositories for sharing educational resources

Just over half of respondents think that their institutional repositories are appropriate for sharing educational resources. Of the remaining 49% who do not think them suitable, the majority did not know enough about repositories to say why, with many stating that they did not have an institutional repository. Over a quarter of those who gave a reason stated that there were other more flexible options available (e.g. YouTube, blogs, and personal websites). However, the numbers were statistically insignificant, representing just 4% of respondents.

Motivators and deterrents to sharing learning resources through institutional repositories

Over half of all respondents (53%) suggested factors that would motivate them to share resources in institutional repositories. The most suggested factors, in order of importance, were:

- Altruistic motivations for sharing (17% of responses)
- Personal recognition/credit/profile-building (10% of responses)
- Collegiality, collaboration and networking (8% of responses)
- Reciprocity (7% of responses)

58% of respondents suggested factors that would deter them from sharing resources through institutional repositories. In order of importance, these were:

- Loss of control/ownership of resources (23% of responses)
- Repository functionality factors (14% of responses)
- Time (12% of responses)
- Lack of confidence/fear of criticism (11% of responses)

Digital rights management issues (in context of uploading to institutional repositories)

35% of respondents were unable to answer this question, or gave answers that were not relevant. For 41% of respondents the potential issues lay in the areas of intellectual property rights protection and copyright. While the question did not specifically relate to OER and was in the context of institutional repositories only, the views expressed clearly demonstrate the barriers to 'openness' and the need for digital literacy skills.

Training considered to be important or essential in using institutional repositories

Again, while this question related specifically to the use of institutional repositories, answers demonstrated that awareness raising and training requires a much broader remit to encompass a wide range of issues around openness in the context of learning resources. Training in educational technologies and digital literacies are one aspect only. Given the low levels of awareness and high levels of misunderstanding in relation to both OER and repositories, there is an urgent need for dialogue to begin on openness in higher education in Ireland.

Closing comments

Given the methodological limitations and low response rate for the survey, it is not possible to generalise about the use of OER and repositories in higher education institutions in Ireland. It would also have been possible, time permitting, to carry out a deeper analysis of current data, by cross referencing responses. Nevertheless, answers, for the most part, reflect findings from studies and surveys in the literature and there are some useful insights that prompt questions that might inform future implementation for OER policy and practice. These will be discussed in Section 6.

4.2 Findings from focus groups with academic staff, librarians and educational technologists

4.2.1 Introduction

This section reports on the findings of three focus groups with a mix of academic staff, librarians, educational developers and educational technologists.

4.2.2 Methodology

Like the survey, the objective of the focus groups was to address research question 1, as summarised in Section 1.4, in line with the project aim and objectives, as outlined in Section 1.2. To recap, research question 1 asked:

> How are open educational resources currently being used and shared in Irish higher education institutions and what can we learn from such experiences?

The focus groups were organised by team members in three regional locations: Limerick, Dublin and Galway. Those with an interest in and knowledge of OER and institutional repositories were targeted. While the survey focused on collecting the views of academic staff and a further specialist focus group elicited the views of institutional repository managers, these three regional focus groups had mixed representation. This presented an opportunity to open up and reflect the discussion *between* different groups. These discussions could potentially capitalise on the interface between groups, highlighting coincidences and divergences around expectations and raising ideas for how OER might work at institutional level.

The limitations outlined in Section 1.3 apply. Though participants were self-selected, it is well acknowledged that early adopters and champions are essential in any change process.

With the research question in mind, the project team developed a set of questions for the 1-hour focus groups, together with an information and consent form. The latter contained information about the purpose of the project, the intended use and storage of project data and assurances about confidentiality and anonymity. The schedule, together with participant information/consent form, is attached as Appendix C.

4.2.3 Analysis

Focus group proceedings were recorded and transcribed. Analysis of data was based on thematic analysis and guided by the probe questions across all three focus groups.

4.2.4 Findings

Focus group 1 (FG1) had 11 participants from the University of Limerick and Mary Immaculate College with a mix of academic (5), library (5) and technical ICT services (1) staff. Focus group 2 (FG2) had 16 participants from 6 institutions, both public and private, in the Dublin region. The majority of participants were academics, but there were also librarians and educational technologists. Focus group 3 (FG3) had 8 participants, all from NUI Galway. There were 5 academics and 3 learning technologists.

Following analysis of all three focus group transcripts, findings are described under a number of thematic headings.

Current use of open educational resources

To open the conversation, participants were asked to talk about their experiences around the use of open educational resources for which a definition was provided. In all focus groups the definition prompted an element of confusion, particularly in relation to issues around reuse, editing and repurposing. Some participants were more familiar with the concept than others. While there were ample examples of use of digital learning resources, this did not always necessarily equate with the use of open educational resources. The examples provided by some participants demonstrated a misunderstanding of the nature of 'open'. Some equated 'open' solely with 'free'.

The kinds of activities that are taking place around digital learning resources include:

- Sticking with the text book and using the 'open' resources assigned to that;
- Use of resources from YouTube, SlideShare, Twitter, Flickr, Google docs, and various repositories, often, but not always, as supplementary material;
- Finding and compiling lists of resources to recommend to students and academics (as subject librarian);
- Use of OpenStax, a free text book provider, where chapters can be downloaded, edited and reused;
- TEDx and Coursera;
- Khan Academy;
- Stack Overflow;
- Use of Somersault for free graphics (biology);
- Some people said that they specifically search for and use Creative Commons licensed materials e.g. might use 2 slides from such a licensed SlideShare presentation;
- Use of open source material from institutions;
- Finding resources to recommend to students as supplementary material.

One participant encapsulated the experience of many:

> *….So that's my experience: wonderful to see what other people are doing, very time consuming to research, more time consuming to adapt and in the end I did it myself.*

Many were using digital learning resources 'below the waterline' (see Section 2.5) without considering whether or not they were OER.

Others were using OER but hadn't considered reuse e.g.

> *I use TEDx, Coursera, MERLOT with my students but not in terms of customising other people's work.*

Two/three people raised discipline-specific questions asking if it was easier in some disciplines to find resources than in others. Or whether some disciplines were naturally more open than others e.g.

I come from the history department and so we are used to looking at the past...I think we are probably the worst offenders when it comes to open resources....

Two participants, proponents of OER, specifically related the use of OER to student learning.

One of the great advantages that I find in forcing [students] not to use text books or go to the online [packaged] material [from publishers] is to engage with the primary resources which are the techniques they are going to need in the real world. But the text books, by increasingly giving them all of the extra material, are actually cutting down on the learning activities. So I give them all the stuff but I make them start with the basic material and the easiest way I've found to make them start with the basic material is the open full text. And that's where it's worth it. They actually learn better.

Another participant said that for her an important element was to model 'openness' for students, enabling them to create and license their own digital media projects.

The merits of online textbook support materials from publishers for time-strapped lecturers were expanded on by one participant and sparked a discussion on the topic, with a proponent of 'openness' commenting:

And increasingly publishers see open as a threat. So they are bringing a lot of their useful stuff behind walls of various kinds.

He continued stating that in his discipline there were:

....A couple of ..... publishers that have made online platforms. But I tend to avoid all of that simply because it's a walled garden. And walled gardens.. the more they spread the smaller the commons become.

As the discussion continued it was clear that institution-specific workload allocation models had a bearing on the use of OER in terms of time availability.

Interestingly, two people were using open research resources and open teaching and learning resources interchangeably in their teaching as educational resources. They used repositories mostly for open research resources and found OER elsewhere online. They were unconsciously and comfortably moving between both spaces, blurring the distinction between research resources and teaching resources.

When asked about advantages, most people referred to the ease of use of platforms such as YouTube, Flickr and SlideShare.

The biggest challenges for most participants related to discovery problems:

...Such a volume of stuff. It takes time to find quality.

One participant said that while YouTube was a great source of material, she would love if there was a summary or a review to point her in the direction of the 'good sources'.

Sharing of educational resources

As with 'using', the discussion around sharing of resources showed that while a considerable amount of sharing was occurring, not all sharing was 'open'.

Activity in this area is also diverse, as shown below.

- Again, people are sharing PDFs, videos, images, presentations, links and lecture notes, through YouTube, SlideShare, Twitter, blogs, personal websites, Flickr, WordPress, and various repositories;
- Some shared through a specific channel on YouTube;
- Sharing through projects e.g. as part of team that created MyRI (on research metrics);
- Through the creation of an online exhibition on WW1 that could be used by teachers;
- A few participants stated that they assign Creative Commons licenses to their material for sharing.

The point was made that potential for sharing was discipline-specific. For example, one participant said that for many practical courses that were not on the framework[10] (such as ACCA courses/exams) it would not make sense to make them open, because they were sources of revenue, concluding:

> *…So I suppose it would be for courses that are more research-based.*

The definition that was read out at the beginning of the focus group prompted reflection on the nature of open educational resources, and licensing. For example:

> *I create a good few learning objects for my students. I use different kinds of tools like Jing and Captivate and I put them on YouTube. I apply a Creative Commons licence to them, so that they can be shared under the terms of Creative Commons. But actually they can't be edited or modified, so I don't create open resources in that sense.*

For others there was an assumption that because they had put their materials online, they were open e.g.

> *I would have produced PowerPoints for example on how to prepare for the oral exams and I would have shared that with students, and it's out there, you know, and can be reused, I assume.*

For one participant, the focus was on getting students to share their resources with each other.

In all, there were four/five people who were fully committed to openness and consciously using and sharing open resources, going the extra mile where necessary. While not easy, they all agreed that it was possible. For example, they eschewed their institutions' closed VLEs in favour of more open methods of sharing learning resources, placing a skeleton of their courses on the VLE, with links to their fully open resources hosted on personal websites and elsewhere on the web.

[10] The National Framework of Qualifications

Current use of OER repositories

When asked about their use of OER repositories, there were various interpretations of what an 'OER repository' was. Again, there were references to sources like YouTube, Twitter, SlideShare, Flickr, etc. Apart from the sources mentioned, the following were also mentioned in relation to the discussion on repositories:

- OER Commons;
- Google (including Google docs);
- UCD OER (wiki);
- MERLOT;
- Scribd;
- iBio resource (not 'open');
- NDLR;
- JISC;
- Jorum;
- RCSI repository;
- HSE repository;
- RIAN;
- Deposit Ireland (TCD);
- HumBox;
- SoundCloud;
- Screencast;
- Personal websites;
- Wetpaint.

Some people said that they were not sure whether or not they used repositories. It could be that they were sent to repositories by Google, but as long as they found what they were looking for this did not matter.

The majority of those who were more experienced in OER use and production stated that they take a broad approach and had moved away from repositories towards more social sites with one commenting:

> *All repositories fail technically in some way. Not catastrophically, but in some way.*

Some participants cited problems of finding what they wanted in repositories and have now moved to relying on their networks:

> *Overtime I've used repositories less and relied on my learning networks. The people I know of who are sharing things intentionally with CC licenses.*

Another comment in relation to the use of networks distinguished them from 'communities of practice':

You know about them [OER] because of being aware of people in a network, through connections – like communities of practice, but less formal, so you might find useful stuff in a blog post or on a website ...

Others considered repositories too small and expressed a preference for broader reaching tools such as Google, YouTube and Flickr.

Some expressed the view that the repository has had its day and has been usurped by more open platforms:

The concept of a repository is gone. It's more about branding something within the open web environment e.g. a YouTube Channel.

Others considered discipline-specific aspects as more important determinants in choosing where to find the most appropriate resources:

In Computing Science and Information Technology it's ... in open source tools and in Stack Overflow for small technical aspects. They're not put out there as OER but are used by students and professionals and are community-driven outlets.

There was just one respondent, who had been involved in the NDLR project, who made a case for the use of repositories:

....It takes an awful lot of time and energy to create any kind of learning object and for me the credibility and safety of the repository that I'm going to upload it to is really an overriding factor. .....you need to be able to really vouch for the security of your work within the repository.

Barriers/Challenges to OER use and sharing

A wide range of issues were raised in the discussion around barriers and challenges to OER use and sharing.

Again, the most mentioned challenge related to the **discoverability** problem and the **time** it takes to find relevant material. Many stated that they were overwhelmed by the amount of material available e.g.

...Finding what you want when you need it....

I tried NDLR – it was overwhelming and I didn't find what I wanted...

Some participants expressed a reluctance to use **third party resources**:

I think the more creative people are, the less they are going to be taking from other people's work. It's like opening a restaurant and taking someone else's menu.

The same participant also used the analogy of 'packet soup': when making soup you might consult packet soup for flavour ideas, but you make your own soup.

The **lack of curation** would be a barrier for one participant.

For another, her **part-time status** proved to be a big challenge to engagement with OER, as she worked by the hour for a lot of time.

Others expressed a reluctance to share because of **fear of criticism,** and others worried that they may have third party materials as part of their resources which they may not have a legal right to.

Policy and strategy issues were raised by a number of participants e.g.

> *It has to come from the top. Ultimately this comes down to a policy decision in an organisation. What is the public service remit of the organisation, how are they funded. Should they be giving back information? Is it just a nice thing to do?*

Another participant raised the issue of the different institutional value systems. Sharing and collaborating are not valued equally in all institutions. Institutions differ with regard to the focus on teaching and research:

> *...And yet we're all trying to fit in under this common HEI system. OER may be valued within the OER community, but if they're not valued from the top-down in institutions....*

Another comment reflected these differences:

> *And I just wonder if I were to blaze ahead in [institution] and say I'm going to put everything online, I would be hopped into the CEO's office fairly quickly. This stuff is dripped out .... in a very specific targeted and branded way.*

And

> *There's a lot of resistance to sharing among academics. It's about policy, yes, but it's also about the culture of an organisation and that will not be easily overcome.*

For those involved in OER projects e.g. (MyRI) buy-in and **lack of engagement** was a challenge. A participant who was involved in the NDLR project said that it was very difficult to get people to share because of concerns around IPR and therefore:

> *...If reluctant to share in first place.....also reluctant to use OER*

For some **granularity** of the resource could prove to be an impediment to using OER with some saying they did not have time to wade through entire lectures or 1-hour YouTube video clips. One participant stated that people who intentionally share 'open' resources will be aware of this:

> *If people are sharing with the intention of having their resources used, they will be aware of granularity and enable you to say download something and pull it apart.*

Another potential challenge is uncertainty around **licensing and copyright** terms, particularly in relation to the use of OER. Some expressed the view that there was growing sensitivity in this area. Others aligned it with plagiarism and the modelling of practice for students:

> *If I, as a lecturer, am prepared to plagiarise resources from all around the place how can I expect students not to plagiarise?.....Surely the students see that inconsistency.*

In terms of sharing work, some expressed concerns about **intellectual property rights** and how their work would be used:

> *..You would be very worried about seeing your own work, you know, shredded up and used inappropriately, or misinterpreted even.*

And

> *..It could be repurposed in a way it wasn't intended. Or it could be misunderstood or put in a different environment.*

One participant countered that view:

> *I don't have a problem with that, given that it's academic practice: I publish a journal article, somebody disagrees with me, they misinterpret what I said; it starts a conversation. ....That's what students do all the time in classrooms. That just teaches me to be better in my teaching. And if I have a greater audience that means that the possibility of agreement and disagreement is increased .....*

The **sustainability** problem was raised too, particularly in relation to funded projects. For example, one respondent had received funding to create an online module. When the money ran out there was no one available to update it and it quickly lost its relevance. Similarly, keeping OER up to date was presented as a challenge. However, one respondent countered this:

> *I think sustainability is important but we shouldn't overstate it. We've always had sustainability problems. But it's just chalk and talk: once you clean the blackboard it's gone. A text book that's out of date .... may only exist in a library ... and is therefore hard to get at. So we've always had difficulty with maintaining data. And in fact it's a lot easier now with a bit of planning to maintain data than it used to be. It's not so much a question of funding because you know resources become out of date whether they are on paper or online. So I agree that we have a sustainability problem but I don't think it's as big as it used to be. I think planning can get over it.*

A number of participants considered **VLEs** an impediment because of being proprietary and closed:

> *In terms of making material available I think the biggest impediment to that is Blackboard.*

And

> *.... If you are in an institution that has Blackboard you have to do extra work to ensure that your materials are open.*

And

> *I just put a skeleton of my course on Blackboard and share content through my WordPress blog.*

The **quality** problem was also raised as a challenge across all three focus groups, particularly the fact that OER are not 'properly' peer-reviewed. There were some very interesting discussions in this regard. In one focus group, a participant (P1) suggested a model in which a body (e.g. the Teaching and Learning Centre in an institution) would grant an OER a gold, silver or bronze quality standard based on a set of criteria. This would give the OER the institutional brand of approval and provide a *de facto* standard that would encourage others to share, especially those with perfectionist tendencies who may not consider their work quite ready to share. Once a critical mass begins to develop others will feel more confident in the knowledge that there is a set of criteria and standards and momentum will build.

In response to this, a participant (P2) provided a different interpretation of 'publishing':

> *I think there is this thing when we say publishing that it must be you know perfect. If we post things and ask for feedback we model that for students. That is the power of publishing ..... its publishing with a small 'p', and that amplifies the learning so much because we are not just learning in our community and with one lecturer, we are throwing it out not for other eyes to see and judge. But with a whole different mind-set ...you know ...'listen I'm doing this, what do you think?' It's amazing what we've come back with. Yes .... bad things can happen but in my experience when it's framed in that particular way you know it's generally a very positive thing.*

This prompted the following reflection from P1:

> *....There's an underlying conflict here, isn't there? ..... As academics in the university ... we aspire to .... this validation .... this quality parameter. Whereas when we are talking about a blog or something we are talking about the journey of discovery but that's not something we would ever intuitively publish as a researcher or as an academic.*
>
> *And so there's a cultural issue .... we are being trained to a) push the edge and b) get perfection. [OER] is not our area of expertise so it's very difficult to achieve that level. So I think there's a cultural thing to think about in your project .... in how this has to be evolved to get people like myself to put out things which are pretty good but maybe not perfect or to the level I would like.*

Another participant (P3) came in on the subject in relation to an online student journal on academic writing:

…The journal that we published with the students is for a module called academic writing so it had to be perfect, it had to be edited properly, it had to be referenced. And we want the students to reach that high standard. So, yeah, there is that conflict always, you want them to get it out there and to get online but you want it to be right.

Finally, in response to these reflections, P2 stated:

Yeah 100% ….. all I'm saying is that you will publish that but I'm also suggesting you can publish a piece going up to that and a) it encourages people and b) it makes the final results better because you get more feedback if you put something up there and say 'what do you think?' We still will do that, you know, hopefully perfect posting at the end, but you can publish with a small 'p' leading up to that. And share your link; publish that journal of discovery….

In another focus group a concern was expressed by a participant (P1) about the vast amount of variable material and the lack of any peer review process.

In response, a participant (P2) replied:

I think you are making a false distinction between peer review and everything else. First of all, peer review isn't perfect and secondly, the best kind of peer review is the crowd. You put it out there and people use it. Your analytics tell you that your material is being used. And when you know your material is being used then you can be even more confident that that's hitting the spot than something in a journal behind a pay wall where you don't know if anybody is reading it. I disagree with the distinction between peer review 'good', everything else questioned.

To which P1 replied:

……At least you've gone through a process...

And P2 said:

The process is your analytics on your site. If you've got lots of hits then you know it's ...meeting the real peer review, which is that of the students or others who want to use your materials.

Enablers: motivators

Many of the enabling and motivating factors mentioned related to issues that had been mentioned previously e.g. the corollary of perceived challenges and inhibitors such as **VLEs** and **granularity**:

Get rid of VLEs!

And

To put up resources at a much more granular level – easier to use, easier to find, more useful. More work but things can get lost in packages.

Reciprocity was a factor for some participants e.g.

When you find great content online that other people have shared openly, it motivates you to want to reciprocate and share your own.

Another participant was motivated by the **needs of students**:

Modelling open practice for students and teaching them about it (online presence etc.). I feel strongly about that because this is the world that they'll be working in.

Some saw **advances in technology** and the potential that presented as enablers and motivators:

Technology is making it easier to share resources: in the past it would have been quite laboursome working with text and screenshots etc. But now you can easily make a video. So technology is an enabler.

To counteract the challenge of **funding**, one participant suggested:

Maybe if it was done across institutions in particular subject areas: otherwise no institution has the funding to do it.

For others **support** would enable participation:

Technical support in creating content and uploading it to these repositories.

Finding material in a **format** that can be easily reused was an important enabler in terms of use, but also important for the originator:

Usable formats and software e.g. if you have something that is openly shared and editable but you need Captivate to do that .....and from the creator's perspective you won't get the traction if it's not in usable formats

Collaborative and **community** aspects would motivate others:

Having a community of people who are doing the same thing.

And

Any kind of community where you know that people are doing the same kind of work and you can talk about it. It's also an opportunity just to talk about teaching when you are talking about the resources you are developing.

Encouragement and **recognition** were important too:

Encouragement and acknowledgement .... it's time-consuming, filling a gap in resources.

Recognition.

In relation to recognition, one participant said that a **reward** scheme would be enabling:

So, if I get a certain amount of 'silver-' or 'gold-star' stuff out, could I get some funding/resources to do more stuff? There needs to be some sort of encouragement ... and from the community too ... in that it's seen as a good thing to do.

If material was **monitored**, it would enable one participant to participate:

Some kind of monitoring of stuff that's put up .... its accuracy, its ethical bias, compliance with terms and conditions, etc.

Reputation building was another motivating factor for a number of respondents.

Finally, the ability to **track resources** would be a significant motivator for two respondents. One made a link with research outputs too:

The ability to track your resource and see how it was used, how it evolved (it's almost like your research in a way). It could also give you a way to improve the resource ... learn from others.

Value of OER

Participants were asked if they valued OER and what they considered this value to be. Many participants answered 'yes', stating:

I wouldn't recommend them to students unless I did.

It's good to have choices.

Some made reference to the specific value of particular resources e.g.

YouTube as supplementary visual material is very valuable to aid student understanding.

For one participant, the value in OER lay in their ability to provide alternatives to textbooks:

Yes, I value having resources available. Not being constrained by what the text book authors and editors decide to provide for us is very important. It's part of the academic dialogue.

One participant answered this in the context of research outputs:

I find it really interesting .... the difference in terms of attitude to research outputs being available in open space, compared to educational resources like

teaching material being put into that space. And I think it [relates] very much to the values we place on it as individuals and ....as institutions.... Institutional repositories are seen as showcases for the research, the knowledge outputs for institutions. We haven't really attributed the same value to educational outputs.

Three participants situated the value of an OER in what happens around it:

The value is so much more than the resource ... if it was all about the resource, there would be no need for students to go to lectures if all resources were open, but the value is in what happens around that resource. So much happens in a class, but how do you articulate that?

And

A good thing you can learn from a MOOC – they're a showcase for 20% of the business. Your role as an educator now is as a facilitator of an experience. So it's the culture of how you see yourself as an educator.

And

I value the activities around them more than the resource. So I'd use the resource more as a comparison of how other people have used it in teaching and learning research, so that's where the meta-data is important.

The value for two participants lay in its value for students, as evidenced by research:

Value .... in that students have a preference for it. Our core resources are PowerPoint presentations and text books. Research with students shows they have a preference for videos.

Another participant referred to research in his institution which showed that students were finding and sharing 'amazing' resources amongst themselves:

.....They were solving their own problems quite strategically to meet specific needs – exams, difficult concept etc.

There were some participants for whom OER had limited value e.g.

A lot of generic stuff there ...

Again, for some respondents, the culture of the workplace and around teaching and workload made engagement with OER difficult:

.....In institutes of technology, we would have maybe six subjects in a semester: that's a lot of materials. The likelihood of finding everything you need .... it doesn't happen. I think the lecturers knows what students require best and they tailor the material and get it from different sources so they've got a full package to save students time.

Finally, one respondent elaborated on the conditions that must exist for value:

> *The inherent value is in the article itself or the object itself, but the value is only there if it is adaptable, if there is an open licence, if someone can actually do something with it. But invariably when you look at these resources what you find are things that aren't that adaptable, that aren't multi-purpose and really they are acting as tributes ...which is fine. I do think you have to actually, you know, say that here are these articles, items, objects, reusable, whatever they may be. And please do whatever you want with them, shove it out there and be very brazen in that respect. I think in the current climate people are very savvy to their intellectual property and I think in ascertaining or asserting your right to say that this was created by ... whomever, but you are absolutely free to do whatever you want. And I think that value ....the individual asserting their individual rights means that they put value in it. They put the work in and hope that transfers. But the second part is it has to be absolutely tearable-apart and adaptable to go forward because otherwise it's not going to be of use. Or that much use.*

Training and Support

The following areas were identified in relation to training and support needs:

- Licensing and the implications thereof;
- Upskilling in video production; video reuse e.g. how to shorten a video clip and take out what you want; practical things about videos e.g. Echo 360;
- Camtasia;
- Editing software;
- Awareness programmes – conferences, seminars etc.

In addition, there is a need for institutional support and recognition that this is worthwhile. Otherwise, it was asked, why should people engage?

Participants also expressed a need for clarity in relation to institutional protocol re OER e.g. Are there guidelines for online publishing, like there are for institutional presentation templates, for example.

Finally, in terms of technology, one participant stressed the need for appropriate technology if production values are to be high. While a laptop is provided every 5 years, he explained that he is now 3 years into that 5-year period and he does not have enough space for video or a good enough microphone.

Use of local institutional repositories

The final question related to the use of local institutional repositories and their suitability for hosting open educational resources.

Again, there was some ambiguity in that not all people knew about them or knew whether they used one or not.

One participant stated that a positive aspect of using it would be that:

It would ensure that material has proper licensing/copyright etc. because they don't accept stuff unless it's done properly.

A way of encouraging people to use the repository could be through linking it to teaching portfolios:

……They could say that you can't have stuff in your teaching portfolio unless you put it in the repository.

Some participants saw it as a way for those new to sharing to start, as a precursor to sharing in the open e.g.

It also might encourage people to share, but not completely share

It was also seen as a possible option for those who were not fans of Web 2.0 platforms e.g.

….Some people may not be fans of the YouTube environment … may prefer to share in a different space …

Other people did not see it as an important issue: their resources were online anyway.

For those more experienced in OER, some said there could be links there, with the institutional repository acting as a corridor to the web:

…They might already exist as open educational resources and just the links can be in there. Because I'm just thinking, you know, anything that I produce is out anyway with a Creative Commons licence so it wouldn't actually reside in there but the link could be there. It's a corridor.

Another participant compared OER to research outputs:

It's the same situation with research papers that are published: they are out there in the journals' websites. So it's sort of like a way of validating or proving it for the university.

Staff at focus groups working with the institutional repositories had a number of specific issues, but these are reflected in Section 5 and will not be repeated here.

4.3 Concluding comments

The focus groups, like the survey, show that there are a variety of different understandings and experiences in relation to the use and sharing of digital resources and OER. Focus group findings in particular demonstrate the gulf between those who are engaged with OER and those who are not. Some very nuanced understandings emerged in the focus groups with regard to the nature of openness and many of the key issues i.e. quality, sustainability, granularity, repositories, licensing and the teaching-research nexus. However, taken as a whole, findings from 192 survey respondents and 35 focus group participants point to a lack of awareness and understanding of OER issues amongst the majority. This is all the more relevant when the self-selected nature of participation is taken into account, as it could be argued that

the sample of survey respondents represents those most interested and motivated to participate. From the small minority who are fully engaged, there are some very useful findings in relation to the evolution of OER use and sharing, in line with other studies in the literature e.g. the move from learning resource repositories to more social online platforms. Implications of findings will be discussed further in Section 6.

5 Accommodating OER in the existing institutional repository infrastructure

5.1 Introduction

The question of how open educational resources should be managed was raised in Section 2.7. While 'management' in its broadest sense could be interpreted as covering the entire life cycle of a resource from creation through to release and beyond, most of the literature in this regard focuses on managing the storing and dissemination of OER. There are no easy answers to this question in the literature with studies advising consideration of context-specific factors, as outlined in Section 2.7. Furthermore, repositories are just one means of managing the hosting and dissemination of OER.

In Section 3.3 the institutional repository infrastructure in publicly-funded higher education institutions in Ireland was described. This section of the report addresses one of the elements of the recommendation on open education principles and practices set out in the National Forum's Digital Roadmap and already referred to in Section 3. To recap, Recommendation 3, Priority 5 of the Roadmap (National Forum for the Enhancement of Teaching and Learning, 2015: 41) is to:

> Develop and implement open education principles and practices for Irish education that are aligned with EU policy and emerging international practice.

One of the related system-led actions (*ibid*.: 45) relates to institutional repositories as follows:

> Irish leaders in the field of open education to agree a national policy for hosting teaching and learning open education resources in existing institutional repositories (National Network of Digital Repository Managers, LAI, CTL).

While issues relating to institutional repositories were addressed in all research questions, the action above was specifically addressed in research question 3, as outlined in Section 1.2:

> How can the digitisation of teaching and learning resources be ingested, managed and discovered using local repositories?

To answer this question a focus group was convened with key informants and this is the subject of the following section.

5.2 Focus group with key informants

5.2.1 Methodology

All institutional repository managers were invited to attend the focus group which was held in Dublin.

With the research question in mind, a set of questions/discussion topics were developed for a 1-hour focus group, together with an information and consent form. The latter contained information about the purpose of the project, the intended use and storage of project data and

assurances about confidentiality and anonymity. The schedule, together with participant information/consent form, is attached as Appendix D.

5.2.2 Analysis

Focus group proceedings were recorded and transcribed. Analysis of data was based on thematic analysis and findings are presented below.

5.2.3 Findings

The composition of the focus group reflected representation from the University sector, the Institute of Technology (IOT) sector and the Private Colleges sector. There were two institutional repository managers from both the University and IOT sectors and one from the Private Colleges sector. In addition, there were 2 experts in the area of open access and repositories, who had past experience with the National Digital Learning Resources repository.

One university institutional repository manager declined to attend, but wished to register opposition to this recommendation for the record.

Following analysis of transcripts findings are presented under the following headings.

Can OER be accommodated in the existing repository infrastructure?

This question was posed to open the conversation. The general consensus was that technically, yes, learning resources could be accommodated in so far as they could be taken into repositories: the storage capacity exists. It was stressed, however, that 'accommodation' could be interpreted in different ways. Two issues were raised in this regard.

The first centres on whether OER be accommodated in a way that meets users' needs. A characteristic of OER is that they can be updated, with users putting them in and taking them out of repositories. With DSpace, the repository used by all present, this is not possible. DSpace is an archive: once material is deposited it is archived and cannot be changed. (It should be noted that not all institutions use DSpace – see Section 3.3.)

The second question is whether OER can be accommodated from an institutional or policy perspective. At present this is not possible: there is no recognition of OER as outputs of any kind. Research outputs such as papers and publications and datasets are recognised. And though theatrical productions, for example, can be accommodated in repositories, this is because they are recognised as research outputs. So the issue of recognition within an evaluation system, both inside and outside the university, provides a rationale for supporting and accommodating research outputs. Furthermore, research repositories can increase citations which feed into rankings. Within libraries, repositories are being used too as a way to try to deal with the crisis in subscriptions. There is a broad rationale therefore for institutional repositories to support research outputs. This links to a wider issue around the recognition of teaching and learning outputs in higher education, a matter that needs to be addressed in the first instance.

The culture of an institutional research repository is very different to that of a teaching and learning resource repository. The former was set up for a particular purpose. Different sets of processes and support skills are required for the latter. There would be an element of square peg/round hole retrofitting. A considerable amount of work and investment would be required

to make a common meta-data format so that learning objects could be discoverable across repositories. In summary, all participants agreed that 'just because the infrastructure exists does not necessarily mean that it is the best place for OER to reside'.

Context: 100 years apart

There was an interesting discussion about the differences between research resource and learning resource management environments. Libraries are dealing with research outputs in a research environment that is at least one hundred years old, and probably more. There are journals in Ireland that go back to the 18th century. The publications environment is almost at a stage where it is moving on to a next phase, but in a structured way. The print media is changing vastly with blogs and tweets and so on. There is a huge amount of flux in the research sphere. But libraries know what they are dealing with: there's a culture within libraries of managing these resources. There are clearly defined definitions for a journal article for example, for what peer review is (and is not) and so on. And yet, despite this, it remains a fulltime job persuading academic staff to put their materials into the repositories, and dealing with copyright and quality control issues.

On the contrary, there is no agreed definition for an open educational resource or when it reaches a quality that is acceptable for sharing. Very little is known about all the formats OER take. It was stated that we are one hundred years behind with OER. There is a need therefore to put in that work towards defining what they are and towards figuring out where they fit. Then, at some future point, the libraries may be in a position to look at archiving them in a systematic way.

The social, cultural, administrative and political contexts must be taken into account if something like this is going to work. A mistake was made, it was stated, foisting the learning management systems on academics. There is a need for a considered approach. The example of the NDLR was given. There was a very political agenda associated with that service at the beginning: the idea was that sharing would reduce the time that teachers spend creating these very time-consuming resources and thus result in cost savings. But, it was said, the NDLR project failed because the cultural and institutional environments were not conducive or supportive. All it would take is for the Higher Education Authority and the National Forum to create a system of recognition and build it into institutional compacts and reporting structures, etc. Ultimately, there is no quick or cheap solution. Other countries have made big investments in this area over many years.

It could be quite exciting if you were given the tools to do it. I think it could be ... you could do something really new and experimental and amazing. But it can't be done easily.

Support in principle

There was due acknowledgement of the growing divide between teaching and research. It was also noted that OER could well be a way to bridge that gap. But this is a very experimental field. There is a lot of room for running pilots and doing various different tests at different times. However, it was stressed that there is no immediate solution - even if there were endless sources of funding and staff. It was felt that there is a lot of fact-finding work that needs to be done first e.g. it might be possible to technically bring in OER, but then it may not be possible to deal with two versions, or multi-authored OER, or make them discoverable across networks. Participants made it clear that they were not against

the OER project *per se* but had serious concerns about the fit between OER and the institutional research repository infrastructure.

Questions of quality

Participants expressed serious concerns about quality issues and branding issues, though one participant said he would not be as concerned about quality as he would about copyright. He said that if people wanted to put OER into a repository they obviously cared about them and had put considerable work into them. However, for all other participants, quality was a major issue. It was stated that if an institutional repository is being used to showcase the outputs of an institution, then quality assurance is an issue, not just for academics, but for the institution itself.

The only way I could ever see OER in my repository would be if they are peer reviewed. If they have been through a rigorous peer review process and are the best of the best.

If OER were to be deposited in repositories, who would make the quality judgements, it was asked. Participants expressed the view that it would be unacceptable for institutional repository managers to have to do this, in the absence of a peer review system for OER and without any knowledge of what constitutes quality. With regard to research resources, repository managers have been seen as neutral facilitators, deferring to Schools/Colleges to decide what is acceptable. There is no equivalent peer review system for OER, though the NDLR attempted to create a review system through communities of practice. However, because they were people who were known to one another, that, by definition, did not constitute a peer review system in which there should be unknown and neutral arbitrators of quality.

It was pointed out that there has been a lot of work by librarians and institutional repository managers to dispel the myth that institutional repositories contain a lot of non-peer reviewed materials and they would be loath to turn back the clock on this work. One repository manager explained that no pre-prints, for example, were accepted in her institution's repository in order to maintain a high quality resource. This increases downloads and hopefully thereafter citations, thus showcasing the institution's research.

Any quality review system would need to be credible. Peer review for OER, for example, would need to be rigorous. Researchers go through painstaking peer review which guarantees quality. Perhaps there needs to be some sort of independent body in this regard. It was suggested that if teachers want to achieve parity of esteem with researchers then they 'are going to have to up their game' and go down this route. It was pointed out that historically, there has been a long tradition in Ireland of professionalising research. The same attention would have to be given to professionalising teaching and learning resources. If teachers can stand over the quality of their teaching and learning, then they should have no concerns about the quality of their resources. One of the biggest lessons from the NDRL experience was that there would need to be training and support to enable staff to feel comfortable about sharing their resources in the first place, to feel confident that they are of sufficient professional quality.

On a broader level, it was felt that there is no real evidence for reuse. A participant gave an example from a talk by a repository expert in relation to the risk case around the reuse of open access research materials. He produced a Kleenex tissue which he described as something reusable. He proceeded to blow his nose into it and asked if anyone wanted to reuse it. The

reaction of the audience, he said, was the same as that of academics towards the work of other academics. There is very little case at the moment for reuse. There would be less reason for reuse of OER since they are not recognised and not attributed anywhere else. Therefore, unless quality control issues can be easily addressed, reuse will remain a problem.

There was some discussion around the value and definition of OER and the lack of any inherent 'OER-like' property to distinguish them from other digital files. A rigorous quality control system might address this by branding OER and giving them the stamp of approval that denotes they are of high quality and value and therefore reusable.

It was mooted that if research repositories had decided at the beginning to take in everything e.g. blogs, tweets, etc. they would never have got past first base. They had to carefully define the scope for repositories and make sure they had a rationale that would garner institutional support. Otherwise, it could have been yet another funded project that died a death at the end of the project term.

Context around OER

Drawing on the NDLR experience, it was said that an OER could be distinguished by having a learning outcome associated with it in the metadata. Most often, people did not reuse objects but found the information on how they were used more useful. Peer observation and looking at the process of creation were what was valued. This led to a discussion around context.

If an OER is to be accepted into institutional repositories there would have to be context around it because it is being archived. There would be a need for information on the original context in which it was produced, the circumstances for which it was created, how it worked, etc. Ideally, there would also be a record of the trail of reuse. In other words, a history is being created around the object.

An appropriate model?

It was mooted that a potential fruitful area to begin work with OER might be the area of research-led teaching. Every higher educational institution in Ireland has research-led teaching somewhere in its strategic plan. And it is very difficult to find key performance indicators to demonstrate progress in this area. If OER could be linked to research resources, then a structure could be established for them. This could be a potential way forward in a very politically charged environment.

It would also help libraries to understand what they are dealing with. Linked data sets are being brought into repositories now so if OER were considered to be a type of 'associated material', a type of dataset linked to research, then they could be considered useful. The same issues would arise then as those around datasets: attribution, ownership, embargos, outdating, versioning, etc.

A question was raised about how this is different from the reading list management software that some libraries are using, where lists of resources are managed and associated with a particular teaching module, or a particular learning outcome within a teaching module. They can be linked to library books, peer reviewed research papers or diverse files bookmarked from the internet. These lists are discrete entities and they themselves could possibly have meta-data associated with them, including perhaps a learning outcome.

It was concluded that the issues around OER are much broader than the question of infrastructural digital capacity. Repositories might be an element for consideration but there needs to be an element of experimentation in order to design the best model. Furthermore, the same model may not necessarily suit every institution. This was corroborated by the NDLR experience: they found that one model would not work for all 21 higher education institutions, before at all taking the private sector into account.

The accommodation of multi object OER (as in digital objects that are collaboratively designed and updated)

Some institutions use software that would not make it easy to use multi-object OER. Other software can be updated more easily. One participant's institution had gone through a recent updating process to accommodate data sets, referred to earlier. It was a big job, but possible, and they can now accept different versions of data.

A question was raised about whether software should hold all versions of OER, or the latest version. Keeping all versions provides the history of the object which may be useful if it is a high quality OER that gets used and reused and reversioned. But ultimately, that is a policy decision. And again, it links to a wider issue. In an ideal world, there would be a national library – a national archival system - a digital preservation infrastructure within the country that would obviate the need to keep outdated material in the repositories. They have such an infrastructure in Holland, for example, for research materials.

Technically, multi-object OER can be accommodated in repositories. Every record can have multiple files associated with it and streaming can be built in – though repositories were not designed for this because they are archives. But there is a bigger problem than multi-versions. People want to be able to go in and change a version. Every year teachers will want to tweak their slides and make changes. This links back to quality. There is no final version of an OER; neither can you point to a first or second edition because nobody has signed off on it. The repositories are unable to accommodate the kinds of activity where people are putting things in and taking them out again. The need to learn from the importance of working with usable interfaces was highlighted by the NDLR experience. The more complicated the activity for a repository, it was stated, the more difficult it is to manage.

The issue is that basic repositories do not meet the needs of teachers in this regard. They are considered too basic, too simplistic. Trying to address the deficits can become complicated and costly and can get bogged down in technical issues. This has been seen with the Fedora developments which can go on for years and never get implemented.

It would be a very big ask of repository mangers to be involved in the workflow of accommodating the needs of end users. Academics like to be in control and often prefer spaces like YouTube, SlideShare and Dropbox to institutional software. It was suggested that it might be more appropriate to separate archival concerns from meta-data concerns. Perhaps reading list like software with persistent links to resources could be stored in repositories. But concerns about updating and metadata could be accommodated on a different platform, something like the NDLR for example.

The reference to the reading-list like software prompted a comment in relation to the end user. There is an assumption with reading lists and libraries that the end-user is the student.

However, the end-users for OER, at least in the first instance, are other academics for the most part. It would not be appropriate for example to share lesson plans with students. It was said that OER exist in a very different layer.

The point was made that towards the end of the NDLR experience there was a move away the idea of repositories because they were seen to stifle the education process. People did not care where resources were stored – it could be anywhere on the web. What they wanted was a very automated curation system so that they could choose from a showcase of learning resources. It may be that since the end of the NDLR project (in 2012) that some of these issues have been addressed elsewhere at this stage. Ground could be recaptured very quickly on that front as research in Ireland has been continuing through PhDs etc. since 2012.

Resourcing issues

If this work was to fall to the institutional repositories, participants agreed that there would be huge resourcing issues. Whatever is done would involve development work, training, research and thinking, all of which is expensive. Most institutional managers are operating on a shoe string with no staff. It would be very difficult to manage the particular types of pressures placed on the archiving of OER. There simply would not be time to go back and forth on items. It was said that it could take half a day to find an item, take it down, put it back up and make sure versioning was right. That is something that has not been done before and therefore would require extra staffing. Advocacy would also be an issue: without it no one is going to actually engage. So that would also require extra staff. From a leadership perspective, it is very important that this is carefully thought through and piloted.

Because this whole area is at an embryonic stage and the rationale behind it is unclear, it was felt that it is too early to come to people who are managing repositories to ask if OER can be deposited. Those working for over ten years in the development of institutional repositories nationally and internationally have a good understanding of the issues involved. People who work in the area of repositories and open access tend to be some of the most proactive and positive people working in libraries. Therefore, when they express concerns, these are genuine. They are not being negative, they are being positive: they want it to work.

If, for example, there was a national body that awarded Oscars for OER, one participant said that she would happily take any such OER in her institution into the repository immediately, irrespective of whether they were composite items or not. They would make the institution look good, once they had been through a quality process; they would stand for the researchers, their schools and so on. So that is something concrete that could be done immediately while everything else is being worked out. Another participant agreed, stating that this could also have a knock-on effect: a case could be made to have these counted as ‘outputs’ and this in turn would help with advocacy.

In terms of funding, it was said that institutions of course would be delighted, because they love rankings of all kinds. Everybody is looking for reasons to find high quality outputs from institutions that might demonstrate their value to society and show impact for the institution. Therefore, if there is a way that OER can work within that structure, then they can most certainly be dealt with immediately.

A view was expressed that there would need to be considerable funding to develop some kind of meta-search across all repositories that would pick up OER and index them, like RIAN does, and perhaps a common metadata scheme too. Otherwise, the endeavour would be meaningless. However, it was pointed out that a lot of that work had already been done in the NDLR project. The view was expressed that the resourcing issues were not in the area of meta-data and so on, but around the areas of institutional recognition; systems for quality; for recognition; for vetting OER; and for all the decisions that need to be made around them.

The question of quantification of OER was also raised briefly. There would need to be some idea of the anticipated volume of OER, in order to figure out resourcing issues.

Ultimately, institutions would probably have to resource this: they pay for the repositories. Often they use overheads from research, like e.g. Foundation Ireland overheads and so on. Various research grants can be sought to support repositories and the staffing of repositories. It was stated that it is not clear where resourcing would come from to support OER within that system.

Not knowing whether there would be funding from year to year was a major issue for the NDLR. It was pointed out that proper resourcing is essential for sustainability. Lack of certainty made it impossible to take a longer term view and, it was stated, people would not get involved again if they were unable to get an undertaking of ongoing support.

Considering what has been happening in libraries – book budgets frozen, the cancelling of subscriptions for electronic journals (the 'ultimate educational resource') – it is difficult to see how long-term support of OER might be funded. There's no national support for repositories in Ireland. There is no national research information system. RIAN has to be supported from the beleaguered library cell budgets and is run on a shoestring.

The final point was made from a purely pragmatic standpoint: if OER had gone through a quality review process, were copyright cleared and at that point the institutional repository managers had a handful in their institutions, then there would be very few resourcing issues. At that stage too advocacy would be less of an issue.

Ultimately, it was felt that institutions are at the start of a process with this issue.

5.3 Concluding remarks

Repository managers have emphasised that the accommodation of OER in institutional repositories must be properly resourced and given due deliberation, considering the experimental nature of the field. It was felt that at present there is no rationale for supporting the accommodation of OER in institutional research repositories, which have a long established history and a very different culture to that of learning resource repositories.

The perceived quality problem, as discussed in Section 2.10.3, with insightful comments from institutional focus group participants in Section 4.2.4, is a major stumbling block for institutional repository managers. Other concerns include the ambiguity around the definition of OER, sustainability issues and the fit between institutional research repositories and the needs of potential OER repository users.

6 Synthesis and recommendations

6.1 Introduction

This exploratory project set out to examine three research questions related to the development and use of open educational resources (OER) and repositories, in the context of the enhancement of teaching and learning in higher education institutions in Ireland. OER are just one element of a broader open education agenda which includes open scholarship, open data, open pedagogy, open publishing, open practice, open access, etc.

A brief overview of the key themes in the OER literature shows that at more than 12 years on from the launch of the term 'open educational resource' (OER) in 2002, we are still very much at the beginning of a process of long-term change. While the vision and goals for OER are laid out in documents like the Paris Declaration and broadly agreed upon by the OER movement, there is less clarity in relation to implementation and management strategies. Though significant progress has been made, there is much urgent ongoing research to be completed in order to answer important questions relating to all aspects of OER. This is particularly true in relation to agreeing upon an unambiguous definition and gathering conclusive evidence to support the potential value and benefits of OER engagement. Furthermore, there are a number of problems that need solutions such as difficulties around discovery, quality, sustainability, localisation and remixing.

Where there has been serious investment in OER projects and initiatives there have been positive gains through increased development and use, albeit often thwarted by sustainability problems in the longer term. In the context of the enhancement of teaching and learning, the shift towards open educational practice (OEP) associated with increasing awareness and engagement in OER projects is significant. The potential of OER to transform and (re)professionalise teaching and learning by enabling effective pedagogy and increasing digital capacity is of particular interest in the context of this project.

6.2 Summary of research findings

Findings from the survey and focus groups conducted with academic staff for this project, in line with findings from studies in the literature, showed that the majority of participants had low levels of awareness of OER and poor understanding of the associated issues. This is all the more relevant when the self-selected nature of participation is taken into account because, it might be argued, sample participants were those most motivated and interested in OER in the first place. The understanding of the concept of 'openness' is very limited with a majority of respondents equating 'sharing' of resources, with, for example, what happens between teachers and their students and between teachers and their colleagues in closed spaces. All findings therefore in relation to OER and repositories must be filtered through this restricted lens of understanding.

The key deterrents to OER-use centred around perceptions of quality, time constraints and a lack of supply of relevant material. These same factors (time, quality and relevance of materials) were also regarded as potential enablers when selecting learning resources. Findings

showed the complex and multi-faceted nature of decisions around whether to share or not to share on the part of academics. The research also showed a wide gap in understanding between the small minority who have fully embraced engagement with OER and the majority who have not.

In relation to digital repositories, usage is low (at most 40%, but likely closer to 25%). While half of respondents considered their local institutional repository suitable for hosting open educational resources this has to be interpreted in the context of the low levels of awareness and poor understanding of digital repositories in general and the fact that some institutions do not have institutional repositories. Barriers to sharing resources through institutional repositories centred on concerns around intellectual property, repository functionality, time and lack of confidence/fear of criticism. Enabling factors included a belief in the principle of 'sharing' (though, as discovered, this may not necessarily equate with 'open' sharing); personal profile building; collegiality (again, understood to be in the context of immediate colleagues); and reciprocity. There were low levels of awareness and much confusion about digital rights management, licensing and intellectual property rights. The question attempting to assess training needs in relation to institutional repository use demonstrated that requirements are much broader. While there is a definite need for training in educational technologies and digital literacies, findings suggest that such training needs to occur in the context of a broader discussion on open education and the intersections between components, particularly those between open educational practice (OEP) and open educational resources (OER).

In line with conclusions in the literature, survey and focus group findings show that early adopters of OER have moved away from repository use to social media and online sharing platforms such as YouTube, SlideShare and WordPress. Such services have now become the established mainstream. Even amongst those not very familiar with the area of OER, the survey showed that the vast majority of respondents searched for learning resources (whether OER, or not) on platforms such as Google and YouTube rather than in learning resource repositories. Learning from the NDLR prompts a similar conclusion raising a question about whether such platforms obviate the need for a national learning repository service. In this regard, there was acknowledgment in the focus group on repositories that towards the end of the NDLR project there was a move away from repositories, based on the view that they were seen to 'stifle the education process'. Some interesting alternatives were suggested in focus groups that warrant further investigation e.g. the use of reading-list management like software; placing links only in institutional repositories to OER outputs stored elsewhere e.g. online platforms or personal websites; and linking teaching outputs with research outputs as part of broader research-led teaching strategies.

Findings from the focus group with institutional research repository managers show that these repositories are being maintained in a climate of severe resource constraints. Expansion without due consideration could significantly compromise repositories. The barriers to accommodating OER extend beyond the important issues of quality and realistic resourcing to a more fundamental need for a clear institutional rationale to do so. This question of how OER are recognised and valued at institutional level was also raised in all focus groups and in the survey. Unless the principle of openness is perceived to have value at institutional and management levels in the first instance and then amongst colleagues, there is very little incentive for academics to engage. It is clear from empirical research that different institutions

have different value systems and missions and that these will greatly determine the degree to which engagement with OER is possible (e.g. issues such as funding and revenue models; balance between research and teaching; workload allocation models; teaching-only roles; full-time versus part-time staff ratios; etc.). Learning from the NDLR showed that finding one repository model to suit all 21 institutions (universities and institutes of technology) was difficult, before at all considering the private sector.

6.3 Discussion and recommendations

This exploratory report has presented a snapshot of issues around the scoping, development, evaluation and sharing of OER in the Irish context. Without claiming to represent the views of the whole academic community in the country, all issues and concerns highlighted in the literature review conducted for the project were raised and elaborated by those who decided to participate in the research process. Findings obviate that any decisions in relation to OER sharing at the national level are to be taken in the context of (a) generally poor levels of awareness of what OER and repositories, (b) the complex and multi-faceted nature of decisions whether to share or not on the part of academics, (c) research repositories currently being maintained in a climate of severe resource constraints and (d) the need for a clear institutional drive in this direction.

We were faced with the difficult task to investigate if digital repositories (and more specifically, institutional repositories currently available in Ireland) are the best place to host OER. The argument for letting sharing and re-use happen via the web in a more organic way has gained great momentum: there have been significant advances in the tools available since 2005 and the inception of NDLR. Many free, open, flexible and widely adopted platforms are now available online, and sharing of resources (whether OER or not) is already occurring across these platforms and on personal web spaces. However, moving away from repositories raises a question in relation to the management of OER. Putting a resource online might work for an individual academic but such individual approaches rarely scale up to work for teams or organisations. As well as scaling issues there are sustainability issues to be considered. Ultimately, we have learned that issues around OER are much broader than the question of infrastructural digital capacity. Experimentation is needed in order to design the best model, and be adjusted in each institution, as corroborated by the NDLR experience. It is unlikely that one solution will be found to suit all institutions, and there is certainly scope to consider a blended approach to repository use, e.g. providing links only in such repositories to outputs stored elsewhere.

Based on research findings in this project and the discussion above, what recommendations might be made in relation to the future direction of OER implementation in Irish higher education? There is no doubt that there is need for further research, but there are some practical steps that can be taken to gain momentum in the meantime. These are listed first, followed by recommendations for further research.

As recently suggested by the Times[11], there a moral imperative to engage with OER, as the Paris Declaration and the various policy imperatives have long advocated. There is evidence that OER

[11] http://www.timeshighereducation.co.uk/news/failing-to-share-publicly-funded-he-resources-immoral/2019713.article

are valued within the open educational practice community (OEP), but there is however little evidence to suggest that they are understood, let alone valued, in the wider higher education community as yet. The literature has shown that policy change and strategic buy-in is crucial in the institutional journey as it can be an indicator of OER/OEP maturity and provides clear evidence of a commitment to changing practice, which ultimately supports sustainability. There is a clear rationale for promoting engagement with OER in the context of the enhancement of teaching and learning. With the current emphasis on modernising and transforming higher education, embracing openness and promoting engagement with OER can:

- (re)professionalise teaching and learning by enabling open educational practice, through the use of effective open pedagogies, and
- increase digital capacity through developing the educational technology and digital literacy skills required to create, (re)use and remix OER.

Ultimately, in the context of the enhancement of teaching and learning, any OER initiative should have an OEP component. OER use, re-use, sharing and creation are not ends in themselves. They are only useful if they result in teaching practices and learning experiences that are more effective than those without them. In an indirect way, the survey and focus groups conducted in the process of this investigation contributed to increasing awareness of OER as evidenced in comments, and at the same time identified a number of OER champions. Given the low levels of awareness and understanding of openness in higher education in general, and OER and repositories in particular, a broad **awareness raising programme on OER in the context of open educational practice (OEP)**, and open education more generally, should be initiated immediately. Any such programme needs careful thought at the planning phase, bearing the following in mind small local projects elsewhere have failed to impact on wider awareness at institutional levels. Also, we must remember that while inter-institutional collaborative projects can increase awareness, this has to be balanced against *meaningful* collaboration, acknowledging differences that could impact on outcomes (e.g. the different value systems of institutions).

A comprehensive **OER component should be built into all professional development for academic staff**. The emergent professional standards framework could use OER as a vehicle for enhancing digital capacity and open educational practice amongst staff and students. The professional development framework (National Forum, 2015), currently undergoing its consultation process, highlights disciplinary groups as key stakeholders as they are core to the identity of many teachers and key sources for OER (p 16). Communities of practice have indeed been shown to sustain collaboration, albeit such communities can become inward-looking resulting in the release and reuse of very context-specific OER that are not truly open.

Furthermore, it emerged in the focus groups that there was a move from such communities to less formal online communities and networks. The energy and enthusiasm of staff currently engaged in OER use and sharing should be harnessed and samples of their best OER showcased (however, it is important that these are actually OER). The **capturing of 'excellent' OER** from all staff could be self-managed via individuals' teaching portfolios, e-portfolios or online presences and fostered through the Learning Experts initiatives. Given the move away from repository use, alternative management approaches should be investigated e.g. the use of reading-list like

management software; the capturing of links to resources stored elsewhere online; and the linking of learning resources to research resources.

Finally, a carefully considered ongoing **programme for action research** should be initiated with longer and shorter term aims in conjunction with any initiatives that might arise from the above recommendations. There are a myriad of possibilities in relation to research (and many opportunities to contribute significantly to the field). Recommendation 3, Priority 5 of the Extended Roadmap (National Forum for the Enhancement of Teaching and Learning, 2015: 41) is going to strongly lead the research agenda as it aims to support the development of agreed metadata structures to enable teaching and learning objects to be curated into and accessed through institutional and shared repositories in partnership with key stakeholders. The National Project 2 'Open Access Agenda and developing OER Capacity' in the Phase 2 of the Teaching and Learning Enhancement Fund 'Driving Enhancement of Digital Capacity for Impact in Irish Higher Education'[12] addresses this priority. This project will aim to investigate and to develop a national metadata agreement for how existing teaching and learning objects can be curated and accessed through institutional repositories. The project will also develop a peer reviewed process for OERs that will ensure quality teaching and learning exemplars are available and usable throughout the sector. This draws on the NDLR experience, proposing OER to be associated with its pedagogical context in the form of metadata (learning outcomes, impact, record of the trail of reuse, etc.), reflecting some of the reflections we have collected through this study. There is also an argument to propose a pilot study to test the effectiveness of open pedagogies in this context (including discipline-specific pedagogies), such as Laurillard's The Learning Design Support Environment, as a way of taking a holistic approach that encompasses OER within OEP. There is also a strong rationale for a more in-depth understanding of issues that includes strategists (involved in implementing institutional OER strategy), academics who use OER, academics who have not yet used OER, and students. Importantly, more qualitative (and quality) work is needed with academics 'at the chalkface' that poses special emphasis on discipline pedagogies.

6.4 Closing comments

In trying to succinctly sum up the future of 'open' in education, the last words go to Pam McQuesten, who, in a roundtable discussion on 'open' as an educational technology trend for 2015, summed up her thoughts eloquently as follows:

> Whether open becomes the major focus in ..... education over the next year is, well, an open question. At this point, the goal of access is often positioned in opposition to quality — a hypothesis in search of serious research. Viewing open as a strategy for ongoing significant cost savings would seem to have a limited future across most institutions.

She goes on to say that

> .....open may serve best as a conversation starter that touches upon the entire process of scholarly knowledge creation and dissemination. Engaging faculty and students in discussions about intellectual property, copyright and the entire emerging digital academic information ecosystem will help bring better-informed voices to the many social and political debates emerging around issues of access, quality and sharing.

[12] http://www.teachingandlearning.ie/wp-content/uploads/2015/04/TeachingandlearningEnhancement-Fund-Call-issued-April27_2015.pdf

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Appendix A: Researcher work plan

WORK PLAN: 23rd March – 21st May 2015 (37 days)	KEY DATES
Meet with project lead. Agree detailed terms of reference	23 March
Project team Skype conference	23 March
Familiarisation/information gathering/planning	24 - 30 March
Upload survey (already developed by team) to Survey Monkey	31 March
Distribute link to survey to project team for approval	31 March
Distribute link to survey via designated contacts and project website	1 April
Limited literature review/desk research	1 April – 17 April
Liaise with project team re focus group logistics/formats, etc.	1 April - 13 April
Project team meetings x 2	13 April
Focus Group Limerick (Institutional)	13 April
Close Survey	17 April
Focus Group Dublin (Institutional)	20 April
Focus Group Dublin (Repository Managers)	21 April
Focus Group Galway (Institutional)	22 April
Analysis of survey data	23 April - 1 May
Analysis of focus group data	5 May – 8 May
Project team meetings x 2	11 May
Preparation of draft project report	12 – 15 May
Submission of draft project report	15 May
Project team meetings (discuss report) x 2	18 May
Feedback from team on draft report	19 May
Submission of final report	21 May

Appendix B: Survey questionnaire with information & consent form

Learning Resources and Open Access

Information and Consent *[presented as question 1 in online questionnaire]*

This survey forms part of a collaborative research project funded by the National Forum for Teaching and Learning. The project is led by the University of Limerick and aims to investigate how the digitisation of teaching and learning resources can be networked across local repositories. Partner institutions include Mary Immaculate College, University of Limerick; Dublin Institute of Technology; Royal College of Surgeons in Ireland; and the National University of Ireland, Galway. Please read the statement below and indicate your agreement by checking the boxes that follow.

The survey sets out to explore patterns of use and attitudes towards the use of open learning resources among teaching staff in higher education institutions in Ireland. Should you decide to complete this short questionnaire it will not take more than 15 minutes and will greatly assist with our research.

All questionnaires submitted here will be anonymous and data will be treated confidentially. Questionnaire data will be stored by this site, and deleted following closure of the survey and download of the data by the researcher (Dr Ann Coughlan). Collected data will be analysed and findings published in a report to the National Forum for the Enhancement of Teaching and Learning as funders of the research. The National Forum operates on the basis of inter-institutional reciprocal recognition of the UL ethics research approval process.

If you have any questions about this research, you can seek clarification from the project leader, Dr. Angelica Risquez (angelica.risquez@ul.ie) or the senior research fellow, Dr. Ann Coughlan (annmariacoughlan@gmail.com) at the Centre for Teaching and Learning, University of Limerick.

❑ I confirm that I have read and understand the information about this project.

❑ I understand that my participation is voluntary and I wish to complete the online questionnaire that follows this page, which will take no more than fifteen minutes.

2. How would you describe your role? *Tick one option only.*
Professor
Senior Lecturer
Lecturer
Junior (Assistant) Lecturer
Post-Doctoral Researcher
Pre-Doctoral Researcher
Postgraduate Teaching Assistant
Technician
Administrative Support

Other *(Please specify)*

3. What is your discipline/subject area? *Tick all options that apply.*
Generic programmes (e.g. study skills, personal skills development)
Education
Arts & Humanities
Social Sciences, Journalism and Information
Business, Administration and Law
Natural Sciences, Mathematics and Statistics
Information and Communication Technologies (ICTs)
Engineering, Manufacturing and Construction
Agriculture, Forestry, Fisheries and Veterinary
Health and welfare
Services (service industries e.g. transport, security, domestic, catering, tourism etc)

4. Which age bracket do you fall into? *Tick one option only.*
21-30
31-40
41-50
51-60
> 61

5. What is your gender? *Tick one option only.*
Female
Male

6. Are you employed on a full-time or part-time basis? *Tick one option only.*
Full-time
Part-time

7. Which of the following have you taught most during the most recent academic year? *Tick all options that apply.*

Definitions[13]:
•Face-to-face course: A course where all meetings are face-to-face, may use a learning management system (LMS) or web pages to post the syllabus and assignments.
•Blended/hybrid course: A course where sufficient content is delivered online to create a reduction in the number of face-to-face class meetings.
•Online course: A course in which all, or virtually all, the content is delivered online. Typically have no face-to-face class meetings.

Graduate level face-to-face course
Graduate level blended/hybrid course
Graduate level online course
Undergraduate level face-to-face course
Undergraduate level blended/hybrid course
Undergraduate level online course

[13] Babson Survey Research Group, 2014:41.

Other face-to-face course
Other blended/hybrid course
Other online course

8. How aware are you of Open Educational Resources (OER)? *Tick one option only.*

Definition[14]: OER is defined as 'teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others.' Unlike traditionally copyrighted material, these resources are available for "open" use, which means users can edit, modify, customize, and share them.

I am not aware of OER
I have heard of OER, but I don't know much about them
I am somewhat aware of OER but I am not sure how they can be used
I am aware of OER and some of their uses
I am very aware of OER and know how they can be used in the classroom

9. Have you used open educational resources in either of the following ways? *Tick one option only.*

Never Rarely Occasionally Regularly Not applicable

Primary course material
Supplementary course material (supporting material to enhance teaching, or as further reference for students)

10. How do you look for open educational resources to reuse? *Tick all options that apply.*
Your library subscriptions (e.g. ebooks and ejournals)
Search engine (e.g. Google)
Open learning repositories (e.g. NDLR, MERLOT, Jorum)
Sharing directly amongst known colleagues
Twitter
LinkedIn
Professional/discipline association
Conference presentations and journal articles
Online courses/MOOCs
Commercially authored content licensed to your institution (e.g. Pearson, Epigeum, Al Pro)
YouTube
iTunes
SlideShare
Other (Please specify)

11. How aware are you of each of the following licensing mechanisms? *Tick one option only.*

Unaware Somewhat aware Aware Very aware
Public domain
Copyright

[14] Babson Survey Research Group, 2014:9.

Creative commons

12. How do you deal with copyright issues for OER that you reuse? *Open question.*

13. Do you share educational resources that you produce? *Tick one option only.*
Yes
No
If yes, how do you share them?

14. Explain why you share, or don't share, your educational resources. *Open question.*

15. When selecting resources for your teaching, what factors are most important to you? *Open question.*

16. What are the most important deterrents to the use of OER in your courses? *Open question.*

17. Have you used any of these existing repositories before? *Tick all options that apply.*
NDLR – National Digital Learning Resources (Ireland)
ARIADNE – Foundation for the European Knowledge Pool
CAREO – Campus Alberta Repository of Educational Objects
Jorum – UK repository
MERLOT – North American repository
I have never used a repository
Other repositories not listed above *(Please specify)*

18. With regard to the functionality and ease of use of the repositories you have used in the past, please list what you consider worked well? *Open question.*

19. With regard to the functionality and ease of use of the repositories you have used in the past, please list what you consider did <u>not</u> work well. *Open question.*

20. Even if you have not used a repository before, why would you use a repository? *Tick all options that apply.*
To reduce the cost of developing materials
To speed up the process of developing teaching materials
Because the resources would be quality assured
To be involved in the community aspect of the repository
Other *(Please specify)*

21. Do you currently use your institutional repository (usually managed by Library services to deposit academic research output)? *Tick all options that apply.*
Yes, to look at research profiles
Yes, to access research outputs deposited by my colleagues
Yes, to share my research outputs
Yes, to publish my research profile

No

Why not?

22. Do you think your institutional repository is appropriate for sharing educational resources? *Tick all options that apply.*

Yes

No

Why?

23. If your institutional repository was made available for OER, what would motivate you to share your resources there? *Open question.*

24. If your institutional repository was made available for OER, what would deter you from sharing your resources there? *Open question.*

25. What sorts of issues do you think could arise in relation to Digital Rights Management, that is, the rights of someone uploading a resource to the institutional repository? *Open question.*

26. What kinds of training do you think would be important or essential in using the repository? *Open question.*

27. Please use this final space to record your overall impressions. You may find it useful at this point to revisit your initial thoughts on sharing resources. We would like to hear all of your views: things you like and don't like, concerns you have, expectations you might have. *Open question.*

Thank you for taking the time to complete this survey!

You can follow project progress at https://irelandoerproject.wordpress.com

Appendix C: Focus group - institutions: schedule with information & consent form

Learning Resources and Open Access

Information and Consent

This collaborative National Forum funded research project aims to investigate the next steps in enhancing access to digital resources for learning and teaching across the sector. Outcomes will inform how open educational resources (OER) can be utilised, shared, maintained and developed in order to enhance teaching and learning in Irish Higher Education. The research is being carried out by the University of Limerick, Mary Immaculate College, Dublin Institute of Technology, National University of Ireland, Galway and the Royal College of Surgeons in Ireland.

If I agree to participate, this will involve my participation in a focus group, which will take approximately one hour. I understand that the focus group will be recorded and transcribed, but that any reference to my name, place(s) of work, or to other individuals, will be removed during transcription. Recordings will be stored securely and destroyed after transcription.

I will not benefit directly from participating in this research. I understand that this research may benefit the sector as a whole, in that it seeks to enhance teaching and learning across the sector. I understand that data from this project will be analysed and findings published in a report to the National Forum for the Enhancement of Teaching and Learning as funders of the research. The final report will be published to the project website but no individual participant will be identifiable in this document.

If I have any questions about this research, I can seek clarification from the project leader, Dr. Angelica Risquez (angelica.risquez@ul.ie) or the senior research fellow, Dr. Ann Coughlan (annmariacoughlan@gmail.com) at the Centre for Teaching and Learning, University of Limerick.

I have read and understand the information about this project. I understand that my participation is voluntary. Even if I agree to participate now, I can withdraw at any time without any consequences of any kind.

I understand what is involved in this research and I agree to participate in the study. [I have been given a copy of the Information and Consent form to keep.]

_____ _____

Signature of participant Date

I believe the participant is giving informed consent to participate in this study

_____ _____

Signature of researcher Date

Focus Group Schedule (Institutions)

Definition[15]

One definition[16] of Open Educational Resources (OER): 'OER is defined as 'teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others.' Unlike traditionally copyrighted material, these resources are available for "open" use, which means users can edit, modify, customize, and share them'.

1. Introduction (5 minutes)

- Protocol
- Information and consent forms
- Group introductions
- Brief overview of research

2. Questionnaire (3 minutes)

- Have you completed the online survey?
- Any initial comments or feedback?

3. Current use of open educational resources (OER) (9 minutes)

- Are you aware of open educational resources (OER) and the OER movement internationally?
- Have you used OER in your teaching/to support your students' learning?
- If you have, what advantages and disadvantages would you associate with this process?

4. Current use of OER repositories (9 minutes)

- Aside from using individual OER, have you searched OER repositories for useful resources?
- If so, which repositories have you been using? For how long have you been using them?
- What is useful/not useful about these online repositories?
- Could you describe how you work with OER generally? For example, would you tend to use resources as they are, or would you need to change them? Would you visit online repositories frequently or just once in a while?
- Do you find OER repositories easy to use? If so, what makes them easy to use? If not, what features make them difficult to use?

5. Value of OER and sharing of OER (9 minutes)

- Based on your experience, are OER useful to you in your teaching and for your students' learning?
- Do you value having these resources available?
- Do you find that you need to adapt OER much before using them with your own students?

[15] There are many, often contested, definitions of OER.

[16] Babson Survey Research Group, 2014:9.

- Have you shared resources of your own online? If so, what has been your experience of doing this? If not, what factors have influenced your decision here?
- Would certain things encourage you to share your resources with others e.g. recognition for your work, gaining evidence for a teaching portfolio, receiving positive comments or feedback?

6. Training and Support (9 minutes)

- How did you learn to use OER? Did you require any particular training in accessing and using them?
- Would you like to make more use of OER? What would help you to do this?
- Would you prefer to learn more in: a workshop setting, with online support, or one-to-one?
- What would make it easier for you to use OER in your teaching?

7. Use of local institutional repositories (14 minutes)

- Are you aware that your own institution has a repository for research outputs, archive material and other artefacts?
- Do you use this repository?
- How do you use it and to what purpose?
- Why would you use your institutional repository to share your educational resources?
- What would deter you from using your institutional repository to share your educational resources?

8. Close (2 minutes)

- Next steps
- Thank you for your participation!

Appendix D: Focus group - IR managers: schedule with information & consent form

Learning Resources and Open Access

Information and Consent

This collaborative National Forum funded research project aims to investigate the next steps in enhancing access to digital resources for learning and teaching across the sector. Outcomes will inform how open educational resources (OER) can be utilised, shared, maintained and developed in order to enhance teaching and learning in Irish Higher Education. The research is being carried out by the University of Limerick, Mary Immaculate College, Dublin Institute of Technology, National University of Ireland, Galway and the Royal College of Surgeons in Ireland.

If I agree to participate, this will involve my participation in a focus group, which will take approximately one hour. I understand that the focus group will be recorded and transcribed, but that any reference to my name, place(s) of work, or to other individuals, will be removed during transcription. Recordings will be stored securely and destroyed after transcription.

I will not benefit directly from participating in this research. I understand that this research may benefit the sector as a whole, in that it seeks to enhance teaching and learning across the sector. I understand that data from this project will be analysed and findings published in a report to the National Forum for the Enhancement of Teaching and Learning as funders of the research. The final report will be published to the project website but no individual participant will be identifiable in this document.

If I have any questions about this research, I can seek clarification from the project leader, Dr. Angelica Risquez (angelica.risquez@ul.ie) or the senior research fellow, Dr. Ann Coughlan (annmariacoughlan@gmail.com) at the Centre for Teaching and Learning, University of Limerick.

I have read and understand the information about this project. I understand that my participation is voluntary. Even if I agree to participate now, I can withdraw at any time without any consequences of any kind.

I understand what is involved in this research and I agree to participate in the study. [I have been given a copy of the Information and Consent form to keep.]

_____ _____

Signature of participant Date

I believe the participant is giving informed consent to participate in this study

_____ _____

Signature of researcher Date

Focus Group Schedule (institutional repository managers)

Definition[17]
One definition[18] of Open Educational Resources (OER): 'OER is defined as 'teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others.' Unlike traditionally copyrighted material, these resources are available for "open" use, which means users can edit, modify, customize, and share them'.

1. Introduction (5 minutes)

- Protocol
- Information and consent forms
- Group introductions
- Brief overview of research

2. Can OER be accommodated in the existing repository infrastructure? (12 min)

3. Are there quality control issues? (12 min)

4. Can multi object OER (as in digital objects that are collaboratively designed and updated) be accommodated? (12 min)

5. Are there resourcing issues? (12 min)

6. Any other comments (5 min)

7. Close (2 minutes)

[17] There are many, often contested, definitions of OER.
[18] Babson Survey Research Group, 2014:9.