MELT: A Metadata Ecology for Learning and Teaching

The MELT project has been designed to provide users of learning content in schools with access to more useful types of metadata that will allow them to find resources that fit their needs, language, cultures and preferred ways of teaching and learning.

Across Europe, Ministries of Education and other providers of educational content are offering extensive catalogues and large repositories of online learning resources to schools. However, as the number of resources in these repositories continues to grow, educational budgets are struggling to cope with the increasing demand for better quality metadata. More precise and detailed tagging of resources will be key in order that teachers and learners can quickly and easily find the specific learning materials they need.

Enriching content with new types of metadata is important, not only to improve access to content but also, for example, to help users decide whether different types of resources are suited to specific pedagogical models or learning styles and to what extent the content can be re-used irrespective of location or language.

The MELT Approach

MELT is a Content Enrichment project supported by the European Commission's eContentplus Programme [http://ec.europa.eu/econtentplus/] that brings together 17 public and private sector content partners. Using an existing technical architecture or 'brokerage system', developed in the earlier CELEBRATE project funded by the IST Programme [http://celebrate.eun.org/], a network of content repositories will be established so that teachers and learners can easily carry out 'federated searches' of the MELT content. There will also be close synergies with the current CALIBRATE project [IST-28025, http://calibrate.eun.org] in which content repositories from six Ministries of Education will also be networked.

MELT will include three different approaches to creating new and better metadata:

- Some MELT content will be enriched with metadata by expert or trained indexers
- Teachers will be provided with ‘folksonomy’ and ‘social tagging’ tools so that they can add their own metadata to MELT content they have used
- New frameworks for automatic metadata generation will be used to enrich MELT content

Why is MELT using folksonomies and social tagging? A key reason is that, in the CELEBRATE project, evaluators found that metadata created by an expert indexer related to the learning resource type may not always reflect how a resource will really be used in classrooms by experienced teachers. For example, an indexer might decide to add metadata which indicates that something is essentially a repetitive “drill and practice” type of resource whereas, in practice, teachers might actually be able to use that resource in many different pedagogical contexts - even for collaborative learning!

MELT, therefore, begins with the assumption that we also need metadata that more accurately reflects how learning resources are actually used in different learning contexts. And that teachers themselves should be given an opportunity and tools so that they can add their own metadata to resources they have used.

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Using folksonomies, or enabling teachers who have used a resource to create their own 'tags', is one way that MELT will help capture this information. Social tagging approaches, where metadata is open and shared with others, will also be explored. Folksonomies are seen as a means to augment the work of experienced indexers and other new approaches that include automatic metadata generation. The key goal in the project is to create a new 'metadata ecology' involving all three elements.

In order to evaluate the benefits of this new way of creating metadata, a web portal will be developed for schools that enables teachers and pupils to access and tag the MELT content. The project will then assess the benefits of the MELT content enrichment process by collecting feedback from teachers via a number of focus groups, two summer schools and from four 'pilots' in four countries (Austria, Belgium, Finland and Hungary) involving a total of approximately 40 primary and secondary schools.

Expected results:

MELT intends to provide a scalable and cost-effective solution for European content providers faced with the challenge of creating more and better metadata. In particular, the project will enrich over 37,000 learning resources and 97,000 learning assets with a large quantity of new metadata that will:

- Facilitate greater cross-curricular use of the content within countries
- Extend the use of the content to different regions within the same country
- Provide new opportunities for teachers across Europe to use learning resources and learning assets from other countries
- Play an important role in helping European Schoolnet to launch a pan-European Learning Resource Exchange for schools

MELT Partners

Along with EUN, MELT has 18 partners from 13 countries (Austria, Belgium, Estonia, Finland, Iceland, Hungary, Germany, Ireland, Italy, Slovenia, Spain, Sweden, UK) including 12 Ministries of Education or educational agencies identified by these partners to act on their behalf in the project.