

Open Educational Practices and Resources

OLCOS Roadmap 2012

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8 Recommendations

The OLCOS road mapping has been carried out to inform and support a transformation in educational practices that brings learning processes and their outcomes closer to what individuals will need to participate successfully in the knowledge society.

Acquiring the competences and skills for the knowledge society will demand that educational practices give priority to learners' own explorative, constructive and communicative activities instead of a teacher-centred knowledge transfer model of education.

OLCOS advocates open educational practices that are more likely to allow for learning experiences that are real, rich and relevant. As the knowledge society builds to a large degree on digital environments of work and social communication, such practices will foster in particular an active, self-managed and constructive engagement of learners with digital content, tools and services in the learning process.

Open Educational Resources (OER) are understood to be important facilitators of educational innovation, but the assumption that OER per se could bring about the required transformation in educational practices is a misleading one.

OLCOS' understanding is that a decisive shift towards open educational practices must take place before educational institutions, teachers and learners will benefit fully from freely and easily accessible and re-usable resources. An educational culture and mindset must be fostered that builds on sharing of resources for, and experiences from, open educational practices.

For teachers, this would for example include sharing within a community of practice experiences, lessons learned and suggestions on how to better foster the development of students' as well as their own competences and skills. This would be part of a new understanding of teachers' professional work that includes a permanent questioning, evaluation and improvement of educational practices and resources.

While this is most important for innovating teaching and learning, there is also an economic aspect to Open Educational Resources that should catch the attention of policy makers and funding bodies. The strong emphasis on re-usability of OER in terms of technical standards and licensing can allow for achieving better cost-effectiveness through sharing and re-using of resources among educational communities and networks. In addition, this has the potential to promote quality control and continuous improvement of resources.

The following recommendations suggest measures that different stakeholders can apply to promote and support open educational practices and benefit from sharing and re-using Open Educational Resources.

8.1 Recommendations for educational policy makers and funding bodies

Recommendation 1: Promote open educational practices that allow for acquiring competences and skills that are necessary to participate successfully in the knowledge society

Promoting open educational practices and resources is a key measure educational policy makers and funding bodies can adopt to bring education and lifelong learning closer to the demands of the knowledge society. Educational policy makers should consult the reference framework “Key Competences for Lifelong Learning” (European Commission 2004) and similar frameworks developed at the national level, and demand educational institutions to ensure that teachers and students acquire the competences and skills that are considered necessary to participate successfully in the knowledge society.

Funding bodies that sponsor educational initiatives should demand that those who propose projects explain how the intended results can effectively support innovative educational and lifelong learning practices that promote required competences and skills for the knowledge society.

Recommendation 2: Foster the development of Open Educational Resources

Educational policy makers and funding bodies should demand that academic and educational resources that have been fully or to a large extent publicly funded be made freely accessible on institutional and/or central e-repositories under an appropriate license (e.g. Creative Commons Attribution–ShareAlike or GNU GPL).

To achieve this goal, they should engage in creating a favourable environment for Open Access, for example in negotiations with academic and educational publishers, learned societies, educational associations and others.

More specifically, they should demand that content be liberally licensed for re-use in educational activities, favourably free from restrictions to modify, combine and repurpose the content. To enhance re-usability, regulations should also emphasise that open content standards and formats should be employed in the content creation and provision.

With respect to software-based systems and tools that are developed by, or acquired for use in, academic and educational institutions, policy makers and funding bodies should require that wherever possible and reasonable open technical standards/specifications should be used and Open Source software licensing be employed.

Regarding publicly funded Internet-based applications and services, open Application Programming Interfaces and authorisations to re-use services should be made available.

Recommendation 3: Support the development of widely used, state-of-the-art and sustainable open access repositories

Many current-generation open access repositories find it difficult to grow and attract a broader base of active users. Part of the problem is that projects often receive only some initial funding and need to be maintained through the work of volunteer educators and “in kind” support of IT personnel and technical resources of an academic or educational institution. Consequently, there are considerable barriers to implementing state-of-the-art technologies for content management, sharing and re-use and, in particular, to supporting communities of practice effectively.

Funding bodies should concentrate on fostering the development of widely used, technologically state-of-the-art and sustainable educational open access repositories. Therefore,

selection criteria should require that project proposals show an in-depth understanding of how as broad as possible an active usage of the repository can be established through integrated organisational approaches and appropriate technological systems, tools and services. Funding schemes should provide projects with a longer-term perspective, in that they will receive initial funding for achieving full operation, and further funding will be based on a critical assessment of factual usage.

Recommendation 4: Demand public–private partnerships to concentrate on ventures for innovating educational practices and resources

Commercial e-learning technology, content and service providers are often interested in cooperating with larger educational institutions and networks based on a public-private partnership (i.e. projects involving public funding). However, they show little propensity to invest ahead in innovations that go beyond what has so far been proven to work from a commercial as well as an institutional point of view. Today, most of what constitutes established ICT-supported teaching and learning has been transposed from the traditional model of knowledge transfer. Innovative approaches are rare and not embedded in regular practices.

Therefore, educational policy makers and funding bodies should foster and support ventures for offerings that are likely to drive innovation in educational practices and resources. As described in the OLCOS Roadmap, such offerings will need to include “social software” tools and services of the so-called Web 2.0 environment. Funding programmes and calls for proposals in the area of ICT-enhanced education and lifelong learning should emphasise that project concepts that integrate such tools and services in convincing ways are particularly welcome. This may also attract proposal consortia comprising partners other than traditional educational technology and content companies, and lead to innovations in products and services that will stimulate the educational market as a whole.

8.2 Recommendations for boards, directors and supervisors of educational institutions

Recommendation 1: Scrutinise whether educational institutions are employing innovative approaches beyond teacher-centred knowledge transfer

Boards, directors and supervisors of educational institutions should understand that, in open educational practices that privilege learners’ own activities, competences for the knowledge society are more likely to be developed than in “closed”, predominantly teacher- and subject-centred education. Consequently, they should ask whether an institution is employing innovative approaches in which teachers are changing their currently predominant role of dispensers of knowledge to facilitators of individual and collaborative development of competences and skills.

Questions they could pose, for example, are: Do the educational practices foster a high degree of autonomy, self-direction and personal mastery of students? What amount of teachers’ work concentrates on coaching students with regard to identifying real world problems, clarifying study approaches, assessing the relevance of information and observations, and critically discussing study results? Do students learn to document and communicate results of individual and collaborative projects, and make them available for others? Do they know about Intellectual Property Rights, copyright exemptions and fair use, and how to license products of their own creative work?

Recommendation 2: Promote sharing and re-using of Open Educational Resources and experiences from open educational practices

Boards, directors and supervisors of educational institutions should be aware that sharing and re-using of open resources from a common pool of content, tools and services can have many favourable effects for the institution, the teachers and students, the educational community and profession, and the public at large.

This includes the fact that content acquisition and development costs can possibly be reduced, and the quality of resources leveraged through quality control and improvements within networks of committed developers and users, a mechanism that has often been shown to lead to good results (for example, in developing Open Source software).

A wider circulation, (re-)use and improvement of resources mean that taxpayers' money will see a better return on investment. However, rather than placing too high expectations on the working of an "invisible hand", educational institutions may be well advised also to establish cooperation directly in Open Educational Resources. Certainly, the fact that resources made available will be assessed critically by partner institutions will also have a positive effect with regard to internal quality criteria and control.

From the perspective of the educational discipline and profession, boards, directors and supervisors should encourage teaching staff not only to make available learning designs and material on open access repositories, but also to reflect on educational processes and share with colleagues experiences, use cases, lessons learned and suggestions on how to improve teaching practices.

Recommendation 3: Establish reward mechanisms and supportive measures for developing and sharing of Open Educational Resources and experiences

In order to foster the sharing of Open Educational Resources and experiences, boards, directors and supervisors of educational institutions will need to question established values, traditions and practices. In the domain of Higher Education institutions, greater value is often attached to research than to teaching, in particular when it comes to academic promotion. Hence, there is little incentive and support for faculty to excel in developing and sharing open educational material and experiences. Also, other educational institutions such as secondary academic schools currently lack such incentives and support.

Boards, directors and supervisors should demand that educational institutions introduce incentives for developing and sharing open resources and experiences, in particular of significant relevance in academic or other promotion. They should also require implementing appropriate training and support to ensure a broader and sustained participation of staff. Initiatives in Open Educational Resources should not be left to individual researchers and teachers; however, those who lead by example should be recognised appropriately.

Recommendation 4: Clarify copyrights and define licensing schemes for making Open Educational Resources available

In many institutions it is far from clear who owns copyrights and what licenses should be used when making resources available for others. Boards, directors and supervisors of academic and educational institutions should demand that contracts of researchers and educators contain regulations regarding copyrights and licensing of any content and/or software they create.

Such contracts should acknowledge the IPR of authors, but require non-exclusive copyrights for the institution to make academic and educational resources available under appropriate open content and open source software licenses.

Furthermore, tools should be implemented that support mechanisms to (semi-)automatically attach licenses to material that is made available.

It will also be beneficial to advise research, teaching and IT staff on what licensing conditions are acceptable when acquiring resources from external sources. This should include favouring available open content and open source software, if appropriate.

8.3 Recommendations for teachers

Recommendation 1: Clarify the professional role, appropriate approaches and required skills of a teacher in a knowledge society

Teachers and tutors should understand the great importance of education and lifelong learning in the knowledge society and clarify their professional role, appropriate approaches and required skills. In particular, teachers should change their role from dispensers of knowledge to facilitators of open educational practices that emphasise learners' own activities in developing competences, knowledge and skills.

However, enabling the development of analytical, conceptual, problem solving and creative skills as well as learners' self-direction, communication and team skills is far from trivial. Therefore, a new professional understanding should include the requirement that teachers regularly question, evaluate and improve educational practices and resources. Also, sharing among a community of practice experiences, lessons learned and suggestions on how to better foster the development of students' as well as their own competences and skills should be an important part of a teacher's professional life.

Recommendation 2: Employ open educational practices to help learners acquire competences for the knowledge society

Teachers should devise processes that engage students in active, constructive engagement with learning content, tools and services. Rather than concentrating mainly on transferring subject-based knowledge, they should coach students in how to identify and study real world problems, assess the quality of information sources, and critically discuss results of their studies. In open educational practices, such as collaborative study projects, teachers should also advise students to document and reflect on their study progress (e.g. in an e-portfolio) and to share learning experiences and results with others.

Recommendation 3: Make use of tools and services that support collaborative learning processes and learning communities

As facilitators of open learning practices and processes, teachers should favour learning designs that make use of tools and services for collaborative learning and sharing of ideas, experiences and study results. Teachers should be aware that there is available a new generation of easy-to-use tools and services commonly referred to as "social software" (e.g. Weblogs, Wikis, RSS-based content provision, etc.). They should experiment with such tools and services that allow for sharing of ideas, collaboratively creating study content, providing comments and links to relevant resources, etc. in an information environment that these teachers and learners can manage themselves. Also, communities of practice of teachers can benefit greatly from making use of such tools and services.

Recommendation 4: Share proven learning designs, content and experiences through open access repositories and open licenses

Teachers and tutors should know about open access repositories and services in their fields of interest, regularly scan interesting resources, and re-use learning designs and resources if appropriate. This can include re-using the structure of some type of content (a template of a work sheet, for example) and adapting parts of the content by choosing other problem descriptions and examples, adding relevant images and figures, providing links to fresh information, etc.

In an open content value chain, proven learning designs, enriched content, and experiences from the learning process should again be made available via an open access repository for others to benefit from such value-added educational material. If not asked for by the repository in any case, teachers should themselves consider licensing their material under an open content license with as few restrictions as possible regarding re-use (e.g., Creative Commons Attribution–Share Alike).

8.4 Recommendations for students

Recommendation 1: Demand educational approaches that allow for acquiring competences and skills for the knowledge society

Learners should demand that educational institutions and teachers help them in acquiring the competences and skills to participate successfully in the knowledge society. They should ask for educational approaches that ensure that learning experiences are real, rich and relevant, for example through addressing real world problems, working collaboratively, using new tools and information services, and critically discussing content and study results. Regarding primary and secondary schools, parents should also take a keen interest in what educational practices are prevalent in the classroom and themselves stimulate children to become self-directed, creative and critical learners.

Recommendation 2: Suggest open learning practices using new tools and services

Students should challenge teachers and suggest learning approaches that allow them to play to their strengths by using creative and social software tools for coursework and carrying out study projects. For example, such suggestions could be: Why not use Weblogs to share ideas, observations and commented links to useful study material? Why not use a Wiki for a collaborative study project? Why not subscribe to thematic RSS feeds that provide a project with relevant and regularly updated “real world” information? Why not document field work with digital recording devices and make available images, sound or video recordings accessible via pod- or videocasting?

Recommendation 3: Develop one’s own ePortfolio and make study results accessible to others

Learners should set up and develop their own e-portfolio for documenting and reflecting on the progress and results of their study work. They should also use the opportunity to share results they are proud of in an open access repository of their educational institution or other repositories they consider relevant in order to make their creative work known and accessible to others.

Recommendation 4: Respect IPR/copyright of others and make one's own creative work accessible under an open content license

Learners should respect the intellectual and creative work of others, adhere to principles of fair use, and always acknowledge others' work they build on. For their own creative work they should consider making it accessible to others under an open content license (e.g. Creative Commons Attribution–Share Alike).

8.5 Recommendations for educational repositories

Recommendation 1: Do not follow a top-down strategy of delivering learning objects; empower teachers and learners

Educational repositories should abandon the top-down approach of trying to deliver learning objects to teacher-centred education, as this reinforces the still dominant knowledge transfer model of education and will not promote innovation in teaching and learning.

Instead, repositories should promote open educational practices and empower teachers and learners to do and achieve something themselves. This is not about repository users as consumers but as potential co-creators of shared, commons-based resources.

Empowering users is of particular importance for the sustainability of OER repositories that want to grow based on user contributions. To achieve this they must provide the right environment and remove barriers that hinder the growth of content sharing communities.

Recommendation 2: Support individual content creators and communities of practice with useful tools and services

OER repository initiatives often start from the notion of “build it and they will come”, and harbour optimistic expectations that many teachers and learners will share their own and re-use teaching and learning material from others. Yet, experience shows that such repositories have difficulty finding appeal and usage.

A recommendation for a probably more successful approach is to consider more thoroughly how tools and services can make it beneficial for content creators and providers to make use of the repository. For example, individual educators will want to manage, update and license their own course material easily; communities of practice will welcome having, in conjunction with a content repository, tools for collaborative work (e.g. project Wikis), aggregating RSS feeds that are relevant to their subjects and methods, receiving alerts on newly uploaded material, etc.

In short, if a repository does not become a place for individuals and groups who take a keen interest in their own content, including the desire to see it widely used by others, there is little likelihood of seeing it flourish.

Recommendation 3: Make licensing of content as easy as possible

Educational repositories should make licensing of content as easy as possible. This includes, first and foremost, finding a good way to guide users to licensing information as well as providing the right information details. In this context, open content projects may benefit from identifying and following best practice in the field (i.e. re-use of licensing information from similar projects).

Furthermore, repositories should make the licensing task as easy as possible, which will be of particular importance if users are invited to contribute content. If a repository has no licensing functionality, it will be beneficial to direct users to the Creative Commons licensing tool.

It is also generally advisable to keep the number of allowed licenses as low as possible, ideally one license for all the content that is shared, with few restrictions regarding re-use.

Recommendation 4: Allow for easy discovery of and access to resources

Educational repositories should not remain isolated stores of content, but become active information providers who make sure that their holdings can be easily discovered and accessed by potential users.

This requires letting search engines find and index material, which will allow users “to come through the backdoor” rather than use the repository’s own database search interface. In addition, repositories should consider making metadata available for federated search across many repositories and other information services (e.g. based on Open Archive Initiative metadata harvesting).

Furthermore, repositories should offer Really Simple Syndication (RSS) feeds that enable education portals to provide continuously updated information, e.g. about newly available resources on certain topics. Such feeds should also be made available for teachers and learners.

Recommendation 5: Assist open content initiatives in the creation of rich metadata and provide semantically enhanced access to resources

Educational e-repositories have an important role to play in the creation of rich metadata and opportunities of enhanced access to resources. Of fundamental and immediate importance is that they should inform initiatives for open resources early on about the importance of quality and consistency of metadata (e.g. controlled vocabularies). This will need to include advising on the right balance of costs and benefits of having rich metadata and the requirement of employing skilled personnel.

In the longer term, e-repositories could connect teachers and students better to the body of formalised knowledge in certain domains. Such knowledge is represented in systems like thesauri, classification systems, taxonomies and richer domain ontologies. Over the coming years such knowledge organisation systems will increasingly be made available via Semantic Web applications. This will provide users with semantically enhanced access to content as well as the opportunity to develop a deeper understanding of the terms used in a field of study, how a discipline classifies entities and which ontological concepts form the basis of its body of knowledge.

Perhaps the best way e-repositories can help in the further development of “webified” knowledge systems and semantically enriched resources is to demonstrate to user communities the benefits of such systems and resources, e.g. by offering concepts-based access to resources, semantic browsing or tools such as semantic Wikis.

8.6 Recommendations for developers and implementers of e-learning tools and environments

Recommendation 1: Involve teachers and students in the development of learning tools

At present there is a considerable gap between developers of e-learning tools and teachers and students. Many relevant tools are available but little opportunity exists for potential users to try them “hands-on” and to provide valuable feedback. Developers of e-learning tools could benefit considerably from receiving more information about what existing functions teachers and students appreciate or find less useful, and what additional features they would welcome

having available.

Therefore, tool developers should actively seek to involve teachers and students in collaborative development, which could help greatly in making tools more usable in educational contexts. In fact, for the adoption of a tool it will be important that the users develop a sense of ownership and take an interest in its further development.

Recommendation 2: Promote open educational practices through help in setting up appropriate tools

In open educational practices teachers and students as part of active, self-managed and constructive learning processes will more often create, manage, license, share and re-use content. Such practices do not require large, centrally managed systems; rather, they will make use of easy to implement and manage tools and services such as Wikis, Weblogs, Web-based e-portfolios, RSS feed aggregators, and others. However, groups of teachers and students will benefit from the technical advice and support of institutional IT staff in selecting, setting up and using appropriate tools. Making use of available licensing plug-ins will enable teachers and students to make their own content available more easily under an open content license.

Recommendation 3: Favour institutional learning environments that support group-based, collaborative learning practices

Educational institutions should favour learning environments that support collaborative study and allow for making use of a variety of information sources. Technology implementers at institutions that already employ Virtual Learning Environments (VLEs) for organising courses should explore and suggest opportunities to make use of Wiki, Weblogging and other “social software” functionality and to integrate thematic RSS feed channels.

Recommendation 4: Closely observe the development and consider testing of Learning Design based systems

At present a new generation of learning management systems is being developed that enable the authoring, handling and sharing of Learning Designs for sequences of group-based learning activities involving rich interaction of learners with teachers and peers. Such systems make use of the IMS Learning Design specification, which was created to allow for implementing a wider range of didactical concepts in a standardised way. Developers and implementers of institutional learning environments should observe this development closely and consider the testing of sufficiently robust applications.