

Transforming Cultures: Open Access and the Research-Teaching Nexus

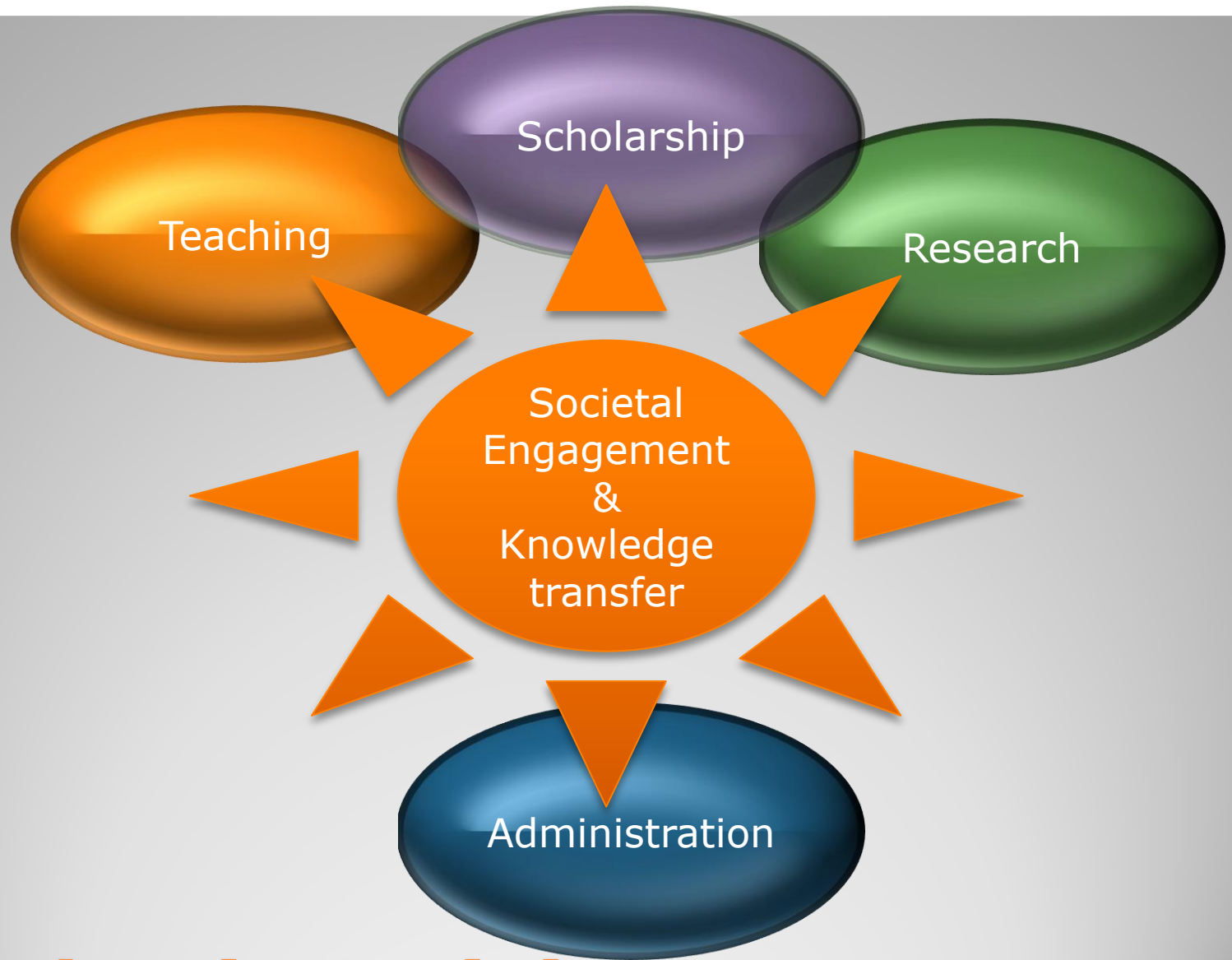
Niamh Brennan
Trinity College Dublin

Catherine Bruen
Trinity College Dublin

Higher Education Authority, Ireland

HEA

Higher Education Authority
An tUdarás um Ard-Oideachas



Academic Activity

Key challenges facing higher education are
unprecedented.

The HE
Financial Model
appears
unsustainable

The
educational
needs and
aspirations of
too many
students go
unmet

Investing in
research,
researchers &
infrastructure
is increasingly
difficult

“To do better with less... We must begin by transforming our own culture”

- Diana Oblinger, Educause Review (Volume 46, Number 5, September/October 2011)

Universities now

- Society expects content to be freely available,
- The different open movements are well coordinated
- These movements need to join up to provide a more complete, higher-level educational experience.
- OER should link more closely to full-text open-access articles and, where useful, to research data.
- OER should be better placed in a pedagogical context; there should be a bigger push for open text books.
- Benefits:
 - advance public understanding of science and the arts
 - promote research-led teaching,
 - reduce costs to students and institutions
 - support business development
 - encourage wider access to further and higher education,
 - recognize (and ideally reward) individual teachers and researchers and their colleges or universities
 - improve the educational and research standing of the nation.

“Properly organized open resources can underpin online learning for both private and public education and “leisure” learning. It is a fundamental infrastructure for learning and teaching and should be supported as such by funders and policymakers in the education, research, and culture domains”

Malcolm Read, Educause Annual Conference, Philadelphia 2011

- <http://www.educause.edu/E2011/Program/FS08>

“Open Movements should join Up”

Ms Kroes says that “open access to research results – both publications and research data – is not just a luxury”

www.surf.nl/open2011

“Open Access as a must for the Netherlands and Europe if they are to be able to compete internationally.



Message from Neelie Kroes

DART-Europe E-theses Portal



PORTAL

- ▶ [HOME](#)
- ▶ [UNIVERSITIES](#)
- ▶ [CONTRIBUTORS](#)
- ▶ [HOW TO CONTRIBUTE](#)

ABOUT DART-EUROPE

DOCUMENTS &

DOWNLOADS

RELATED ORGANISATIONS

- ▶ [DRIVER](#)
- ▶ [LIBER](#)
- ▶ [NDLTD](#)
- ▶ [SPARC EUROPE](#)

DART-EUROPE PARTNERS

DART-EUROPE BOARD

Basic Search

Advanced Search

Browse

Search History

Marked List

Feedback

Help

Basic Search

Enter search term(s)

[Search](#)

[Clear form](#)

Access to **228913** full-text research theses from **359** Universities sourced from **20** European countries

Latest Additions

- ▶ [New today](#)
- ▶ [Last 7 days](#)
- ▶ [Subscribe to new additions](#)

About DART-Europe

[DART-Europe](#) is a partnership of research libraries and library consortia who are working together to improve global access to European research theses. [More...](#)

DART-Europe: Digital Access to Research Theses Europe



Publish your research results

Research results out in the open

Find an Open Access repository to deposit your publications in.

[More...](#)



Portal to deposition



Latest News

OpenAIRE is a success story for the European Commission
06/09/2011

OpenAIRE. Opening science to all. Together The success story can be found on the website of Researc [...]

[Read more...](#)

- Organic Eprints is now OpenAIRE compliant
- New OA-policy at Aalborg University, Denmark

Mark your calendar

Thu Oct 27 @10:30 - OpenAIRE Café for FP7 projects participants, Eotvos University, Hungary

Thu Oct 27 @10:30 - 05:00PM Open Access Week 2011 in Lithuania

Thu Oct 27 @08:00 - 05:00PM Open Access Week 2011 Tartu

Wed Oct 26 @14:00 - OpenAIRE Café for FP7 projects participants, University of Debrecen, Hungary

Wed Oct 26 @10:00 - Open Access Café for Librarians, University of Debrecen, Hungary

[View Full Calendar](#)

 [Subscribe to RSS Feed](#)

For Researchers

- Do you have to deposit?
- Deposit your publications
- Learn about copyright
- Download author's guide
- Search for publications

For Policy Makers

- Open Access policies and mandates
- Open Access in EU member states
- Open Access initiatives and projects

For Repository Managers

- Make your repository OpenAIRE compliant
- Validate and register your repository
- Read the FAQ on technical issues
- View the OpenAIRE compliant repositories

OpenAIRE & OPenAIREplus



Atomium Culture: Research, Media, Business, the Public

“We... have, potentially two equally useful open content environments – one well-managed and structured but expensive to create and maintain, the other more random in the reach of the content but almost free”

- Malcolm Read 'Cultural and organisational drivers of Open Educational Content' in The Tower and the Cloud, 2009

<http://www.educause.edu/thetowerandthecloud>

Leave it to Google? (and Flickr, YouTube etc.)

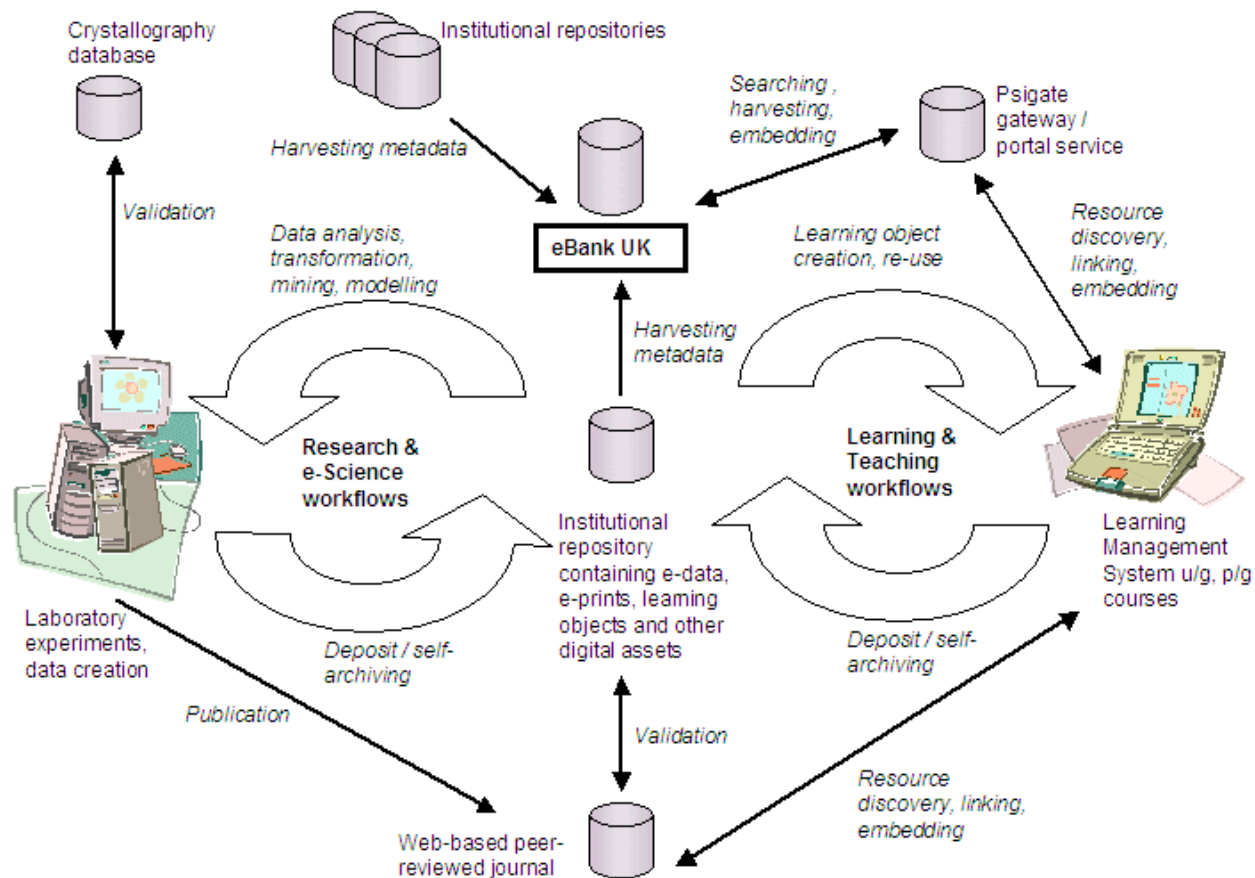


Figure 1: The Scholarly Knowledge Cycle

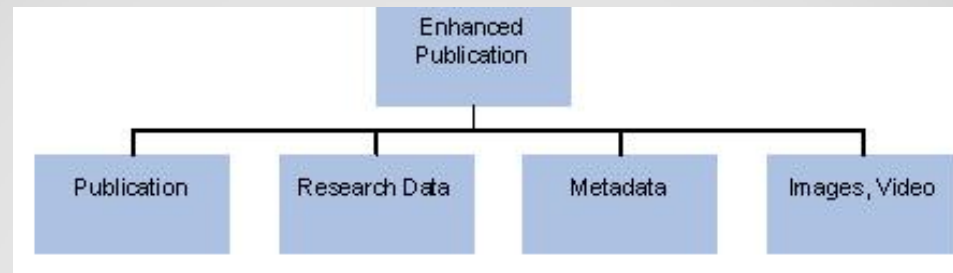
Not a new idea... [see Liz Lyon, 2003]

Projects 2010/2011

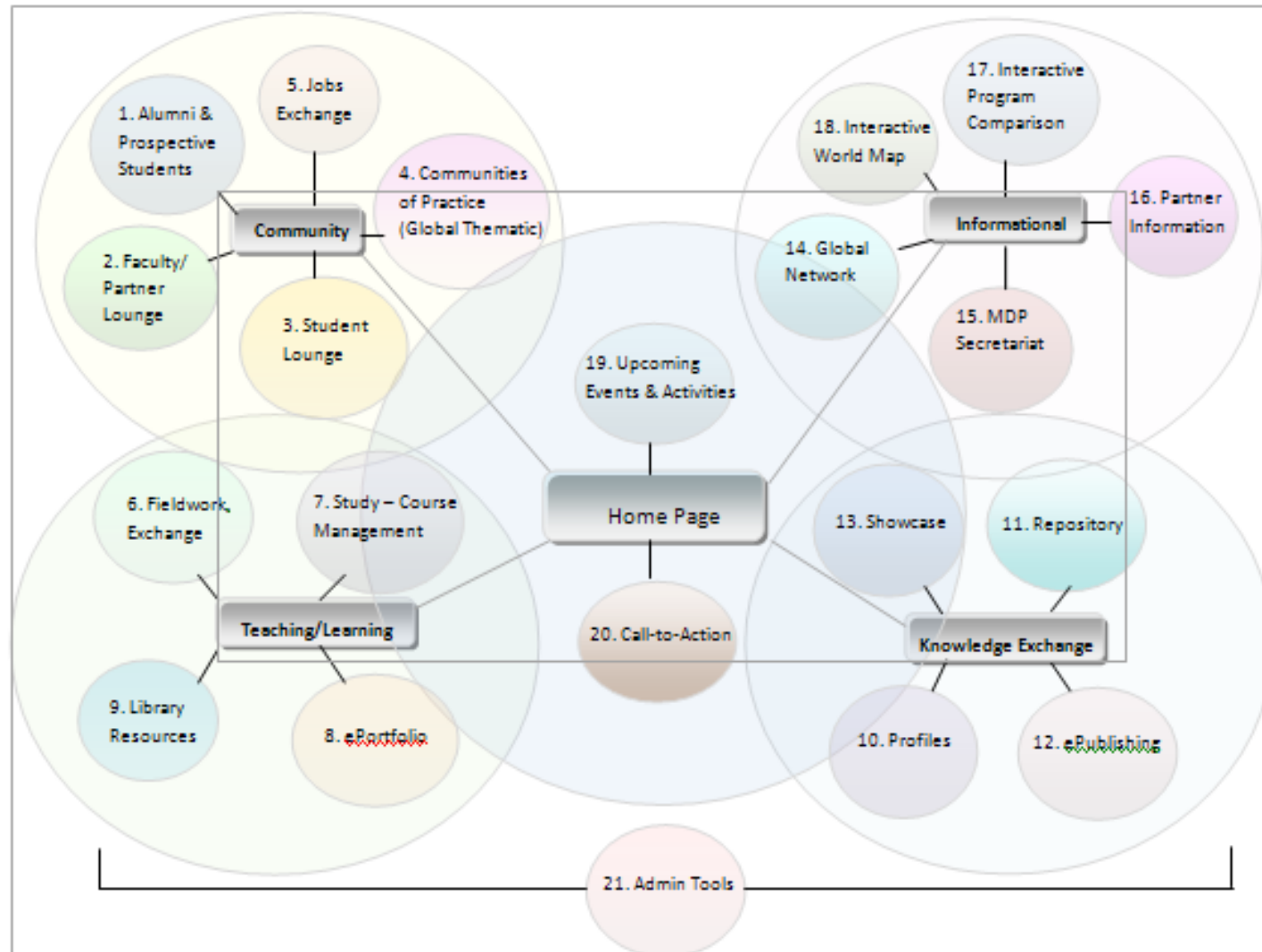


6 projects took place within 5 disciplines:

- Economics: [Open Data and Publications](#)
- Linguistics: [Lenguas de Bolivia](#) and [Enhanced NIAS Publications](#)
- Musicology: [The Other Josquin](#)
- Communication sciences: [Enhancing Scholarly Publishing in the Humanities and Social Sciences](#)
- Geosciences: [VPcross](#).



Enhanced Publications



Design of the Global MDP Portal

Student Focussed – Participatory – Asking

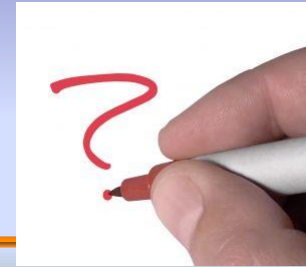
Research Tutored

Writing &
Discussion



Research Based

Inquiry



Research
Content

Research
Process

Content



Research Led

Building
Knowledge



Research Oriented

Research Focussed – Demonstrative – Telling

Research-Teaching Nexus

Healey (2005), Griffiths (2004)



... every student
benefits from being
part of a research-led
culture and being
taught by experts ...

Research-Led Teaching

Pure Research Vs. Pure Teaching

"No Issue more basic in modern education than the relationship between teaching and research"

(Burton Clark, 1997)

- Synergy will not happen by itself
- Needs positive intervention

Linking Teaching and Research

- **Experiential**
 - A process which benefits students and staff
- **Conceptual**
 - In terms of societal needs and the development and communication and knowledge
- **Operational**
 - In terms of the potential reciprocity of teaching and research as learning activity

(Zetter, 2002)

Value of Linking teaching and Research

Overview – Current Situation, General challenges, effective Teaching & Learning, Research led Teaching



Global knowledge based economies

Population & Diverse Learners

Broaden Access

Increased flexibility

Widen student engagement

Motivation for staff & students

Quality

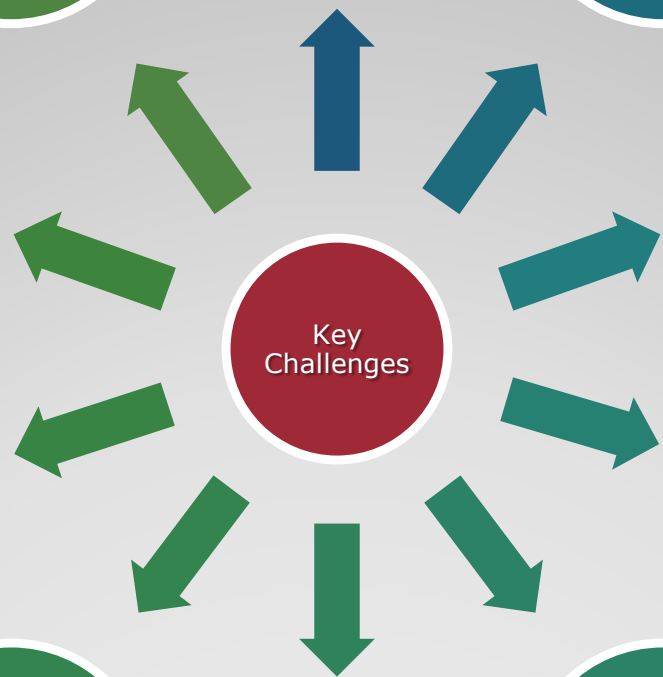
- Pedagogical approach
- Research led teaching
- Assessment based learning

Curricula Design drivers

Remaining innovative and relevant

Cutting Cost

Key Challenges



Adapting for creation of knowledge-based economies

knowledge-based economies

Life long learning

HE Sector growing in scale

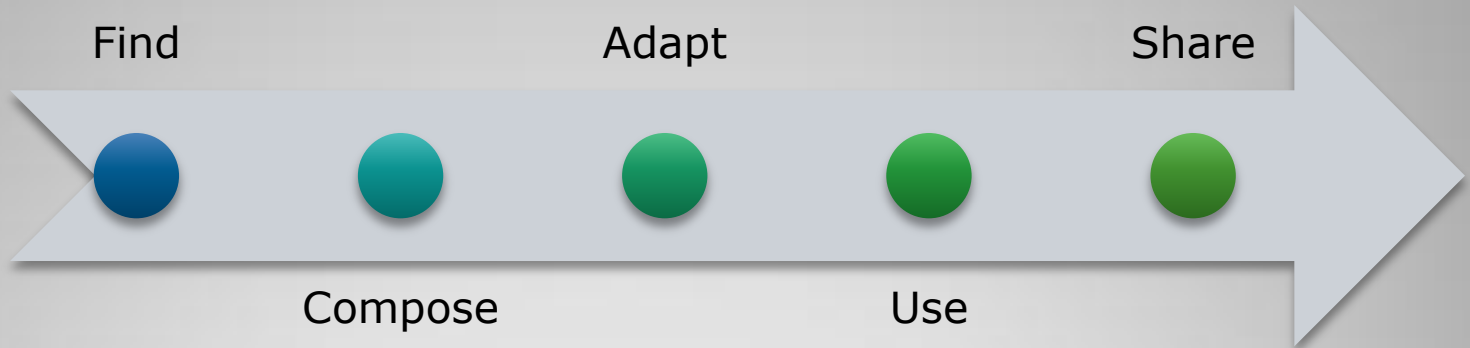
Wider access to education

Research

Direct economic impact

Improving social inclusion

(HECTIC Report 2002)



Shifting Paradigms
... OER Lifecycle

An Open Learning Resource Service for
Ireland (NDLR)

Some characteristics of an effective model

“digitised materials offered **freely** and **openly** for educators, students and self-learners to **use** and **reuse** for teaching, learning and research”

Content

- Full courses, courseware, content modules, learning resources, research data, collections and journals

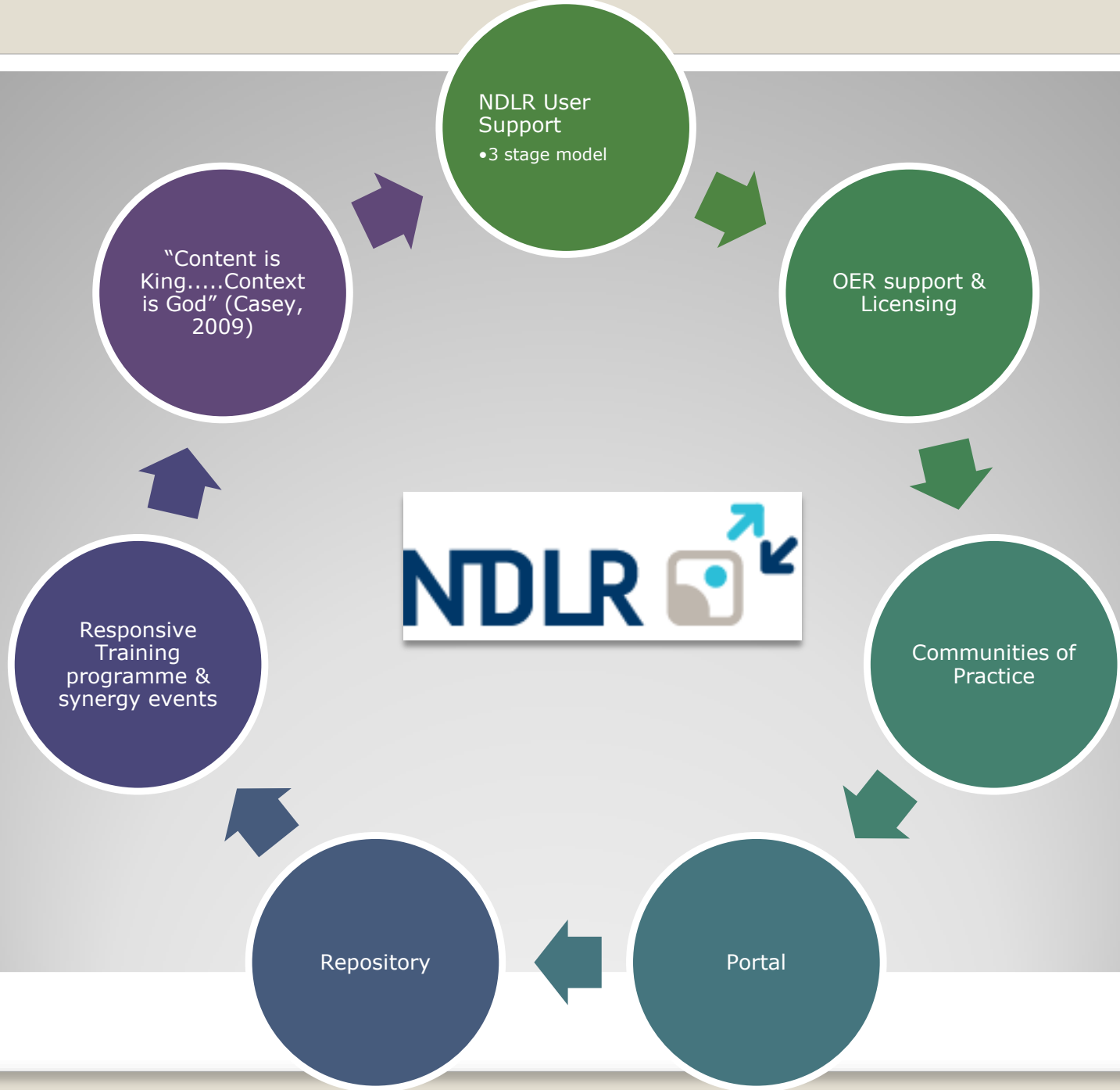
Tools

- Software to support the development, use, reuse and delivery of learning content

Implementation Resources

- Intellectual property licenses to promote open publishing of materials, design principles of best practice

What does OER mean to the NDLR Community?



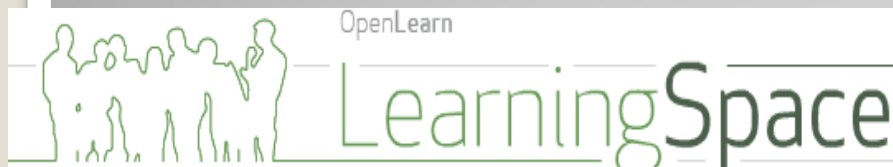
Inspiration...

OPEN  ACCESS DAY

openaccessday.org



JorumOpen 



MIT OPEN COURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY



Shareable Online Learning Resources

RESEARCH.REVIEW.REMIX.



 **MERLOT**
Multimedia Educational Resource
for Learning and Online Teaching

 cloudworks

[Home](#) [Clouds](#) [Cloudscapes](#) [Events](#) [Tags](#) [People](#) [About](#)

Welcome to Cloudworks, a place to share, find and discuss learning and teaching ideas and experiences. [Find out more](#)

Featured Cloudscapes

[View Cloudscape](#)



Clouds designed to stimulate debate [View Cloudscape](#) (image by [victoriapegham](#))

Flash debates

Learn About Fair 2010

Conference: Annual International CODE Symposia

Reviewing the use(s) of Web 2.0 in higher education

Horizon reports

[Log in](#) [Sign up](#)

Support

You can find answers to common questions about using this site in [our FAQ](#). The [Using Cloudworks cloudscape](#) contains further information on how to use the site.

If you have further questions, then drop us an e-mail at cloudworks@open.ac.uk

Active Clouds

 Learning 3.0

Resources "in the wild"



YouTube
Vimeo

Search by date

Tip: Use one or both dates to search for photos taken or posted within a certain time.

Photos taken after before
mm/dd/yyyy mm/dd/yyyy

☐ Only search within Creative Commons-licensed content

- ☐ Find content to use commercially
☐ Find content to modify, adapt, or build upon

Photo sharing through Flickr

Google Advanced Search

Use the form below and your advanced search will appear here

Find web pages that have...

all these words:

this exact wording or phrase:

one or more of these words:

OR

But don't show pages that have...

any of these unwanted words:

Need more tools?

Results per page:

Language:

File type:

Search within a site or domain:

(e.g. youtube.com, edu)

☐ Date, usage rights, numeric range, and more

Date: (how recent the page is)

Usage rights:

Where your keywords show up:

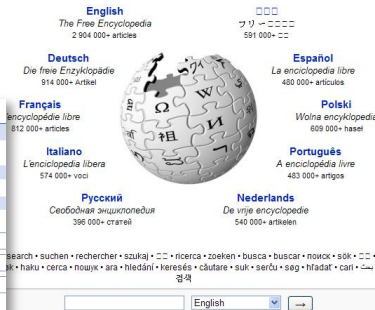
Region:

Numeric range:

SafeSearch:

anytime
not filtered by license
not filtered by license
free to use or share
free to use or share, even commercially
free to use share or modify
free to use, share or modify, even commercially
(e.g. \$1000-\$5000)
☐ Off ☐ On

WIKIPEDIA



Wikipedia

Google
Advanced Search

SEARCH



project page | discussion | view source | history

Why create a Wikiversity account?

Wikiversity:Main Page

Welcome to Wikiversity

Set learning free

with 10,501 learning resources and growing

Welcome

Wikiversity is a Wikimedia Foundation project devoted to learning resources, learning projects, and research for use in all levels, types, and styles of university, including professional training and informal learning. We invite teachers, students, and researchers to join us in creating open educational learning communities. To learn more, try a guided tour or start editing now.

Today's Featured Project

Learn Breton Language and Culture



Breton is spoken in North-Western France and is one of the few surviving Celtic languages which dominated Europe over 2000 years ago. The Breton language learning project is a good example of the use of Wikiversity for teaching languages. It currently comprises 71 pages, with plenty of visual media, eye-catching layout and plenty of well-developed content.

Educational Picture of the Day

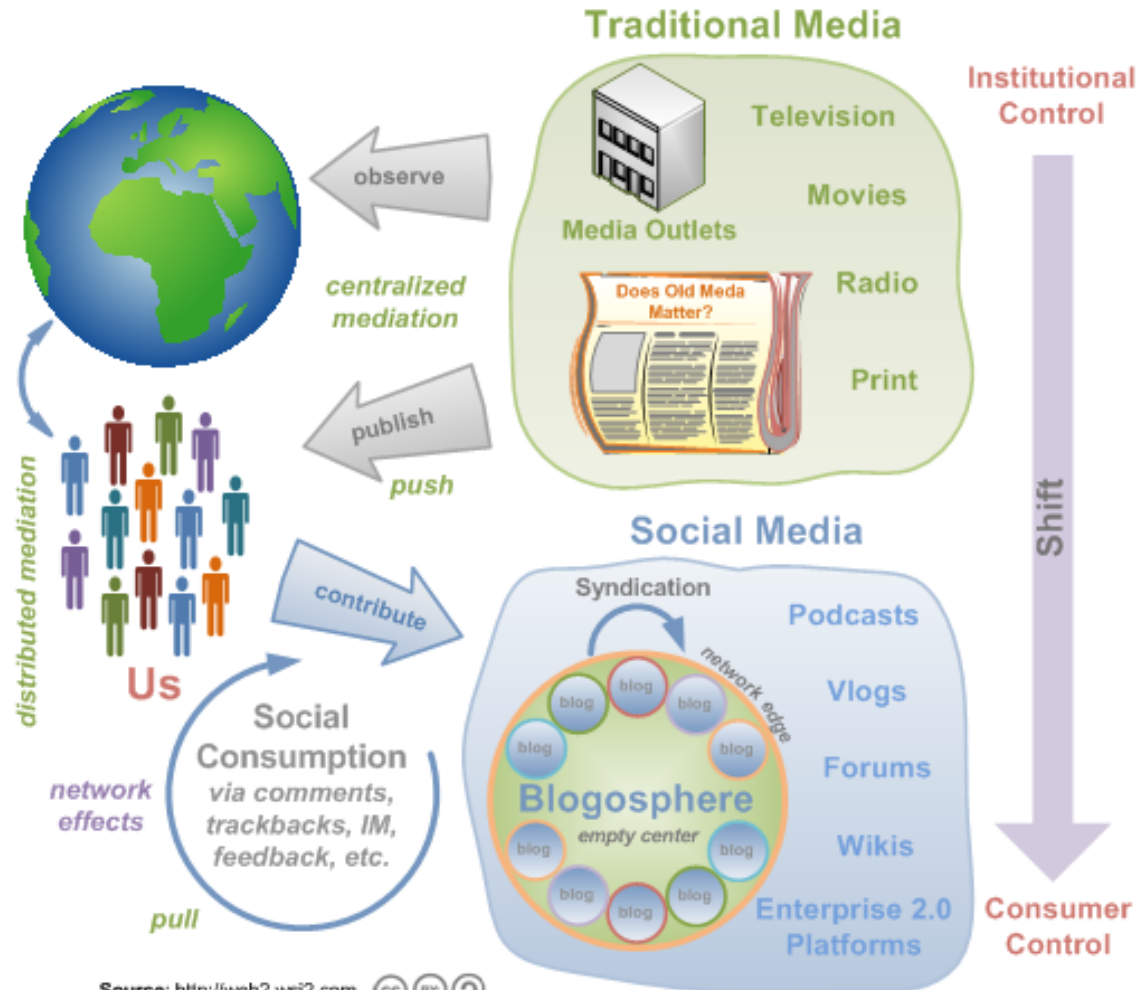
The Creation of Adam



The Creation of Adam, by Michelangelo, to be found in the Sistine Chapel. In general, paintings prior to the 20th century are no longer under copyright and have fallen into the public domain, which means you can use images of them.

Wikis

The Emergence and Rise of Mass Social Media



Creative Commons

- A movement that has evolved from open source software ideas and licences
- Estb. 2001 by a group of American legal academics, creators and entrepreneurs
- Generation of a number of **easy-to-use licences** so creators can share their work to the public while maintaining certain control over it
- Now **55 million works** using CC licences for their blog postings, RSS feeds, Wikis, Presentation, etc, etc.

"**Wanna Work Together?**"

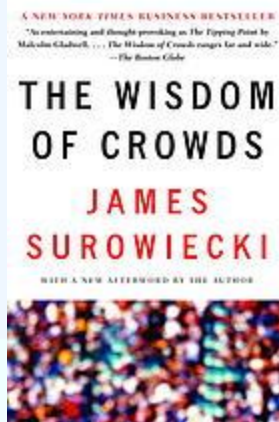


"... What holds them together is a common sense of purpose and a real need to know what each other know" Seely Brown & Solomon Grey (1995)

... They are held together by a common interest in a body of knowledge and are driven by a desire and need to share problems, experiences, insights, templates, tools and best practices. Community members deepen their knowledge by interacting on an ongoing basis" Hubert, Newhouse & Vestal (2001)

- "Knowledge is shared within the community based on relationships with others, rather than direct transactions therefore a primary purpose of CoPs is supporting knowledge flows between people" (Van Winkelen, 2003).

**"The Wisdom of Crowds" or Community
(Surowiecki, 2004)**



Communities of Practice (CoPs)



Open content made real by "Open Design"

Collectively, We do it better!

Creating learning opportunities for all!

An Evolutionary Pathway to establish sustainable communities of academics

Service team that is:

Supportive

Motivational

Accessible

Responsive

Technologically Competent

Sustainable NDLR
academic
communities

Level 3
Encourage
Sustainable
Communities

Level 2
Support collaborative
Academics within
Subject disciplines
(LINCS)

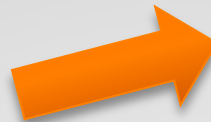
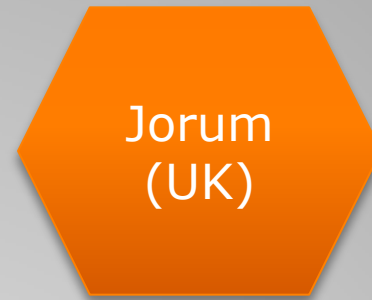
Communities
that are:

- **S**ustainable
- **M**anageable
- **A**ctive
- **R**elevant &
Reflective
- **T**argeted

Institutional
(Local)
Projects

Level 1
Support individual
Academics
Within Uni/IoT
(LIPS)

A Service which is
embedded into the
Partner Teaching &
learning Centres



**NDLR selectively harvests
research content from
institutional repositories**

Case Studies in Action



Click to view some examples of teaching, learning and research digital resources

Trinity College Dublin

TCD Lead Partner in LinCS 2009 Project - iMARK

iMARK - interactive Media Annotation Resource Kit



TCD and NDLR State of the Art History



Trinity College Dublin Local Innovation Projects

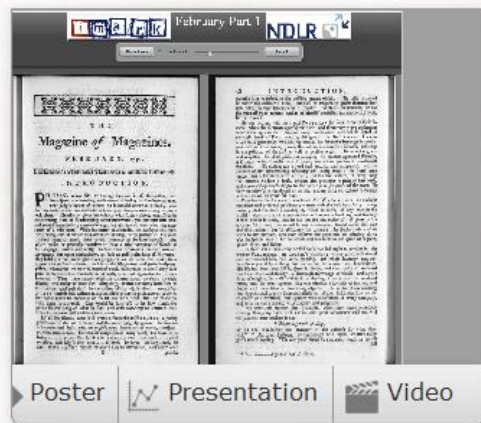


- **NDLR Institutional Coordinator:** [Theresa Logan Phelan](#), Centre for Learning Technology, CAPSL

TCD Local Projects

Biological Sciences Smart CoP

- **"Images from The Brain Atlas"**, Dr Paul Tierney, Dept of Anatomy. A set of unique images from the Department of Anatomy



Interactive ebooks of the Magazine of Magazines, a Mid-Eighteenth Century Limerick Publication

Project Coordinators:

The British Library, Michael Griffin (UL), Geraldine Sheridan (UL)
Liam Chambers (MIC), Yvonne Diggins (UL), Zi Parker (UL)
Darren Kavanagh (TCD).

Subject Coverage:

History/Arts & Humanities

Institutional Coverage:

UL, TCD, Mary Immaculate College, All Arts & Humanities Faculties

ABOUT

The key concept of this project was to develop interactive ebooks of the Magazine of Magazines, a mid-eighteenth-century Limerick publication, using a previously funded NDLR project 2009, "iMark Interactive Media Annotation Resource Kit", developed by Prof. Frank Boland and Darren Kavanagh of Trinity College. The overall goal of this project was to create quality and innovative RLOs, which are digitized for lifelong learning and are easily sharable online. Currently, the original magazines are stored in the British Library researched on microfilm which

 View this project's online res

Project 2 LInCS 2010

LInCS 2010 Project 2 - Interactive ebooks of the Magazine of Magazines, a Mid-Eighteenth Century Limerick Publication



In conjunction with LInCS 2009 Project 6 - iMARK - interactive Media Annotation Resource Kit - Trinity College Dublin



Fota House
Arboretum
& Gardens

FOTA LEARNING ZONE

HOME
WEB QUESTS
RESOURCES

[Plan Your Visit](#) [About Us](#) [Contact Us](#)



[Go on a Web Quest](#)

[Access Resources](#)

[Resources for Teachers](#)

Online resources for teachers of Transition Year
and Leaving Certificate students

[learn more](#)

Close Tab



National Projects

Title: MyRI project - bibliometrics training materials



Online Learning Resources to Support Bibliometrics and Research Assessment.

Project Coordinators:

Ros Pan, Ellen Breen, Anne McSweeney, Mary Antonesa

Subject Coverage:

Information Literacy

Institutional Coverage:

UCD, DIT, DCU, NUIM

ABOUT

Four Irish academic libraries collaborated to produce online learning resources to support bibliometrics and research assessment awareness and training.

Bibliometrics is a set of methods used to measure research publications and is one key approach being used to assess research impact. This project produced a range of materials hosted on the NDLR that can be downloaded, customised and used under Creative Commons license by anyone providing bibliometrics awareness and training.

This project lays the ground for further such collaborations of libraries and academic units to make best



[View this project's online resource](#)



[View this project's NDLR Fest Presentation \(Session 1 - Part 1\)](#)

Project 3 LInCS 2010

LIncs 2010 Project 3 - Bibliometrics for the Individual - MyRI Project



LInCS 2010 Project 3 - MyRI project - bibliometrics training materials Online Learning Resources to Support Bibliometrics and Research Assessment

Title: MyRI project - bibliometrics training materials. Online Learning Resources to Support Bibliometrics and Research Assessment

Project Coordinators: Ros Pan, Ellen Breen, Anne McSweeney, Mary Antonesa

Subject coverage: Information Literacy

LInCS 2010 Project 3 - MyRI Project - Bibliometrics for the Academic Unit



Scope of the project

Four Irish academic libraries are collaborating to produce online learning resources to support bibliometrics and research assessment awareness and training.

Bibliometrics is a set of methods used to measure research publications and is one key approach being used to assess research impact. This project will produce a range of materials hosted on the NDLR dSpace platform that can be downloaded, customised and used under Creative Commons license by anyone providing



Reusable learning resource for clinical assessment training

Project Coordinators:

Dr. Derek O'Keefe University of Limerick

Subject Coverage:

Medicine, Clinical skills

Institutional Coverage:

UL, NUIG, University College Hospital Galway (UCHG)

ABOUT

This resource is a series of clinical video tutorials aimed at developing competence in patient communication, clinical examination and clinical diagnosis. These resources will be of significant interest to members of the medical community of practice and are being used by medical undergraduate and postgraduate students.



[View this project's online resource](#)

Project 6 LInCS 2010

Reusable Learning Resources for Clinical Assessment Training: Links to the Articulate Version of the Resources

- [Knee Exam](#)
- [Lower Limb Neurological Exam](#)
- [Respiratory Exam](#)
- [Upper Limb Neurological Exam](#)
- [Cerebellar Exam](#)
- [Cranial Nerve Exam](#)
- [CVS Exam](#)
- [GI-Exam](#)
- [PVE Exam](#)
- [Shoulder Exam](#)
- [Thyroid Exam](#)

LInCS 2010 Project 6 - Clinical Assessment Training



Reusable Learning Resources for Clinical Assessment Training - LInCS 2010

TITLE: Reusable learning resources for clinical assessment training

Project Coordinators: Derek O'Keeffe Department of Science and Engineering. This application is based on cross-discipline collaboration between colleagues, at University of Limerick (UL), National University of Ireland Galway (NUIG) and University College Hospital Galway (UCHG).

Subject coverage: Clinical assessment is a fundamental part of

Reusable Learning Resources for Clinical Assessment Training: Videos

- [Cerebellar Exam](#)
- [Cranial Nerve](#)
- [CVS](#)
- [Knee](#)
- [GI Exam](#)
- [Shoulder](#)
- [Respiratory](#)
- [Upper Limb Neuro](#)
- [Lower Limb Neuro](#)
- [Peripheral Vasc Exam](#)
- [Thyroid](#)



Poster



Presentation



Video

▶ The Principles of Infection Prevention and Control; the development of reusable learning objects (RLO's)

▶ Project Coordinators:

Eimear Burke (NUIG), Evelyn Byrne (NUIG), Anne Fahy (UL)
Kevin Johnson (UL), Liz Kingston (UL), Catherine MacArthur (HSE)
Mairead Moloney (UL), Jill Murphy (UL)

▶ Subject Coverage:

Medicine / Infection control

▶ Institutional Coverage:

UL, NUIG, Ennis General Hospital, HSE West.

ABOUT

Reusable learning resources

An online learning package was developed, on the topic of infection prevention and control, using Articulate Studio '09 e-learning software.

Health Smart CoP

The collection can be accessed via the Health Smart Community of Practice (CoP) of the NDLR, in the Infection Prevention and Control collection.

[View this project's online resource](#)[View this project's NDLR Fest Presentation \(Session 5 – Part 2\)](#)

LnCS 2010 Project 10 - The Principles of Infection Prevention and Control; the development of reusable learning objects



Project Snapshot!

Title: The Principles of Infection Prevention and Control; the development of reusable learning objects (RLO's).

Project Coordinator: Liz Kingston, UL

Collaboration: University of Limerick, NUI Galway, HSE West

Overview of Project

Development team

The project was a collaborative initiative led by the Department of

Interview with Liz Kingston, LnCS 2010 - Project Lead, Infection Prevention and Control - Nursing and Midwifery, University of Limerick



Infection Prevention and Control - Link to Resource



[Click here for a link to our resource.](#) This resource was developed using Articulate software.



Original Research Project involving postgraduate Researchers -data displayed in Omeka

Follow-on research project: qualitative data stored in separate repository

New requirements:
a) connect the data &
b) provide access for students to create data-based 'exhibits' via Omeka

Bridge-IT/Lifescapes: Learning Built on Qualitative Research Data



Christ Church
Cathedral,
Dublin,
moulding with
grotesque
head, ex situ

Photograph by Roger
Stalley. Moulding with
grotesque head, ex
situ. Head holding roll
of moulding in...
[...more](#)

Omeka harvests TARA
for research & teaching purposes



TARA

RIAN

NDLR

Smashing the Divide

Shared Challenges and Next Steps

1. Making eLearning core to University Teaching and Learning
 2. Improving eLearning Collaboration and Sharing within eLearning HE Sector
 3. Researching and Improving educational quality of eLearning experience
 4. Adoption of Standards and improve interoperability
 5. Addressing eLearning Costs
 - Resource requirements
 - Academic (Staff) Development and skills acquisition
- (Universities Ireland 2004)

Challenges and Opportunities

Both communities:

- Use the same OAI-PMH framework
- Have a mix of distributed content providers (repositories), centralised content providers & subject and project-based services.
- Use metadata aggregators & metadata brokers
- Traditional means of dissemination are changing rapidly
- Audience for outputs is also changing
- Are growing fast in terms of content and engagement
- Outputs are becoming more similar and crossing over one another
- Developments in open licensing such as Creative Commons

commonalities

- Metrics and rewards are different
- There are issues of attribution and recognition for teachers and research data providers
- Ownership and copyright issues can be greater in OER and research data
- There are currently more personal benefits for researchers who make publications available on OA
- Both research data and OER can be composite resources... but research publications may become more similar (enhanced publications)
- They use different standards, metadata, vocabularies and identifiers
- Research publications are more usually linked with CRISs (joining People, Projects & Publications)

Paradox: these communities are made up of the same people 'wearing different hats'. How can these activities remain separate?

differences

Media & a/v
archives



Business
Intelligence,
Bibliometrics

Institutional
repositories



Library-
based
digital
resources

Proposed
National
Research
Platform



BlueBrick.ie
BUILD A BETTER FUTURE

National
Academy for
Teaching &
Learning

**Ireland's HEA supporting
research, teaching and learning**

The Opportunity

Extending an open knowledge infrastructure

The opportunity is found in the emerging convergence among open elements in the academic production of knowledge today....

Four open initiatives – open access, open data, open source software, and open educational resources – are not only advancing developments in research and education, they are reducing costs in these areas, making better use of existing computing power, enriching learning experiences, and providing new opportunities for service industries in this knowledge-based economy.

European Commission would do well to consider ways of developing policies, research programs, and infrastructure platforms that support and advance the convergence of these four elements.

OpenAIRE represents a first step. Additional work is needed in other areas to achieve a broader opening of research, scholarship, and learning.

Developing the opportunity

Provide similar programme for the support of open publishing platforms.

Open platforms can expand to include the archiving and indexing of data sets, research instruments, and open educational resources.

Better sharing and remixing of these materials will follow, while enabling full attribution and origin rights.

Setting up environments for the creative use and re-use of these resources would open new possibilities for the extension of knowledge, for new forms of collaboration, and it would facilitate their integration in teaching at all levels.

An expansion of the EC communication strategies, so that the EC places greater emphasis on the academic, professional, and public value of the humanities and social sciences, as well as the sciences. While open access is made possible by digitization, it is not so much a radical change as a further chapter in the historical expansion of people's right to knowledge.

Ghent Declaration, February 2011

"Open Access, Open Data and Open Educational Resources, a new Trinity for a new Enlightenment"

- Prof. John Willinsky (Stanford), Keynote Address at OpenAIRE.eu Launch Event, 2nd Dec. 2010, Ghent, Belgium

- Griffiths, R. (2004) Knowledge production and the research-teaching nexus: the case of the built environment disciplines, *Studies in Higher Education*, 29(6), 709-726.
- Healey, M. (2005) Linking research and teaching: exploring disciplinary spaces and the role of inquiry-based learning. In Barnett, R. (ed.) *Reshaping the university: New relationships between research, scholarship and teaching*. McGraw-Hill/Open University Press pp 67-78
- Z. Jane Wang (2000) "[Two Dimensional Mechanism for Insect Hovering](#)" (*Phys. Review Letters*, **85** (2000) 2216-2219). - Malcolm Read: the Tower and the Cloud
- "Giving Knowledge for Free: The Emergence of Open Educational Resources" OECD, 2007, <http://tinyurl.com/62hix6> Quoted on p4 http://wiki.cetis.ac.uk/images/0/0b/OER_Briefing_Paper.pdf Open Educational Resources – Opportunities and Challenges for Higher Education, Li Yuan; Sheila MacNeill; Wilbert Kraan, JISC CETIS
- ***The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations***, published in 2004, is a book written by [James Surowiecki](#)
- Bruen, C., Strunz, B., & Henrick, G. (2010). DSpace Helps Irish National Learning Repository to Change Focus. *Open Repositories*. Madrid.
- Jennings, D. (2010). Content, Context And Consequence The Art Of Collaboration: The Reality Of Communal Practice. *International Conference of Education, Research and Innovation, ICERI 2010*.
- Marcus-Quinn, A., & Geraghty, B. (2010). Design and development of a digital learning resource to deliver online content to teach Japanese syllabaries. In D. R, H. J, & O. K, *Critical Design and Effective Tools for E-Learning in Higher Education: Theory into Practice*. IGI Global.
- McCarthy, C. (2010). *Report of the Special Group on Public Service Numbers and Expenditure Programmes*. <http://www.finance.gov.ie/documents/pressreleases/2009/bl100vol1fin.pdf>
- McGarr, O., & Marcus-Quinn, A. (2011). ICT in the English post-primary classroom. In *Quality Issues in ICT Integration in Third Level Disciplines and Learning Contexts*. Cambridge Scholars Publishing.
- Strunz, B. (2011). Building and Sustaining a National Repository Service. *Keynote Presentation, Open Educational Resources*. Manchester.
- Strunz, B., & Waller, G. (2009, 7). National Learning Object Repositories, an Architectural Rethink. 11. Retrieved from IEEE Technical Committee on Learning Technology: http://www.ieeetclt.org/issues/july2009/lt_july2009.pdf

References

- Pat O'Connor (HEA)
- Maureen Burgess (HEA)
- Professor Eamonn McQuade, University of Limerick
- Dr Bob Strunz (NDLR & UL)
- Muiris O'Connor (HEA)
- National Digital Learning Resource, Ireland (NDLR)
- RIAN: Ireland's Open Access Research Portal <http://rian.ie>
- Dr Kathleen Tierney & Dr Deirdre O'Donnell (TCD, Lifescapes Project)
- Dr Danielle O'Donovan, Professor Roger Stalley, Caroline McGee & Dr Deirdre O'Regan (Gothic Past)
- The Global Masters in Development Practice (Lead: Columbia University NYC)
- OpenAIRE & OpenAIREplus (<http://www.openaire.eu>)
- Dart-Europe: Digital Access to Research Theses Europe (<http://www.dart-europe.eu>)
- Maurice Vanderveesten (SURF Foundation)
- Dr Chris Pegler, Open University (UK)
- Amber Thomas (JISC)
- John Casey, University of the Arts, London
- Yvonne Diggins (university of Limerick)
- Darren Kavanagh (NUI Maynooth)
- Dr Derek O'Keefe (university of Limerick)
- Professor Vinnie Wade, Trinity College Dublin
- David Jennings (UCD)
- Dr Ciara O'Farrell (Trinity College Dublin)
- NDLR Core Team: Dr. Ann Marcus Quinn, Aisling Dundon, Yvonne Diggins, Miriam Allen.
- Our Colleagues at RIAN, DRHEA, NAIRTL, IOTI Flexible Learning, LIN, Shannon Consortia, Atlantic Alliance, ILTA, EDIN

acknowledgements