Introduction

This report includes a summary of the presentations given at the first seminar in EdReNe - Educational Repositories Network. The main issues for the kick-off seminar were:

1. Current state of the art in the members’ countries and their company profile, presented by each member. The Netherlands, UK, EUN and Denmark had been asked to give a more detailed presentation to provide us all with an understanding of the area.

2. Planning of the first expert workshops in Work Packages 3-6 and input from the members on the long term themes.

Note: a short introduction to the European countries, e.g. number of citizens, can be found at [http://europa.eu/abc/european_countries/index_en.htm](http://europa.eu/abc/european_countries/index_en.htm) (in most languages).


Anne-Marie Pedersen, UNI•C.
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Welcome to the EdReNe members

The strategic seminar was opened by Leo Højsholt-Poulsen, UNI•C. After a constructive and successful contract process with the European Commission and the members, Leo was very pleased to have almost all the members present at the first meeting in the network. In addition representatives from two associated members.

Leo said: “The main purpose of EdReNe is to facilitate the exchange of knowledge and experiences among the members – that is learning from the successes and the failures. The topics that will be discussed during the three year period have not been decided yet. The area of interest will be evolving. It is important for us to meet the members’ wishes, needs and interests. The members have very different backgrounds and fields of expertise – knowledge that is important for the success of the network. In the end we hope to obtain better solutions for the end-users and to have a lasting network of colleagues in this field“.

Leo gave a short presentation of UNI•C, an institution operating for the Danish Ministry of Education, handling ICT for Danish schools including university level.

All members gave a short personal introduction. The network members have expert knowledge on fields ranging from: user’s perspectives, rights management, development of portals, publishing, research, metadata, standardization bodies, the European level, teaching, implementation of policies, dissemination, and many more.

Introduction to the EdReNe network

Leo Højsholt-Poulsen continued with an introduction to the EdReNe thematic network.

The project is planned in three phases, see the presentation. The three main pillars are: strategic seminar, expert workshops and web forum (www.edrene.org has been registered - we will discuss with EUN whether they can assist us with the necessary tools for the web forum).

The minimum list of issues to be treated in EdReNe is (see also Description of Work - DoW):

- How to establish a repository of learning resources together with producers and users
- Day-to-day organization and management of a repository
- Optimising number of titles and users
- Quality frameworks and criteria
- Networking repositories
- Functionalities and features of a repository
- Pedagogical metadata and links to curriculum
- Management of IPR screening and clearance
- Role of repositories in the new web environment

More issues will be found in cooperation with the network members during this seminar and in the following period.
The work is organized in four work packages, work packages 3-6. WP3 and WP5 will be started in 2007.

Leo presented: the network management board (the members were elected during the seminar, see later in this summary), member organization, success indicators, deliverables especially the key deliverables, dissemination activities (e.g. information leaflet, newsletter, attending conferences), etc. Leo added that the first version of the information leaflet will be produced in English. However, he offered to produce the information leaflet in other languages if requested by the members of the network.

New members can be associated. It would be very relevant to have e.g. the Hungarian and Italian repositories represented. The members of the network are invited to suggest potential new (associated) members.

Furthermore, Leo introduced the potential links to other relevant organizations outside Europe, e.g. Leo has already been in contact with OECD and http://www.edunet4u.net – a Korean network with extensive digital material – resembling the Hungarian case.

**Current state of repositories – detailed presentations**

**The Netherlands**

Jan Kees Meindersma, Kennisnet, introduced the initiatives in the Netherlands.

Kennisnet Ict op school is an ICT support organization for Dutch education. As a company Kennisnet is involved in many different initiatives ranging from a web-based tool for children to make their own websites (to stimulate the use of ICT) to activities on the use of mobile phones in the classroom. That is, Kennisnet also works on services that are not requested by the schools at the moment. However, they might be, in a few years.

Jan Kees’ presentation was given in a historic perspective.

- **2002** – The first educational “repository” was introduced – a database with qualified web links, called the “Vakwijzer”. All metadata were added by hand. Teachers and librarians suggested links for the database. No standards. No Google back then (today many teachers in The Netherlands still do not know how to use Google).

- **2004** – A new version of the software was introduced - davindi – still very much focused on teachers. Still a lot by hand. 20,000 links to web-based educational content. It could also be commercial content but it must be available on the web. Import of metadata from existing collections was introduced. Two or three were imported successfully. They found that the technology was too difficult to use. Furthermore, the persons knowing the content had not been involved, that is the quality of the imported metadata was too poor.

- **2005** – The repository was redesigned and launched with a new interface. Kennisnet found that e.g. the advanced search facility was too difficult to use especially for students. An easier search interface has been implemented, e.g. with the use of categories.
and a “word-cloud” to allow students to browse in a more straightforward way (see screenshot below). Davindi was a site for teachers only. Now it is a site for teachers and students (K10-14). Many visitors!

At the same time metadata was implemented according to a Dutch application profile (IEEE LOM). Status: 40,000 links.

Screenshot from Davindi, showing the “word-cloud” on the left side and categories on the right, http://davindiplus.kennisnet.nl/.

- 2006 – Additional educational repository: Teleblik (“TV in a can”) http://mbo.teleblick.nl/:
At the moment Teleblik contains 9000 hours of streaming media. The service is behind login but free for schools (it is paid by the Ministry of Education and they are still negotiating the payment for these media in the Netherlands). Building Teleblik entails a lot of work. However, Jan Kees is sure that it is going to be a success.

General initiative 2004-2006

Jan Kees explained that the establishment of an educational content chain in 2004 has been an important step. Schools, publishers and software vendors were brought together. As a result an agreement was made on standards (metadata, packaging etc.) and vocabularies. Discussing a shared vocabulary to describe the resources (semantic based standards) is much harder than the discussion of a packaging format (as SCORM).

Latest initiatives

Edurep is a network of repositories. Metadata is collected (harvesting is based on OAI-PMH) from different repositories. Status: 130,000 objects, 10 repositories connected and 5 learning environments.

Edurep has only a simple user interface; instead Edurep offers webservice for other portals to build their own search interface/application. This strategy works primarily because they now know the standards. Kennisnet don’t have to support them. The standards used are: SRU/SRW and IEEE LOM. The system software is based on open source components (publishing in progress). An illustration of the system architecture can be found in the PowerPoint presentation.
That is: the market decides, i.e. a school might have another perception of quality and decide to exclude some of the data (Jan Kees mentioned an example from a catholic school). Jan Kees concluded with the following statement: We are moving from having our own interface and trying to bring all students and teachers to this site, instead we must be where they are!

Questions

Did you work with vocabularies in other languages and did you try to map them to Dutch? Kennisnet has not explored that field.

What about SCORM, is it used? It is starting. The publishers have been involved in this project for three years now - that helps. However, the customers/schools are not asking for digital resources in the SCORM format, which is required (for the market to grow).

Denmark

Anne-Marie Pedersen, UNI•C, introduced three different Danish repositories of learning resources.

In many ways Denmark resembles the Netherlands. However, some differences exist as well.

**infoguide.dk** was initiated by the Danish Ministry of Education back in 1997. It is an educational link repository with the 10,000 best web resources for Danish schools (K12). The web resources are described with Dublin Core metadata. Users can suggest new links to be included in the repository. A hired staff of appr. 45 subject specialists register all links in the relevant categories. The goal is not to include everything, but to have the best web-based resources and in this way help the teachers to manage the vast amount of information on the Internet. Content in the repository can be accessed through SOAP web services and in this way be presented in e.g. Learning Management Systems. At the moment it is not clear to us whether the end-users prefer to have these links combined with the learning resources in materialeplatform.dk.

**materialeplatform.dk**, initiated by the Danish Ministry of Education and implemented together with the Danish publishers, including the EdReNe member: BFU. The Materialeplatform opened on-line in April 2006. Status: 20,000 Danish learning resources, appr. 14,000 of these came from a repository maintained by the Danish publishers. The repository contains both digital and analogue resources (that is books, chemistry sets, exhibitions, etc.). The publishers or teachers who created the learning resource must also register the metadata. Metadata cannot be provided by a third party (unless it is specified in an agreement with the content owners).
emuseum.dk, initiated by the Danish Ministry of Education and The Danish Ministry of Culture, opened on-line in October 2006. At the moment the repository includes 625 learning resources on cultural heritage, visual arts, design, film etc. All the learning resources can also be found by searching materialeplatform.dk. E-museum is a specific user interface (with add-on functionality) to the same repository.

dr.dk/skole and dr.dk/gymnasium are the Danish initiatives corresponding to the Dutch Teleblik. With these services the Danish schools (K12) can access TV and radio productions from DR – the Danish public service TV channel.

Initiatives at university level were not covered by the presentation.

Some of our experiences during the last three years are:

- Cooperation is essential for a successful project. Involve all the stakeholders if possible, including the relevant ministries.
- Defining a learning resource is difficult if not impossible. However, it is necessary to have a criterion, should you decide to exclude some of the learning resources submitted by publishers or teachers. In Denmark we ended up with a definition based on “real life”, that is “Any resource which is primarily used for educational purposes in the present form”.
- Rights issues are a very complicated field. In our project expertise from lawyers and publishers was used extensively. Online declarations are one of the results. Furthermore, it has been necessary to implement a screening procedure for all teacher produced material. Demands for a procedure were raised both by the publishers and the teachers. Both parties wanted to avoid lawsuits.
IEEE Lom, or perhaps to which extent it is used, must be considered carefully. At the moment we have a lot of metadata fields. However, the user finds the repository hard to use.

Based on the resources in the repository it can be concluded that teachers and publishers (and museums) need some kind of guidance to guarantee the relevant metadata and content in the repository.

**Introductions by EdReNe members – overview presentations**

**Eduhi, Austria**

Astrid Leeb gave an overview of repositories in Austria on behalf of the Ministry of Education (Bundesministerium für Unterricht, Kunst und Kultur).

At the national level two initiatives exist, the portals [www.eduhi.at](http://www.eduhi.at) (see screen shot below) and [www.schule.at](http://www.schule.at).

Eduhi, [www.eduhi.at](http://www.eduhi.at), was launched in 1994. Today it is a subject-oriented repository with 80,000 materials/links gathered since the beginning.

Back in 1994 there were no standards, so eduhi had to develop their own standard. That is a problem today as it is difficult to e.g. exchange materials.

Austria has 9 regions. There are 25 different educational repositories in these regions, some bigger, some smaller, some focused on specific targets or educational areas.

The Ministry of Education has worked with content in these repositories and participated in the EUN projects: Calibrate and Melt. Standards as IEEELom and Dublin Core were suggested. However, they did not support curricula mapping and specific Austrian keywords – the standards were not accepted widely.

Current issues in Austria:

- Vocabularies.
- Connecting LMS and repositories. Schools demand an easy connection to their educational resources in the learning environments (e.g. Moodle).
- Difficult to share because of federal funding schemes (business plan for data exchange is needed).
A screenshot from www.eduhi.at, searching for learning resources.

**BFU, Denmark**

Jens Viggo Moesmand, BFU - Brancheforeningen for Undervisningsmidler (Educational Supplies Organisation) gave a short introduction to the organisation he chairs and the areas of interest to a Danish publisher. Educational supplies can be provided on all kinds of media: printed, electronic media, integrated media, and other types such as maps, globes, etc. Relevant examples of each media can be found in the presentation.

BFU’s main interests are to provide knowledge about the publishers’ products to the market and to ensure protection of intellectual property rights, etc.

These interests were key reasons for BFU to enter the project Materialeplatformen.dk (as presented by UNI•C).

It was important to BFU, that the Danish initiative was based on funding from the Ministry, i.e. the publishers should not pay. At the same time a solution on the rights issue was found, i.e. UNI•C is screening teachers’ material before it is entered into the repository. Jens Viggo stressed that: “A publisher does not wish to have to sue a teacher”.

BFU is very pleased with the solutions found in the project. As an existing database with publishers’ catalogue information was merged into the repository – materialeplatformen.dk opened with content from day one.
A repository is more important to small producers (and teachers) than the major ones. Basically, the two major players in Denmark do not need a national repository. However, the 200 small players do. The repository equals visibility for them (and the two large publishers follow).

During the project, materialeplatformen.dk, many issues have been pointed out by BFU, issues that might be discussed further in EdReNe, e.g.:

- It is necessary to focus on how to include supplementary materials in repositories or whether they should be there at all. Area of interest for a publisher is media broadly speaking. However, should they all be included in the repository? How should one specify: globes, Lego, blackboards, etc.
- BFU has some arguments against providing reviews in relation to the resources – how can a professional input be ensured.
- Handling deliberate abuse of publisher’s material – it is very difficult to screen the material and to spot all violations. How could we improve in this area?

**FWU, Germany**

Dr. Friedhelm Schumacher presented FWU and initiatives in Germany. FWU is a non-profit company, founded and controlled by the German "Länder". FWU has been producing and publishing audio-visual media for more than 50 years. FWU is part of a distribution system - consisting of FWU, regional and local media centres - that provides media for use in schools (provided for free).

Examples of German repositories:

- FWU Catalogue – 12,000 resources, mostly DVD.
- DB Educational Media (Datenbank Bildungsmedien) – 40,000 resources from 3 sources (FWU, SODIS - Software documentation and evaluation, Datapool of Media Centres). Mainly CD-ROMs from the German-speaking market [http://www.fwu.de/db-bm/](http://www.fwu.de/db-bm/).
- German Eduserver (Deutscher Bildungsserver) founded 1996 has 30,000 educational online resources. Links can be suggested in a procedure very similar to the Danish infoguide.dk. Since 2001 FWU has been co-responsible for the German Eduserver. [http://www.eduserver.de/](http://www.eduserver.de/). Screenshot shown below.
- MELT database, quite new, 2000 FWU learning objects and assets.
In Germany there was not any broad discussion about metadata until 2004/2005. However, currently a number (3-4) of parallel “standards” are evolving (an overview can be found in the presentation).

FWU’s main interests in EdReNe are:

- Production policies: The role of free and paid resources. True free resources do not exist, there is always someone who needs to pay. FWU is very interested in the development of the market. In Germany it is the local authorities that pay, publicly funded though.

- Metadata: Will there be an overall European Metadata standard we can all use? Especially interested in the regional differences. Maybe it is too big an effort to make a pan-European standard for that area. Germany alone is an effort.

- What do teachers want? No teacher wants atomics. A teacher needs an environment to work in.

- FWU would also like to know more about European repositories. Identifying best practice / future-oriented systems in Europe.

- Barriers to sharing across borders.
**sDae, Spain**

SDae - Sociedad Digital de Autores y Editores – is an R&D company belonging to the Spanish musical authors. SDae is specialised in digital copyrights. SDae is involved in a number of forums based on their knowledge from the musical industry, e.g. sDae just ended a project with Eden in the educational sector.

Paul Sire introduced the members to the state of the art in this complex area.

- IPR issues are complex in the digital environment - not an issue dealing only with legal matters. Knowledge of this in the educational sector is limited.
- Educational IPR approaches differ widely between countries and organisations.
- IPR issues are not concentrated on one person but on many different persons.
- More issues can be found in the presentation.

There is a huge conflict between the publishers and the users. Publishers think IPR is solved, users don’t.

Paul Sire argued that future e-learning requires IPR management. Many people complain. They don’t wish to include their content in shared repositories. They fear that they lose control of the content.

In general, re-use of content requires:

- Shared repositories.
- Standards are important and there are still many issues to be solved, e.g. describing reuse rights.
- There has to be incentives to produce quality resources.
- Effective systems for finding the right content.
- You need a fast and simple clearance system. If you are prepared to pay for the use of resources, it still takes too long to get it cleared. Different systems have been set up in other areas.
- More issues can be found in the presentation.

Paul Sire explained that DRM is associated with many misunderstandings – like: “A system which won’t allow you to use your itunes music files as you want to”. However, when you understand what DRM is doing most people find it reasonable. That is, DRM should be the control and description of an organisation’s asset rights over all its life cycle – including production, layering, analysis, valuation, trading, protecting and monitoring.

Paul Sire concluded with a possible solution to many of these problems:

To create a global IPR management solution that includes both internal and external content production liable to be re-used or traded.

AND

To guarantee full legal and technical intellectual property rights protection and clearance for content.
This implies protecting content from unlawful use (encryption etc) and interoperability, documenting its rights-holders, licensing lawful use, monitoring all their users, reporting and paying the rights-holders!

**Current state of repositories – detailed presentations**

**A British national approach – detailed presentation**

David Hassell, Becta – British Educational Communications and Technology Agency - gave a snapshot of some of the many UK initiatives.

Some years ago the ministry focused the ICT initiatives in education according to an e-strategy. The four key areas are:

- E-maturity
- Strategic technologies
- Personalised content
- Knowledge architecture

Becta is working with the DfES to lead the delivery and development of the e-strategy on behalf of the government. Becta is working in many other areas as well, see David’s presentation.

It is important to remember that the UK actually is four different countries. In relation to educational repositories different approaches have been followed. David mentioned that smaller countries perhaps are more willing to accept a centralised approach.

In **Scotland** they have implemented a centralised repository, one vocabulary, and all schools are connected. It is called Glow [http://www.glowscotland.org.uk](http://www.glowscotland.org.uk) (see screenshot).

[![Glow Scotland](image)](image)

**Wales** is currently writing their strategy. In **Northern Ireland** “LearningNI” has been established as a coordinated initiative. LearningNI presents the portal in this way:
“LearningNI is the online learning environment developed by C2k, in partnership with HP, for all learners, teachers and educational support staff across Northern Ireland, some 370,000 in all” (http://www.c2kni.org.uk/learningninews/Lnihome.html).

At the national level

David presented a very impressive list of initiatives:

- In higher and further education there are a lot of initiatives going on – http://www.jorum.ac.uk, http://www.intute.ac.uk, http://www.fenc.org.uk, http://www.open.ac.uk. JISC is trying to create coherence between them.

- TeacherNet http://www.teachernet.gov.uk (to be called SchoolsWeb).

- Curriculum online http://www.curriculumonline.gov.uk/Default.htm (screenshot inserted below) – basically metadata on content – lots of lessons learned! One of the recent developments made the tagging tool schema-independent.


- National Whiteboard Network http://www.nwnet.org.uk/ - an initiative on sharing whiteboard material etc.

- TES – http://www.tes.co.uk/resources/Home.aspx a commercial site showing a repository combined with e.g. a job section etc.

- Scran is an initiative in the cultural field - the learning resource service hosts over 347,400 images, movies and sounds from museums, galleries, archives and the media http://www.scran.ac.uk.
• 24 hour museum, [http://www.24hournuseum.org.uk](http://www.24hourmuseum.org.uk) educational resources offered by the UK's museums and galleries, metadata on events etc. Includes an RSS channel which is also used in tourist sites.

• The international projects as [http://www.teachertube.com](http://www.teachertube.com), [http://teachers.yahoo.com](http://teachers.yahoo.com), [http://www.merlot.org/merlot/index.htm](http://www.merlot.org/merlot/index.htm), and not least [http://www.curriki.org](http://www.curriki.org). Curriki presents the initiative in this way: Curriki, a play on the words 'curriculum' and 'wiki', is a nonprofit organization that is building the first and only Internet site for Open Source Curriculum (OSC), which will provide universal access to free curricula and instructional materials for grades K-12.

• And many more.

As David put it: There is hours of examples and they are hard to find for the common teacher!

Recent initiatives in the UK address coherence.


• JISC work on standards, architecture, etc., so that these many things can talk together. Initiatives still on the way.

• Becta is working on quality principles and guidance, not in digital form yet. Some work has also been done on guidance for accessibility (“the reasonable adjustment”).

• Vocabulary work is ongoing:
  • Becta made an open source tagging tool and offered it to everyone. Enable cross tagging between cultural Dublin core and IEEELom, etc.
  • A vocabulary management tool (includes mapping between vocabularies), also offered to others [http://becta.org.uk/studio/](http://becta.org.uk/studio/).

Becta activities on repositories in 2007/8 can be found in David’s presentation.

In EdReNe Becta can be seen as a contact point for initiatives in all 4 countries.

**EUN’s work on repositories – a detailed presentation**

Frans Van Assche focused on the many EUN initiatives relevant to the EdReNe network.

• Celebrate was a large-scale 30-month demonstration project (ending in Nov. 2004) coordinated by European Schoolnet. It addressed all parts of the educational content value chain and involved 23 participants including Ministries of Education, universities, leading educational publishers, content developers, VLE vendors and technology suppliers from 11 countries. Lessons learned in Celebrate can be found in Frans’ presentation or in the reports on [http://celebrate.eun.org/eun.org2/eun/en/index_celebrate.cfm](http://celebrate.eun.org/eun.org2/eun/en/index_celebrate.cfm)
• Calibrate – in this project work is done on many issues, e.g. on semantic interoperability. How can curricula be mapped to one another. Four curricula in the UK alone and not in the same language. On the European level there are even more. [http://calibrate.eun.org/ww/en/pub/calibrate_project/home_page.htm](http://calibrate.eun.org/ww/en/pub/calibrate_project/home_page.htm).

• LeMill is a web community for finding, authoring and sharing learning resources [http://lemill.net/](http://lemill.net/). It is designed for teachers. It is independent server software that is hosted for free for anyone at [http://lemill.net](http://lemill.net) (can also be downloaded freely). In the Calibrate project LeMill is part of the LRE Portal and referred to as the "Learning Toolbox".

• The Learning Resource Exchange (LRE) concept – it is not a centralised portal, it is a framework that supports interoperability of content repositories. [http://life.eun.org/ww/en/pub/insight/interoperability/learning_resource_exchange/about.htm](http://life.eun.org/ww/en/pub/insight/interoperability/learning_resource_exchange/about.htm). Built-in features of the LRE: the application profile developed (and used in more countries), multilingual vocabularies, interoperability of curricula (still research project), automatic translation of metadata (a SYSTRAN based service which you can send a LOM instance to and get it back in a translated version), etc. MINOR open source learning object repository with built-in features such as asynchronous federated search. This repository could be used instead of making your own from scratch.

• MELT – Content enrichment project - enriching content with semantically well-defined metadata. MELT aims to provide a scalable, cost-effective solution to meet the challenge of volume metadata creation. Status: 37,913 resources (LOs) and 124,395 assets, all under the creative commons licence. The partners are asked to select the resources that travel well (in a European context). The MELT website will be launched in September 2007.

[Screenshot from the upcoming MELT website.](https://example.com/screenshot)
Frans addressed some of the questions from the EdReNe project paper. There is a need for a framework of understanding.

- What is a resource? Wrong question!
  What resource should I include? Right question. Skip the first question which can be discussed for ages and go directly to the second.

- Metadata should be open, content could be protected.

- Metadata application profiles should be considered part of a hierarchy, not isolated instances.

- The need for retrieval of collections is foreseen, that is some users might just want the mathematical collection and a search facility for that collection.

- Google? As Frans put it: Try to find an educational resource that you can use freely about mathematical operations on rational numbers.

- Web 2.0 – The area of repositories and metadata has moved and is still moving. From expert indexers over automatic metadata generation and translation to folksonomies and social tagging. Using social web strategies, work that the users do for themselves can be used more widely.

- Creative Commons: The first larger institution implemented it in 2004; teachers don’t know how to use it correctly. The biggest problem is, however, how to deal with variants.

- Rating, Annotations, and Ranking, see MELT & CALIBRATE

- Linking and mapping resources to multiple curricula: CALIBRATE goes beyond that.

- What about interoperability of application profiles if we all have our own national ones? There will always be differences. However, 80 percent of them can be avoided if the work is coordinated. EdReNe can assist with this also.

Interested in the key questions/issues to get your systems working? What is the use of Educational content

- if it is too hard to integrate it in my own technical environment or I can’t use it in my LMS?
- if it is too hard to adapt it (although I’m allowed to). What travels well?
- if it is too hard to get it?
- if I don’t know whether and how I could use it?
- if I have no means of evaluating it?
- if I can’t find it?
- if I can’t share it and expose it even if I wan’t to?
The EdReNe Network membership agreement

Leo Højsholt-Poulsen, UNI•C, introduced the network agreement.

A signed paper copy must be sent by courier to UNI•C and received mid July at the latest. Should a member decide not to participate in the network for various reasons, Leo Højsholt-Poulsen must be contacted.

The following is required:

• Participate actively in the network: learning from one another, sharing your knowledge with others, etc.

• Participation also includes your help with relevant logos, documents, reports etc. for the website. The website will be divided in two: web pages for members only, and pages meant for public information.

• You must mail your travel receipts etc. to UNI•C to get expenses refunded. The budget per member is calculated on the basis of estimated (by UNI•C) costs for travel, hotel, daily allowance etc. You employ the rules of your company. Article 7.2 has been specified to ensure that UNI•C gets the documentation before the costs are paid. Costs are refunded by UNI•C four times a year.

A member decides which of the EdReNe workshops to attend, as long as the member participates in the work as mentioned.

The EdReNe budget can be found in the presentation. The project includes budget to invite external experts from outside the network, in average one expert per workshop/seminar. We are able to transfer money to other categories if necessary.

It is also important to note that associated members can be suggested by all of you!

Questions

Could an associated member be an agency under the European Commission? Yes.

Other European projects - can they be invited as an entity? Yes, if they decide to show up with 5 or more representatives then we may have to revise that with the help of the management board (the role of the management board is described in the agreement).
Introductions by EdReNe members continued – overview presentations

**TLF, Estonia**

Aimur Liiva and Martin Sillaots gave an introduction to Tiger Leap Foundation (TLF) and repositories in Estonia.

Background information: Estonia is a very small market (appr. 600 schools, 160,000 students and 15,000 teachers). 30 percent of the schools are Russian speaking (schools are separate). The wifi and internet situation is one of the best in Europe. 12 students per computer (in schools). Educational materials must be approved by the ministry (textbooks).

Traditional textbooks are still preferred by a majority of the teachers.

TLF is a small organisation. However, during the last 10 years they have supported creation of very different titles from simple e-worksheets to complex learning environments for science. See [http://www.tiigrihype.ee/?setlang=eng](http://www.tiigrihype.ee/?setlang=eng).

Koolielu (means “school life”) is a portal where teachers can find and share learning material (not compatible with standards). The content is created by teachers, approximately 5000 learning resources.

Koolielu services include: news, articles, educational materials (shown in the screenshot), courses, legal materials and forums.
A repository is needed for several reasons. As the number of resources is growing, the end users need an overview. Another reason is Estonia’s participation in the EU projects: Calibrate and MELT (a repository is required to join these projects).

TLF looked at open source systems with the possibility to connect to the EUN systems. Several platforms support the needs TLF have. They tested the “Minor” system suggested by EUN (minor.sourceforge.net). However, half a year ago it was not possible to mass upload metadata to it. The solution was therefore based on SCAM-Nimble from Sweden (www.skolutveckling.se/wiki/display/SLASK/Home). The solution has been connected to EUN’s LOR federation. The next steps include user management and integration of the Learning Object Repository with the educational portal interface.

We hope that teachers will use repositories more in the future.

**ITC, Lithuania**

Eugenijus Kurilovas, ITC (Centre of Information Technologies of Education http://www.ipc.lt/english.htm), introduced the R&D on repositories in Lithuania.

Reusability is important for learning resources. It should be possible to use learning resources in different learning environments, it should be possible to use, modify and improve existing resources to suit specific learning situations. The Lithuanian concept is to divide the learning objects in two parts:

- **LOs** are here considered to be reusable pedagogically decontextualised digital learning resources (so-called “content”) which are not directly interconnected with particular pedagogical methods/scenarios/designs, and therefore it’s possible to reuse the same LOs to implement different learning designs.

- **UoLs** are here conversely considered to be digital learning resources containing learning designs reusable for different subjects and different LOs.

![Diagram of Learning Resources](image)

**Services / Tools**

- RELOAD
- LAMS
- VLEs
- LeMill
- ...

**Services / Tools**

- Schools
  - TGA
  - European LRE
  - Thesauri
  - LOs repositories
  - UoL repositories

**Repositories**

- LOM Repository
  - DRM
  - Services / Tools
  - RELOAD
  - LAMS
  - VLEs
  - LeMill
  - ...
In this way pedagogical and organisational flexibility can be ensured as well as a reduction of costs per learning resource for a specific user.

An overview of the repository:

- EUN LO metadata application profile (LOM AP) 2.0 was localised, [http://www.emokykla.lt/lt.php/calibrate/1134](http://www.emokykla.lt/lt.php/calibrate/1134).
- The LOM repository is based on MySQL, PHP and Java technology. A user-friendly interface to aggregate LOs metadata into LOM repository was created.
- Metadata for more than 1000 Lithuanian learning resources was created by specially trained indexers in conformity with LOM AP and aggregated into LOM repository, [http://lom.emokykla.lt/public/search.php](http://lom.emokykla.lt/public/search.php).
- Several distance learning courses were disaggregated to LOs level and introduced as SCORM packages to be reused in different VLEs.
- The LOM repository is connected to European learning resource exchange (LRE) system via Simple Query Interface technology and Brokerage system.

Future objectives, among others, will be:

- Repository of IMS LD–compliant Units of Learning (UoLs) and tools (e.g. RELOAD, LAMS, EduSource, etc.) to create and reuse UoLs.
- LOM repository containing LOs and UoLs metadata created in conformity with EUN LOM AP and thesaurus.
- LOs digital right management (DRM) system.

Further details can be found in the presentation.

**AIE, Italy**

The introduction to AIE was given by Christina Mussinelli.

AIE is the Italian Publishers Association. AIE has more than 400 members covering more than 90% of the book market in Italy. AIE represents all the educational publishers in Italy.

An important focus for AIE is the market perspective, that is, the possibilities to sell the digital content. A large study on the use of digital content in Italy has been made; Christina will have information in English that can be shared.

The Italian ministry has decided to strengthen the use of digital content in schools. The strategy is implemented by funding to buy digital content.

It is not clear how the market/business models will be in this new situation where teachers also produce materials. Most publishers make books, maybe a CD-ROM or a website with add-on materials. AIE would therefore be interested in that topic if discussed in EdReNe.

Christina Mussinelli introduced us all to ELEONET and DOI.
Background Information ELEONET and DOI: The ELEONET [http://www.eleonet.org/](http://www.eleonet.org/) (European Learning Objects Network) project aims to create an European catalogue of Learning Objects (LOs) metadata accessible by schools, teachers, and students for immediate retrieval and re-use of educational content. Digital educational resources available through the ELEONET catalogue will be persistently identified using the DOI, [http://www.doi.org/](http://www.doi.org/), the international standard for managing any Intellectual Property in a digital environment.

The ELEONET portal is implemented together with partners and address markets in the UK, Italy, Germany and Spain.

![Screenshot from ELEONET searching in the category “exercise” with language=English.](image)

Many interesting functionalities, e.g. a unique access point to search in different LO-repository, an editor to add metadata and submit learning objects including SCORM validation etc.

Christina explained how the DOI/LOM application profile – the unique and stable identifier - is essential. Especially when referencing the same object from different portal (i.e. borrow, buy, demo...). Christina also mentioned that the multiple resolution service now is in the testing phase. The DOI string is used to bring the user to the relevant resource (LOs/publisher’s web page/local repository).
Open issues with Learning Objects (LOs) include: With books the national publisher will normally do the translation, will it be the same for digital content? And do we need “a place to go” to find LOs? Do we need multilingual thesauri and standard classification schemes? Do we need shared license models?

**MSU, Sweden**

Christina Szekely and Alma Taawo, MSU (Myndigheten för skolutveckling, http://www.skolutveckling.se/) presented the initiatives in Sweden. MSU is the Swedish National Agency for School Improvement.

The repositories in Sweden:

- **Länkskafferiet** (Alma is the coordinator of that initiative). The initiative was established in 1995. The repository contains quality-assessed web links and is maintained by Alma and 8 subject editors working 2 hours weekly. The editors operate according to a set of quality criteria. The repository contains 4000 links. Dublin Core based. Very popular service in schools. New design this autumn. [http://lankskafferiet.skolutveckling.se/](http://lankskafferiet.skolutveckling.se/). Information in English can be found at [http://lankskafferiet.skolutveckling.se/information/eng2.html](http://lankskafferiet.skolutveckling.se/information/eng2.html).

- **NoT-navet** - 2000 Internet resources - natural science and mathematics. NoT-navet uses semantic web technology. It is still under development (has been for a long while). [http://www.skolutveckling.se/kunskap_bedömning/naturvetenskap_och_teknik/notnavet](http://www.skolutveckling.se/kunskap_bedömning/naturvetenskap_och_teknik/notnavet).

- **Multimedialyran** with 2000 images and sounds [http://www.multimedia.skolutveckling.se/Arkiv/](http://www.multimedia.skolutveckling.se/Arkiv/).
• Museifönstret – appr. 500 digital resources from Swedish museums. The 90 museums cooperate on providing access to digital resources [http://www.museifonstret.se/](http://www.museifonstret.se/).

![Screenshot from Museifönstret.](image1)

• Kursnavet (course hub) – courses can be exchanged. 10,000 free digital learning resources for 60 subjects. Kursnavet supports IMS content packaging [http://kursnavet.cfl.se/broker/portal/cfl/Login.aspx](http://kursnavet.cfl.se/broker/portal/cfl/Login.aspx).

![Screenshot from Kursnavet.](image2)

• UR Mediebiblioteket – UR Media archive (UR is the Swedish Educational Broadcasting Company). The repository has descriptions of UR’s learning resources, both analogue and digital. Read more in English at [http://www.ur.se/aboutUR/](http://www.ur.se/aboutUR/).

![Screenshot from UR Mediebiblioteket.](image3)

• Lektion.se is a private initiative founded by teachers. It is the most popular service. No quality control [http://www.lektion.se](http://www.lektion.se).

![Screenshot from Lektion.se.](image4)

• And then Sweden has a lot of municipal repositories.
Sweden used to be in the lead in Europe on ICT in education (the ItIS initiative was a big step forward). At the moment there are no national initiatives. MSU sees a growing gap between ICT in the home and ICT in the schools. Teachers’ digital competences should be improved further. Sweden is committed to the 8 key competences of lifelong learning (EU). Swedish teachers use wikis, web etc. However, they do not really use and know about learning resources. At the moment MSU is working on a report on this issue.

MSU concluded by introducing a new service for federated search in many repositories. The search can be initiated from e.g. LMS or other relevant school portals/pages. It is to be released early autumn 2007. See the following presentation made by IML.

**IML, Sweden**

Brian Hudson presented IML (Department of Interactive Media and Learning, Umeå University). IML conducts research, teaching and development. Currently the research themes are:

- Social Values and Digital Cultures
- ICT, Social and Organisational Change
- Socio-Cultural Perspectives on ICT and Learning, Teaching and Assessment
- ICT in/as Subject Didactics
- Social Software
- Learning Technology, Infrastructure and Learning Architecture

Brian emphasized that the promotion of digital competences across the Faculty of Teacher Education is an important goal as well.

IML is engaged in a number of European projects and networks, including EENet. A list can be found in the presentation.

Fredrik Paulsson presented IML’s role in the Swedish repositories. Usually IML is a technical partner with responsibility for development of the services. Fredrik presented two initiatives:

- SCAM Repository Development Platform – it is a development framework intended for anyone that wish to develop advanced and sophisticated repository solutions based on Semantic Web Technology and RDF. The same platform can be used to build e-portfolios. Read more at [http://scam.sourceforge.net/](http://scam.sourceforge.net/), including a list of projects based on the technology. The IML demo-site [http://nix.iml.umu.se/](http://nix.iml.umu.se/).

- The brokerage service for learning resources – the goal is to make it easier to find learning resources. Teachers and students should be able to search directly from their learning environment. The service is based on the same technology as the MELT project (called Fire). The service will be delivered this autumn. Ease of use has been essential. It only requires a piece of JavaScript to be copied and inserted in the local system.
**UNI-LJ-FMF, Slovenia**

Matija Lokar presented the initiatives in Slovenia.

UNI-LJ-FMF (University of Ljubljana, Faculty of Mathematics and Physics) has been invited by the Ministry of Education and Sport to participate in EdReNe. UNI-LJ-FMF participates in many different projects, e.g. Calibrate. FMF has traditionally been working closely with the faculty of computer and information science and works with teacher training in computer science and informatics.

In Slovenia development, operation and management of the communication and information network for education and research is provided by ARNES [http://www.arnes.si/](http://www.arnes.si/) – an independent institution established in 1992.

The Slovenian Education Network (SIO) [http://sio.edus.si](http://sio.edus.si) was launched in 1996. The portal is mainly focused on the education of teachers. It has catalogues of educational materials, web sites, events, institutions and people.

![Screenshot from Slovenian Education Network (SIO).](image)

This year UNI-LJ_FM_FMF hopes to start a three year project on portal and repository renovation (planning phase at the moment). A mini project (along with Calibrate) is already going on.

In relation to EdReNe, UNI-LJ_FM_FMF agrees that we all face the same problems – we must share the experiences! Some new issues for EdReNe:

- History of the resources - a teacher might want to use it as it was at a certain point in time, not the new version. How do we address this in a web environment?
- What about derivatives of resources, how should they be presented in search results?
**CNDP, France**

The initiatives in France were presented by Christine Champion and Rosa Maria Gomez.

SCÉRÉN (Service Culture Publications and Resources for National Education) is a nationwide network of public establishments divided into:

- French National Educational Resource Centre (CNDP)
- 31 regional centres (CRDP), 85 departmental centres (CDDP) and local centres (CLDP) close to the teachers.

CNDP is the publisher of the Ministry of Education in France, i.e. CNDP is a public publisher. The products are very diverse, i.e. documents about education, policy etc., documentaries (TV), multimedia products etc. The educational production comprises more than 7000 pedagogical products and services on various media (online and offline).

The major educational repositories in France:

- SIALLE – To search for educational software. Subscription required (free of charge). Teachers are encouraged to submit their comments/feedback on the software. No specific standard/schema is used for metadata. [http://www.sialle.education.fr](http://www.sialle.education.fr).

- Lesite.tv - online TV. 2270 videos organised according to 5 selected subjects (history, geography, arts, etc.). Produced and broadcasted in partnership with the French educational channel - France5. Subscription but NOT for free (according to number of pupils). No specific standard used for the metadata but similar to some of the elements from the LOM schema. [http://www.lesite.tv](http://www.lesite.tv).

[Screenshot from Lesite.tv.]
• Éducasources – digital learning resources metadata repository. CNDP’s application profile of LOM, not very different from the French application profile. Vocabularies are used as well. 4000 online resources from official producers/publishers. [http://www.educasources.education.fr](http://www.educasources.education.fr).

• Correlyce – the repository of the French region Provence-Alpes-Côte d’Azur, e.g. using a LOM metadata editor developed in partnership with Teluq the distance training Quebec University. [http://www.regionpaca.fr/index.php?id=correlyce](http://www.regionpaca.fr/index.php?id=correlyce).

• MURENE – Federated search engine provided by the Ministry of Education. Metadata based on the French application profile, including interdisciplinary databases. Éducasource etc. is included. [http://murene.education.fr](http://murene.education.fr).

French input for the discussions in EdReNe:

France is at a middle stage. At CNDP they have been working on repositories for three years, still much work to do. France has used standards, but even with these examples it is not clear what the benefits will be. The teachers know and use Google.

Another issue is the learning resource sharing. People wish to keep their own database; they do not want to be hidden in the national database.

**Giunti Labs, Italy**

David Luigi Fuschi presented Giunti Labs. Giunti is an Italian publishing house. Giunti Labs is a research centre in Giunti with expertise within e-learning, LCMS solutions, technology transfer, content development, augmented and virtual reality, etc. The research areas are described further in the presentation made by David Luigi Fuschi. Giunti Labs has partners all over Europe.

In the EdReNe project Giunti Labs represents the point of view of a privately funded R&D centre. Furthermore, Giunti Labs has expertise in many relevant areas.

David Luigi Fuschi presented the next generation e-learning. The same content could be adapted on the fly to context, location and devices – “from content to fruition”.


eXact Glove allows you to view the courses published on the digital repository. Due to its XML-based technology, the platform content can be delivered and viewed on devices based on workstation and mobile wireless, palmtop and wearable computers. In addition to this, eXact Glove covers the following main areas of work:

- Dynamic table of content display for a course.
- Automatic validating of navigation rules (SCORM).
- Tracking status update on eXact Siter.
- Access to optional services associated to courses (Forum, Chat).
This technique can be used to adapt the same content to the relevant educational level “automatically”. The same with localisation issues; metadata is needed – usage history, language, etc. E.g. the same painting can be used both in primary school and at university level. However, specific information for the educational level must be added to the painting. Much more than IEE LOM and Dublin Core is needed. Technology is not far from fulfilling these demands. When the market demands these services we need to be ready.

Giunti Labs is looking forward to share knowledge with and learn from the members in EdReNe.

**EduWeb, Portugal**

The Portuguese initiatives were presented by Rui Falcao.

EduWeb is a Portuguese/Brazilian holding company, based in Portugal, which aims to be the leader in e-learning services in Portuguese speaking countries. EduWeb is focusing on New Learning (e-learning, m-learning, u-learning, etc). EduWeb’s mission can be read at the website: [http://www.eduweb.pt/en/empresa/](http://www.eduweb.pt/en/empresa/) together with other relevant information (all in English). EduWeb has been responsible for the production of many tailor-made e-learning solutions to Portuguese-speaking countries. Short case stories can be found on [http://www.eduweb.pt/en/empresa/sucesso/](http://www.eduweb.pt/en/empresa/sucesso/), e.g. the UNISPOL portal with courses related to basic training for the police in Brazil.

EduWeb is also behind the LMS Platform AulaNet, with more than 400 installations mainly in Portuguese-speaking countries, a virtual community for children with 30,000 users, an online video repository, with more than 200 titles for professional training and education etc.
In the research & innovation area, EduWeb is investigating behavioural and affective learning environments. The introduction of biosensors in the learning environments presents many new possibilities, e.g. sensors placed on the body can measure temperature, skin response, etc. With these responses we can better understand how the students are interacting with the content/system.

Rui Falcao had divided the Portuguese repositories:

- **General governmental initiatives.** Museums, archives and libraries providing access to their resources.
  - [http://bnd.bn.pt/](http://bnd.bn.pt/) - biblioteca Nacional Digital with 20,000 documents (the notetaker has noted that it includes material on the Danish writer Hans Christian Andersen).
  - DGEMN - [http://www.monumentos.pt/Monumentos/forms/000_B.aspx?Idioma=en-GB](http://www.monumentos.pt/Monumentos/forms/000_B.aspx?Idioma=en-GB). With about 2.5 terabits of information, the Architectural Heritage Information System holds the largest online archive on architecture, engineering and urban planning, with 200,000 drawings, 340,000 photographs and 10,000,000 pages of text.

- Governmental initiatives in education:
  - [http://www.giase.min-edu.pt/nonio/default_ing.htm](http://www.giase.min-edu.pt/nonio/default_ing.htm) - trained thousands of teachers. The website and resources are not used today.
  - Thousands of local schools repositories.

- Associations/universities initiatives (e.g. an initiative to put extra focus on mathematics to influence the students’ choice of education).


• Private/business:
  
  • Microsoft is a strong actor in Portugal. Bill Gates has signed an agreement with 4 ministries in Portugal. Innovative teachers project is one of the results. [http://www.professoresinovadores.com.pt](http://www.professoresinovadores.com.pt). The teachers get software etc. and a diploma “Innovative teachers” by Microsoft.
  

In Portugal there are some well-done projects from both public and private organisations. The different players need to formulate strategies. Business models need rethinking. The government must assure global structure and organisation.

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**EENet – The European Experts’ Network for Education and Technology**

Eileen Brennan Freeman, Richard Millwood, Dr Ursula Esser and Brian Hudson (consultant for EENet) represented EENet at the first EdReNe seminar. EENet was an EU-funded project until 2003. Today the network continues with member funding.

The presentation was a drill through project examples illustrating macro (national), meso (organisational), and micro (individual) level as defined by EENet.

The first EENet report “How learning is changing…” was written by 12 educational experts in 1998. The report gives nine recommendations which are still relevant although they were given almost 10 years ago. The recommendations include areas like: the curriculum, the importance of research, sustainability etc.

Many aspects must be taken into consideration. Eileen Freeman explained that although she has been teaching for 15 years and uses whiteboards and the web, she has never used a repository! The report can be found at [http://www.eenet.org/front_content.php?idcat=65&lang=6&client=5](http://www.eenet.org/front_content.php?idcat=65&lang=6&client=5).

Dr. Ursula Esser introduced projects addressing special needs for specific target groups e.g. for girls and ICT, learning in the afternoon (in the spare time), immigrant projects, etc. We could ask how repositories can help in these situations.

Richard Millwood took the role of a child in the school. Which resources can help me to learn something? And is it really true? This is a growing problem in a world with web-based content, wikis etc.
We should have all these perspectives represented in EdReNe. Another possible issue could be use cases. Who are actually using the repositories, do the users understand them, and do they matter to the user.

**Menon – European research and innovation network**

The Menon network (see also [http://www.menon.org/](http://www.menon.org/)) was represented by Nikos Zygouritsas (The Lambrakis Research Foundation). MENON is a European innovation and research network providing information and advice to policy makers and authorities, education communities, and the ICT and media industry on issues related to innovation and changes in Education and Training, Lifelong Learning and Knowledge Society developments in Europe and worldwide.

The Education-Observatories site is a web environment presenting the results of a series of eLearning related projects carried out by the MENON Network together with some of the most important actors in the field of ICT-supported learning and human resources development in Europe, read more at [www.education-observatories.net](http://www.education-observatories.net).

The Lambrakis foundation is responsible for the portal [www.e-paideia.net](http://www.e-paideia.net) addressed to schools in Greece, making use of heritage and contemporary culture with the aim of a better education. It offers educational and cultural material in digital form, suggestions for using modern technological tools and educational software in schools, communication between schools, teachers and students, and information on current educational issues in Greece and the world. Metadata comply with IEEELOm and SCORM.

Nikos concluded with a short presentation of the E-collection concept. A central mapping strategy is applied, ensuring that the repositories (in this case museums, archives etc.) could keep their own metadata structure.

EdReNe gives us a chance to share experiences, national and in the EU.
Planning Future Work – part one

In the Description of Work (DoW) for EdReNe, a set of issues has been listed for each work package (WP). At the EdReNe seminar a workshop session was planned to qualify the issues for WP3-6 in cooperation with all the members.

Tommy Byskov Lund, UNI•C, introduced the workshop. The members were then divided in four expert teams. Each team was asked to discuss and give priority (essential, important, unimportant or misplaced) to the app. 10 issues listed for each work package.

Furthermore, the members were asked to identify missing issues. All four teams managed to discuss the issues in all the four work packages.

The four teams are working very hard prioritizing the many relevant EdReNe issues.
Introductions by EdReNe members continued – overview presentations

**Bit media, Austria**

Grégoire Besnier presented bit media e-Learning solutions. Grégoire is the innovation manager at bit media.

Bit media is an Austrian company with 60 employees. The product portfolio covers the whole e-learning content chain: learning content, learning management system, authoring tools and testing system. In other words: content, technology and services. Mobile learning is on the way. Grégoire Besnier gave examples within each of these areas, see the presentation. Bit media deploys e-learning initiatives in e.g. Iraq and Africa.

Grégoire presented a best practice example: [www.bildung.at](http://www.bildung.at) implemented by bit media for the Austrian Ministry of Education.

Bildung.at is a learning portal for teachers, pupils/students and administrators. It has 500,000 registered users and provides access to online content (informatics, foreign languages, etc.). It has access to other learning services (communities etc.)

Bit media is looking for new developments of interest to e-learning. The discussions within this network will be of interest to bit media. Bit media participates in Menon as well.

**EDEN**

Ildikó Mázar presented the Eden Network. She is the project manager of the EDEN network.

EDEN, the European Distance and E-Learning Network, was established in 1991. It is an international educational association open to institutions and individuals dealing with e-learning, open and distance education. EDEN has more than 170 member institutions.
Eden provides versatile expertise; the association embraces all levels of formal and non-formal education and training. Members come from both K12 and higher education. Read more at [http://www.eden-online.org/eden.php](http://www.eden-online.org/eden.php).

Generally speaking it is the non-technology issues that are the expertise of EDEN.

Many different membership services, e.g. search for relevant partners for an EU project in a database or contact EDEN which might be able to find the ideal partner, professionals, etc. Conferences are held as well. Papers, reports, news flash (all members can suggest/send info to be included). Ildikó gave a quick overview of the different types of conferences arranged by EDEN.

As a participant in EU projects EDEN contributes with important issues such as quality development, observatory, community building, networks etc. EDEN is active in many projects, a complete list can be found at [http://www.eden-online.org/eden.php?menuId=87](http://www.eden-online.org/eden.php?menuId=87).

Ildikó directed our attention to EDEN’s involvement in OER/digital repositories: the project CHIRON, which ended in December 2006, and continuing in the project: LOGOS ([http://www.logosproject.com/](http://www.logosproject.com/)). Ildikó mentioned that there might be room for some EdReNe partners as well, contact Ildiko directly if interested.

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**Utdanning.no, Norway**

Mona Mathiesen presented utdanning.no.

The mandate awarded by the Ministry of Education and Research describes the portal in this way: “Utdanning.no is the national common gateway that provides easy access to everything you need to know about education at one address”. The initiative has been launched with very high expectations.

Utdanning.no was established in 2003. The 15 employees are situated in Tromsø. Mona Mathiesen describes utdanning.no this way: “Utdanning.no cooperates with all relevant partners to get the job done!”

The perspective of the user is very important for the development of this portal. The user should be able to choose an education and find all relevant information on the educational system. In the screenshot below, the notetaker explored the possibilities in the oil business.

Mona Mathiesen agrees with other EdReNe members - we need to move the information and services to the user, integrated directly in their Learning Management System or other relevant websites. The teachers do not wish to have yet another website.

There are 4.5 million people living in Norway. However, the number of websites in the educational sector resembles France. To coordinate the initiatives (content, services etc.), stimulate sharing and re-use between educational websites and so forth, the SANU coordination group has been established. Utdanning.no is the project manager for SANU.

In Norway technological interoperability is well established with metadata transfer protocols (according to NORLOM). A new initiative “GREP” is on the way (see also the presentation...
made by Gry Hammer Neander). GREP will provide the national curriculum as a common, controlled vocabulary. GREP will be used for labeling and retrieval of educational resources.

Screenshot from www.utdanning.no searching for a relevant education for the oil business.

At Utdanning.no there is also a repository with learning resources, screenshot shown below. The repository is built upon the Fedora technology (http://www.fedora.info/) and contains metadata only (at the moment). The service is getting more popular. Redesigning the website has helped! Very few people used the repository before that.

Screenshot from http://utdanning.no/laering/.
Utdanningsdirektoratet, Norway

Gry Hammer Neander presented Utdanningsdirektoratet (The Norwegian Directorate for Education and Training) and the GREP initiative. The Directorate is the executive agency for the Ministry of Education and Research. It was established in 2004.

At the moment Utdanningsdirektoratet is working on subject curriculums. They could of course be printed in a book as done earlier. However, the books are not used that much. Secondly, they wished to address the pupils as well. They started out thinking about how they could do it differently. As the structure of the different subject curriculums is very similar, it was possible to store them in a well-defined data structure.

The result is an online interactive solution. To get an impression of the online curriculum, explore the presentation made by Gry, it includes English “subtitles” to help EdReNe members. In the presentation it is also illustrated how GREP is used integrated in skolenettet.no (the Norwegian schoolnet, a service from Utdanningsdirektoratet). Below is shown how GREP is integrated in the link repository on the Norwegian schoolnet.

http://www.skolenettet.no/templates/Subject.aspx?id=4998&scope=ScopeLaerAns&filter=Scope1-7ORScope8-10 – links for the subject “English” has been chosen.
It is expected that GREP will be used by many external partners, e.g. NRK (Norway's major broadcasting institution) wish to include references to the curriculum when they tag their learning resources.

Further information can be found in Gry’s presentation.

**Kick-off introduction with Mr. Spyridon Pilos**

The details of Spyridon Pilos’ presentation should be taken from his presentation. In the following you can find a summary of selected issues.

- The grant agreement (contract) is signed by the co-ordinator and the Commission only.
- This means that only UNI•C is contractually linked to the Commission.
- UNI•C needs the network members’ assistance to perform the tasks agreed upon.

The network membership agreement:

- The agreement should be signed as soon as possible – to be submitted by month 3.
- Project duration is 36 months (1 May 2007- 30 April 2010).

Budget, travel costs, etc.

- Costs before or after the project period cannot be reimbursed. Only the coordinator can have (some specific) costs after the ending date. Other costs that cannot be claimed are listed in Spyridon’s presentation.
- Travel and subsistence is explained in the grant agreement, pay attention to all the words! Should you decide to invite experts from outside Europe, or some members attend a meeting outside Europe, you must ask permission in the EC (if no objections within 30 days → acceptance).
- The rules concerning travel/subsistence expenses of the network member apply. If a member does not have any rules, e.g. a network, the organisations they come from might have rules. Otherwise you apply the rules “reasonable and cost effective”. You could also follow the rules from UNI•C or other EC programmes. Contact the coordinator if you need assistance on this issue.
- General rule: Always inform the coordinator, who will inform the Commission – before incurring the costs.
- If at all possible send the original documents (tickets and other bills) to UNI•C. UNI•C might have to show them at an audit. We recommend that UNI•C have the originals. If you cannot submit originals (according to company rules etc.) then send an official document to UNI•C explaining why, e.g. that you can first send them after two years or not at all. Send copies signed by an official person in your company. Make it plain. The contract does not require originals. Neither originals nor copies need to be submitted to...
the Commission. Note: the documentation should be kept by UNI•C for at least 5 years after the date of final payment.

• Second pre-finance instalments requires >70% of initial instalment spent; same with next instalment.

• The members can decide that also new members receive funding, should you have the budget. It is important to attract new members. The associated member principle you have already is good.

• Should it be a person employed in our company (staff), or could we send a representative from our country? It can be handled. In order to make it plain you should include it in the network agreement so that all members agree that it is okay to invite others.

Deliverables, reviews, etc.

• All deliverables must be submitted both as an original paper copy and an electronic copy to the deadline. If remarks from the Commission are not received within 45 days, the deliverable is deemed to be approved.

• There will be technical reviews each year.

• Anything you produce in the network is the property of the beneficiary – in this case the coordinator – you might put something in the network agreement about this.

EdReNe in context

The eContentplus 2005-2008 budget is 149 Million Euro. In practice all the initiatives under eContentplus are repositories. The Commission might ask EdReNe to help and/or cooperate with the other projects.

• MACE: Metadata for Architectural Contents in Europe
• CITER: Creation of a European History Textbook Repository
• MELT: Metadata Ecology for Learning and Teaching

EdReNe was the first grant agreement signed under the 2006 call. Projects in negotiation include the following 6:

Intergeo - interactive geometry, E-Vip - electronic virtual patients
KeyToLife – biodiversity, COSMOS - science education and astronomy
EuroGENE – genetics, ORGANIC.EDUNET - organic agriculture and agro-ecology.

Call 2007: Best practice networks – implementing standards and specifications of learning technologies on existing content – EdReNe may be asked to participate (in clustering meetings).

Spyros concluded with a short presentation of the new calls in the programme.
Project work plan

Leo Højsholt-Poulsen presented the (revised) project work plan.

UNI•C has planned the work so that the expert workshops can support the strategic seminars and vice versa.

Leo presented a draft project plan with actual months to be discussed with the EdReNe members. The first expert workshop (probably WP3) takes place in the last week of September or the first week of October. The second will be held in October/November (WP5). Standards and rights issues will be started in 2008.

The first major deliverable is the report on “state of the art”. Input comes from this strategic seminar and from the first two expert workshops.

The project website will be set up during the summer, and the first version of the information leaflet will be produced.

Please comment now or when you return home. Should you know of European events or other relevant activities which we might take into account when planning, e.g. online Educa then write to Leo no later than July. UNI•C collects arguments until July and include when possible in the revised work plan.

Please, suggest if you as a member could be hosting an expert workshop or seminar. If none are suggested we will plan more workshops in Denmark. Furthermore, remember to suggest external experts that should be invited to the workshops. EdReNe can pay travel and subsistence.

Comments and suggestions:

- September and October, many international conferences, Bookfair in Frankfurt etc.
- Arrange some of the expert workshops as parallel tracks in one event. Could reduce costs.
- Arrange strategic seminars in connection with (or as a track at) important/larger conferences.
- Joining EdReNe with the Commission’s IST events was suggested. It could also be EMINENT, the EDEN conference, Online Educa etc. It would perhaps be more attractive for decision makers to attend.
- A week is too long to be away from the office.
- Workshop on policy and strategy seems to be missing? UNI•C suggests that these discussions are placed in WP3.

UNI•C will try to make a long-term schedule for meeting dates, so that you can make plans.
Workshop part two

The workshop was introduced by Tommy B. Lund. A questionnaire was filled out by each individual member. The questionnaire included the issues from the first workshop and the questions mentioned above (experts to invite, whether the member could host an event, etc.).

In the evening input from workshop part one and two was combined to form the draft agendas for the first expert workshops.
Day 3

**Approval of the network agreement**

Leo Højsholt-Poulsen presented the network agreement. Taking into account the advice from Spyridon Pilos (day 2) and comments from the member, two adjustments were made.

1. Article 5, paragraph added under section 2 - “New members will be invited according to criteria defined by the Network Management Board.”

2. Article 7, paragraph added under section 2: “The reimbursement of expenses to a network member (within the member’s foreseen budget) may also include travel and subsistence of representatives appointed by the member and approved by the coordinator. Reimbursement shall be four times annually, subsequent to members submitting their balance and documentation by the following dates March 31st, June 30th, September 30th and December 31st.”

Re.1. A problem with fiscal years and the claiming of payments in that period was raised. As a basic rule UNI•C will only pay money when we receive the documentation. Payments could be made 4 times a year instead. That was accepted. Could payment be made within two weeks from these four dates – we need to receive the money within that period to include it when closing the fiscal year or else it will go into the next year. Leo promised payment within two weeks.

The revised network member agreement was approved. UNI•C will e-mail the approved network agreement

**By mid July 2007 UNI•C must have the signed network member agreement**, the original, and one paper copy. Remember to fill in the missing details for your organisation.

**Management board**

Leo Højsholt-Poulsen explained that the members should elect four representatives to the management board. The number of four is suggested by UNI•C. UNI•C chairs the board, i.e. the board is composed of an uneven number of representatives (5). Meetings will be planned in connection with seminars, workshops or as virtual meetings.

BECTA suggested that the four persons represent different interests if possible, e.g. government, commercial, network, etc.

EUN had expressed their candidature to UNI•C in advance. BECTA, IML, AIE, EDEN, EENet were all suggested by members. Each member organisation present had four votes; some members did not use all their votes.

EUN, EENet, IML and Becta were elected to the management board.
Planning future work – draft agendas

Presented by Tommy Byskov Lund.

First of all, thank you all for the valuable input you gave us! It will be used in the future planning. Also thanks for the many offers on hosting a network meeting.

UNI•C have started the analysis of data by grouping and counting all the statements according to priority. Both feedback (numbers) from the group work and the individual member questionnaire were used. Top issues selected from the two.

New issues were also suggested during the process and UNI•C will include them in the best way possible.

WP3

The top issues from the workshops (the complete list can be found in Tommy’s presentation)

| Quality assurance strategies (editorial policies, technical quality assurance) |
| Connecting and cooperating with existing repositories |

Other issues identified as important:

| What are the additional benefits of repositories in a Google world |
| Identifying successful policy actions (government support, public-private partnerships) |
| Metadata only or content repository? Pros and cons of hosting content |
| Sustainability of a repository in the long term |
| Barriers to cooperation and interoperability = Language? |

Comments:

• Barriers to cooperation and interoperability = Language? The members elaborated on this issue. Language should not be the only barrier discussed. “Identifying and discussion barriers …” will be a better title.

• Their might be too much work for a 2-3 days expert workshop. Perhaps parallel tracks or workshops are needed on some of the issues. UNI•C will look further into the draft agenda to ensure that the number of topics can be handled in the expert workshop.

• It was also suggested that the discussions were started with a definition of the language/terminology, what is our common understanding of the issue, etc. Some issues might even be merged (e.g. sustainability might be coupled to “which learning resources should be included”).

In the coming period UNI•C will be contacting you to make the agenda more precise. All of you indicated that you have expertise on WP3 and wish to participate.
**WP5**

Focus will be on the daily life/the operational area. The top issues were:

<table>
<thead>
<tr>
<th>Focus</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User feedback</td>
<td>evaluations, reviews, collaborative filtering, tagging/qualifying metadata</td>
</tr>
<tr>
<td>Web 2.0 and repositories?</td>
<td>(shared queries, social bookmarking, tagging…)</td>
</tr>
</tbody>
</table>

Other issues identified as important:

<table>
<thead>
<tr>
<th>Focus</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building your own content</td>
<td>from repository resources (allowing teachers to combine content from different producers)</td>
</tr>
<tr>
<td>Ensuring ease of use</td>
<td>(usability, wizards, help and support)</td>
</tr>
<tr>
<td>My repository - the need for personalization</td>
<td>(profiles, reviews, collections…</td>
</tr>
</tbody>
</table>

Comments:

- It was suggested that more innovative aspects should be included in the discussions – looking further ahead. Visions for the future. It was suggested that the future could be discussed later in the strand. We cannot discuss everything from the start.
- There might be issues that are required to be solved at e.g. the political level hidden within these topics. We should identify and handle them as well – in which case they should be discussed in WP3.
- Important to discuss the outcome of each of the two work packages in the other (WP3 and 5), e.g. to pass topics between them. Something might have a simple technical solution. However, it could be complicated on a strategic level.
- Very practical topics might be missing in WP5, e.g. how do you enter metadata? Tools/editors? Tommy answered: That should be discussed under e.g. ease-of-use.
- A new topic was suggested: what should be stored and for how long?
- Narrow the focus in the two work packages instead of trying to cover all the aspects within the three days.

The workshops will provide input to e.g. the strategic workshop and the overlapping issues can be discussed on these.

**WP4**

As with the first two work packages we have made a shortlist based on your feedback.

<table>
<thead>
<tr>
<th>Focus</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metadata standards</td>
<td>(application profiles, strategies for vocabularies, curriculum mapping)</td>
</tr>
<tr>
<td>Providing best practice examples</td>
<td>of the use of standards with proven benefits - and examples not to follow</td>
</tr>
</tbody>
</table>

Other issues identified as important:

<table>
<thead>
<tr>
<th>Focus</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitating exchange of metadata across repositories</td>
<td></td>
</tr>
<tr>
<td>Rights management</td>
<td>(Digital Rights Management, Creative Commons, identity management…)</td>
</tr>
<tr>
<td>Facilitating exchange between repositories and VLE/LMS</td>
<td></td>
</tr>
</tbody>
</table>
Comments:

- UNI•C - It is not the purpose of this network to be a standardisation network – time consuming topic (endless discussions) – hope we can share our common knowledge on this topic and give suggestions etc.

- Some plain explanation on certain topics for the end user is relevant. The stakeholders (teachers etc.) should understand the existing standards and how they are evolving in the Google world today. They should take this into account in the long-term perspective.

- Current use of standard – an initial analysis could be made based on existing documents on the standards used. BECTA has a few that might be used.

The comments show that it is “how do we use standards”, what should we not do, etc. The debate could perhaps be continued in an online forum as this WP is not the first one to be held.

**WP6**

On the top of both lists were “providing guidelines for users/teachers/producers”, “ownership”, “Creative commons… etc.

| Providing guidelines for users/teachers/producers |
| Creative Commons |

Other issues identified as important:

| Ownership of repository data (database/collection, metadata, content…) |
| Protection of rights: Identity management |
| Rights clearance practices |
| Strategies for providing copyright cleared material for education |
| Defining/examples of fair use |
| Protection of rights: Digital Rights Management |

Comments:

- Creative Commons is not the only licensing initiative which should be included.

**Understanding new issues**

- “Rip-proof repositories” – making content available in a way that other people could not copy.
- “Learners entitlement – access to important knowledge”: If you are not entitled to access certain information you are violating human rights – fair use is defined in the UK. If policy makers attend the network meetings, this topic could perhaps be discussed. Not a high-ranked topic for the network.
“What, where and how – establishing a resolution service”
Not about establishing, more “have people done it, does it solve the problems” etc.

General comments on the EdReNe strategic seminar
The members had a few suggestions:

• Could we organize the work in smaller groups and rooms? Plenum discussions with 30-40 people are not easy to follow.

• Should there be an open forum on the EdReNe website? In the beginning discussions in closed forums are important. Perhaps we could open up later or have both. UNI•C will take this into consideration.

General information
Costs including tickets and other bills should be addressed to:

Jeanette.Lindhardt@uni-c.dk, +45 89 37 66 03

Please mail us information about yourself, i.e. your addresses etc. We only have partner information, not your personal contact info. Write to Leo or Tommy. A small photo would be nice too (if it was not taken at the EdReNe meeting)!