



Open eLearning Content Observatory Services

# **Open Educational Practices and Resources – OLCOS Roadmap 2012:**

## **Overview of Drivers & Enablers and Inhibitors**

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eLearning





- (1) Project basics, activities & products
- (2) Project OER philosophy
- (3) Road mapping activity
- (4) Drivers & enablers and Inhibitors in three road mapping areas:
  - Area 1: Policies, institutional frameworks, and business models
  - Area 2: Open Access and open content repositorie
  - Area 3: Laboratories of open educational practices and resources





- (1) OLCOS is a Transversal Action funded by the European Commission under the eLearning Programme
- (2) Duration: January 2006 – December 2007
- (3) Core project activities
  - Road mapping to provide orientation & recommendations
  - Web-based services: OER tutorials and examples of best practice
  - Co-operation with other projects and communities of practice
  - Dissemination of information and “OER evangelism” beyond established communities
- (4) Main Products
  - OLCOS Roadmap 2012, OER tutorials and sample of best practice, OER awareness videos
  - Websites:
    - [www.olcos.org](http://www.olcos.org)
    - [http://wikieducator.org/Open\\_Educational\\_Content](http://wikieducator.org/Open_Educational_Content)

## Project OER philosophy



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- Priority of open educational Practices rather than OE-Resources
- Focus on developing competences and skills for the knowledge society – students and (!) teachers
- Active, constructive and collaborative engagement of students – as close as possible to “real world” problems, content and expertise
- Teachers as facilitators of learning processes – requires change in educational mind-set and culture; new professional understanding of teachers
- OER as an evolving Web of openly and easily accessible resources (content, tools, services..., also other than typical “courseware”)
- Important role of Social Software tools and services – for sharing own ideas, various resources, lessons learned, ...also OER use cases
- Learning environment and content often self-managed by individual and groups of learners (“e-learning 2.0”, e-portfolios)



### (1) Objectives

- Road mapping to provide orientation in the emerging OER landscape
- Identify drivers/enablers and inhibitors of open educational practices and resources
- Provide a set of recommendations for decision makers (from political and institutional level to individual teachers and students!)
- Possibly conceive of measures for monitoring progress in open educational practices and resources



### (2) OLCOS' scope – in comparison to OECD-CERI\* and UNESCO-IIEP\*\* activities

- Broader than Higher Education also including secondary education and lifelong learning in general
- Beyond “courseware” of the currently typical variety, e.g.
  - Any kind of relevant “open content” repositories
  - Content that is shared making use of Social Software tools (e.g. Wikis, Weblogs, etc.)
  - RSS-feed channels with or without an educational label
  - Sharable Learning Designs (IMS Learning Design applic., LAMS,...)
  - Knowledge resources such as ontologies – arguably the most valuable OER that domains of knowledge and learning can share
- **Emphasis on OE practices, i.e. other than teacher-centred “knowledge transfer”**
  - but also for ex. repository approaches (“open to grow” vs. “build it and they will come”)
- **Time-horizon set for 2012(+)**
  - Inclusion of developments with a potential future impact on the notion and progress in OER (e.g. ontologies and semantic tools)

\*OECD – Centre for Educational Research and Innovation: OER project/survey, [http://www.oecd.org/document/20/0,2340,en\\_2649\\_35845581\\_35023444\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/20/0,2340,en_2649_35845581_35023444_1_1_1_1,00.html)

\*\*UNESCO – International Institute for Educational Planning: Community of Interest in OER, <http://oerwiki.iiep-unesco.org>

## Three road mapping areas



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- (1) Area 1: Policies, institutional frameworks, and business models
- (2) Area 2: Open Access and open content repositories
- (3) Area 3: Laboratories of open educational practices and resources



## Area 1: Policies, institutional frameworks, and business models –



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### ***Drivers & enablers***

- (1) Policy increasingly demands educational institutions to “change” and to “innovate”
  - Massive investment in ICT over the last 10 years, but little change in educational practices (teacher-centred “knowledge-transfer” model still dominates)
  - Concerns about non-alignment of educational institutions with demands of knowledge society
  - However, still “top-down” approach focusing on “critical mass” of e-content repositories
- (2) Importance of easy access to OER and online learning for Lifelong Learning agendas
  - With respect to securing high-value jobs in knowledge-base industries, but also issues of inequalities, social inclusion, integration of migrants, ...
  - The urgency of the LLL agenda in Europe and beyond makes OER initiatives targeted at driving participation particularly welcome
  - However, often e-coaches or “blended learning” will be required
- (3) International interest in, and funding of, open educational resources
  - Some examples: UNESCO, OECD, World Bank, European Lifelong Learning Programme, Commonwealth of Learning (COL), William and Flora Hewlett Foundation, Soros Foundations Network,...



## Area 1: Policies, institutional frameworks, and business models –



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### Drivers & enablers

#### (4) Creative Commons licensing is firmly established and increasingly used

- The set of CC licenses represents an internationally standardised way for authors and institutions to provide OER while retaining some copyrights
- Will become the leading standard for licensing “open” creative works other than software
- In November 2006 according to [http://www.openbusiness.cc/cc\\_stat/](http://www.openbusiness.cc/cc_stat/)
  - a total of 27,442,937 Web resources had a back-link to a CC licence URI
  - about two thirds of the licenses contain the “NonCommercial” condition
  - Distribution of licenses:

CC licence version	1.0	2.0	2.5	Total	
Attribution	2,3	4,02	5,95	12,27	23,30
Attribution–NonCommercial	1,0	2,51	7,52	11,03	
Attribution–ShareAlike	1,64	12,78	4,85	19,27	56,73
Attribution–NonCommercial–ShareAlike	9,64	14,01	13,81	37,46	
Attribution–NoDerivatives	0,32	1,26	1,03	2,61	20,07
Attribution–NonCommercial–NoDerivatives	0,27	7,73	9,36	17,46	

- In comparison to Yahoo! data for February 2005, their occurred a decrease in “NoDerivatives” from about 32% to 20%!



## Area 1: Policies, institutional frameworks, and business models –



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### ***Drivers & enablers***

- (5) Healthy competition among leading institutions in providing free access to educational resources
  - Many OER initiatives started after the extensive media coverage for M.I.T.'s Open Courseware project (announced in April 2001); e.g. international Open Courseware Consortium at present has over 100 members
  - “First movers” have gained much recognition, now it is about more than “being involved in OER”
  - Currently we see much provision of static “courseware” (in closed formats)
  - “Latecomers” will need to convince through highly useful OER; active user communities are of critical importance
- (6) Open and Distance Teaching Universities experiment with attracting new students through offering “e-taster” open self-learning resources
  - Background is global competition in higher education, downfall of student numbers in Europe due to demographic developments
  - Examples: European Association of Distance Teaching Universities, Open University UK, Open University NL, ...
- (7) The Bologna Process could become a driver for cross-boarder collaborative development and sharing of study material in Europe
  - Particularly in the context of Joint Programmes and Degrees.



### ***Inhibitors***

#### (1) Business models in open educational resources are tricky

- The right mix of income streams must be found – public or/and private funding, sponsorships, donations, fee based services...
- Growing competition on scarce funding resources (also within institutions)
- Many projects will not be able to realise state-of-the-art organisational and technical approaches in OER
- Often lack of clear-cut regulations regarding IPR/copyrights for material that could be made available
- Often content incorporates some material from third parties under the assumption of copyright exceptions or “fair use” (that may not hold if challenged by the original IPR/copyright holders) - impedes the willingness of institutions or individual educators to make such material openly accessible

## Area 1: Policies, institutional frameworks, and business models –



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### ***Inhibitors***

- (2) In order to see researchers and educators excel in OER, academic and educational institutions will need to implement appropriate incentives and reward systems
- The established culture of academic and higher education institutions does not foster the creation, sharing and re-use of open educational resources
  - Greater value is often attached to research than to teaching, in particular, when it comes to academic promotion – e.g. emphasis on individual achievements, “sole author” publication, “core journals”, etc.
  - Altruistic motivations or the possibility “to gain reputation” (often mentioned in the context of OER) may not be strong enough drivers to invest the required time and effort to create OER
  - Reliable rewards are “the factor that could make or break” OER initiatives of academic and educational institutions – e.g. significant relevance in academic or other promotion
- (3) Models that build on teachers in the creation and sharing of open educational resources will need to invest considerable effort on training and support
- In-service teacher training can amount to 30% of overall budget of an OER project
  - Technical support will be required to ensure a broader and sustained participation



## Area 1: Policies, institutional frameworks, and business models –



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### ***Inhibitors***

- (4) Difficulty to find a balanced approach for open and commercial educational offerings
  - Entrenched commercial interests of educational publishers will make it difficult to establish innovative private-public partnerships related to OER
- (5) Little innovation by most academic and educational publishers
  - Much of existing digital content has simply been transposed from other forms, prepared for traditional models of learning based on knowledge transfer.
  - Problem of investing ahead of “e-readiness” of most educational institutions and teachers
  - Unclear whether the shift towards Open Access and OER will stimulate publishers to show a higher propensity to invest in innovative products and services
- (6) Possible implementation of rigid Digital Rights Management Systems by many organisations
  - Besides publishers also Royalties Collecting Societies, Foundations that capitalise on IPR/copyrights of individual creative persons, public Cultural Heritage institutions (e.g. photographic, film, radio/TV archives) that want to control the usage of “their” content
  - Could lead to a “by-permission culture” (L. Lessing) which would destroy easy “re-mixing” as one important basis of creativity and cultural development
  - However, not considering user acceptance of DRM (e.g. expected portability of content) may run against the interests of businesses and organisations

## Area 2: Open Access and open content repositories –



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### ***Drivers & enablers***

- (1) Breakthrough of Open Access in academic research and publication
  - Icebreaker was not the wave of OA Declarations (2002 onwards), but the “academic publishing crisis”
  - Majority of journal publishers already allow for “self-archiving”
  - Begin of October 2006, the Directory of Open Access Journals (free, full text, quality controlled academic journals) covered 2410 journals
- (2) Ever more funding bodies will require that project results are being made available through OA repositories or published in OA journals
  - This will give the current OA movement much further momentum.
  - Examples: The Wellcome Trust (UK), German Research Foundation, Austrian Science Fund,...

## Area 2: Open Access and open content repositories –



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### ***Drivers & enablers***

#### (3) Widespread tried and tested know-how in distributed open access repositories

- Repositories are often “content silos” that need to be “mined” one by one through different search interfaces (some may also require registration)
- Available know-how allows repositories to become active information access providers
- In particular, through systems based on the Open Archive Initiative approach of metadata harvesting (OAI-PMH)
- In the educational sector also the Peer-to-Peer & Simple Query Interface (SQI) approach may find a broader use by repositories
  - e.g. GLOBE (Global learning Objects Brokered Exchange) consortium: ARIADNE (Europe), Education.au / EdNA Online (Australia), LORNET (Canada), MERLOT (USA) and NIME (Japan)
  - Advantage is that repositories need not “give away” their metadata (this is particularly important if they do not hold the content themselves)

#### (4) Open content repositories increasingly surface from the Deep Web

- This will allow for enhanced discovery of, and access to, many more educationally relevant resources
- OpenDOAR lists 760 quality assured OA repositories (from an initial selection of 1000)
- The largest OAI service OAIster on October 11, 2006, had 9,617,889 metadata records from 695 institutions.



## Area 2: Open Access and open content repositories –



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### ***Inhibitors***

- (1) Further success of Open Access principle for academic resources requires overcoming fears of low recognition among researchers
  - Cf. survey of Deutsche Forschungsgemeinschaft “Publishing Strategies in Transformation?”, 2005
  - Favourably, surveys show that OA publications outperform traditional ones with respect to citation (i.e. visibility and potential impact)
- (2) Need to reinforce institutional open access policies and measures
  - In order to overcome reluctance institutions should make it mandatory that researchers “self-archive” publications on institutional or/and central OA repositories
- (3) Barriers to make research data openly available for further research and teaching
  - In some disciplines projects aggregate large amounts of data of which only a smaller fraction finds its way into publications
  - According to researchers from ArchaoCommons (Alexandria Archive Institute) this may only be 5-10% of processed data (which often comes in closed, inaccessible formats)
  - Researchers tend to see datasets as their property and there is little professional reward for “raw data”





## Area 2: Open Access and open content repositories –



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### ***Inhibitors***

#### (4) Creation of rich educational metadata will remain costly

- For example, the International LOM survey found that elements from the Education category (e.g. Typical Age Range [of the intended user], Difficulty, Typical Learning Time, and Interactivity Level) are “surprisingly underutilized for metadata that is ostensibly and primarily educational” (Friesen 2004, 4)
- OER initiatives will need to strike the right balance between the achievable richness of metadata and the costs they incur (e.g. due to the need of employing skilled personnel)
- There is interesting research under way to allow for automatic capturing of data in the context of use of learning material (“attention metadata”).

#### (5) Ontology based educational Semantic Webs will have a long way to go

- Ontologies are among the most valuable OER that domains of knowledge and learning can share
- However, teaching and learning only in the longer-term will benefit from an ontology-based “semantisation” of educational resources and Semantic Web applications (though there already exist some interesting tools)

## Area 3: Laboratories of open educational practices and resources –



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### ***Drivers & enablers***

- (1) Free and Open Source software is more widely used in Higher Education and Further Education institutions
  - Further uptake in schools will require more in-house capacity building
- (2) Licensing open content will become easier through plug-ins for widely used software packages and standardisation of licensing information for user
  - For example, in June 2006, Microsoft and Creative Commons announced the release of an add-in for Microsoft Office
  - Content portals currently do not always find a good way of guiding users to licensing information as well as the right balance and detail of information.
  - Identify best practice and reuse to the point licensing information
- (3) Social Software tools and services empower learners to easily create and share content
  - Tremendous use of Social Software tools and services (Weblogs, Wikis, social networking, content and bookmarks sharing, etc.) outside the educational sector.
  - Even a smaller “spill-over” could have a considerable impact in terms of changes in educational practices
  - There already exists some experimentation by individual teachers and educational projects

## Area 3: Laboratories of open educational practices and resources –



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### ***Drivers & enablers***

- (4) RSS feeds enrich educational portals and learners can directly subscribe to thematic content feeds – including podcasts [audio] and videocasts
- RSS feeds allow educational information providers to bring fresh, continuously updated information on their portals
  - Individual and groups of learners can subscribe to feeds on certain subjects/topics - example, Education Podcast Network
  - Students will also gain from feeds of non-governmental agencies, scientific organisations, business information services and individual consultants
- (5) Emergence of personal learning environments (“e-learning 2.0”)
- Combining Social Software tools and services allows learners to create and manage their own learning environment



## Area 3: Laboratories of open educational practices and resources –



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### ***Drivers & enablers***

(6) New systems for creating and handling group-based Learning Designs are in the pipeline

- IMS Learning Design based applications are currently in prototype stage
- The somewhat simpler system of the LAMS Foundation (which is not based on IMS LD) has already been widely trialled

(7) Semantic applications offer new ways of accessing knowledge resources

- There already exist interesting examples of concepts-based access, semantic Wikis and semantic filter & browser applications
- e.g. Magpie (OU UK's Knowledge Media Institute), IkeWiki (Salzburg Research, KIS Group),...

## Area 3: Laboratories of open educational practices and resources –



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### ***Inhibitors***

#### (1) More cooperation between tool developers and educators is needed

- Many relevant tools are available but little opportunity for potential users to try them “hands-on” and to provide valuable feedback
- Tool developers should actively seek to involve teachers and students in a collaborative development of tools – allows users to develop a sense of ownership and take an interest in further developments

#### (2) Lack of know-how for enabling innovative educational settings to emerge

- Contrary to the goal of enabling innovation in teaching and learning, educational initiatives, particularly larger national ones, still follow a “top-down” strategy that tries to deliver learning objects to teacher-centred education

#### (3) Educational repositories will need to think more thoroughly about how to be useful for communities of practice

- This is of critical importance if OER initiatives want to grow based on user contributions and sharing of content among users
- Teachers often show a willingness to share own material with colleagues, however, many are not convinced of an easy reusability of such material

## Area 3: Laboratories of open educational practices and resources –



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### *Inhibitors*

- (4) Educational repositories will need to implement more advanced tools and services
- Particularly in HE researchers and students will expect to find Web-based tools for referencing, annotating and recommending resources
  - Importance of better connecting teachers and students to the body of codified knowledge in certain domains (e.g. thesauri, classification systems, domain ontologies).
- (5) Library services may only slowly find their place in open learning environments
- It is widely felt that libraries will need to better accommodate to the considerable changes in information behaviours and Web-based environments

## Contact information



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For further information please contact

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