

DRHum in History — a status report

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**Reports from Uppsala Learning Lab —
Digital Resources in the Humanities (DRHum) project
Research reports (DRHumR)**

DRHum — Digital Resources in the Humanities

“[T]he Wallenberg Global Learning Network [was] launched with the generous support of the Knut and Alice Wallenberg Foundation (KAW). In 1998, KAW donated \$15M over 5 years to Stanford University for the renovation of a campus building, Wallenberg Hall, and for a state-of-the-art center and network for global learning research associated with the Stanford Learning Lab. In 1999, this donation was supplemented with \$3M over 3 years for the establishment of a Swedish consortium of learning labs at Karolinska Institutet, the Royal Institute of Technology, and Uppsala University. These three institutions constitute the Swedish Learning Lab. The purpose of the network thus created around the Stanford Learning Lab and the Swedish Learning Lab is to promote learning across cultural and geographical bounds by developing human expertise and new learning technologies for education. [...]

The sub-project APE (Content archives, student portfolios & 3D environments) is an ongoing activity within the SweLL project "Meeting places for learning". The three tracks within APE:

Track A. Content and Context of Mathematics in Engineering Education (CCM),

Track B. Digital Resources in the Humanities (DRH)

Track C. 3D Communication and Visualization Environments for Learning (CVEL).”

(From the *Wallenberg Global Learning Network First Year Achievement Report*, 2001)

DRH—or DRHum, as we like to call it using a more easily pronounceable acronym (‘drum’)—consists of a set of interrelated activities investigating issues connected with the use of digital resources in humanities teaching and research at the university level. The members of the DRHum research team and their affiliations are:

PI: Lars Borin, Department of Linguistics, Uppsala University

PI: Jonas Gustafsson, Department of Teacher Education, Uppsala University

Karine Åkerman Sarkisian, Slavic Department, Uppsala University

Janne Backlund, Department of ALM, Aesthetics and Cultural Studies, Uppsala University

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György Nováky, Department of History, Uppsala University

John Rogers, Department of History, Uppsala University

Jan Sjunnesson, Department of Teacher Education, Uppsala University

We also collaborate with individuals and research groups inside and outside WGLN:

- Donald Broady, Director of Uppsala Learning Lab and scientific coordinator for APE
- Monica Langerth Zetterman, Uppsala member of the Swedish Learning Lab Assessment Team
- The Uppsala Learning Lab e-folio project led by Göran Ocklind
- The KTH Learning Lab Conzilla and Imsevimse APE CCM projects
- The LingoNet “web-based language laboratory” project at Mid-Sweden and Uppsala Universities
- The Nordic (Helsinki, Oslo, Stockholm/Uppsala) Squirrel project on corpus-based computer-assisted language learning

The main DRHum activities are:

- The development and evaluation of Didax, a web-based system for diagnostic language testing (Borin, Åkerman Sarkisian, Bengtsson, Lingdell)
- The use of digital picture archives and demographic databases in History courses (Nováky, Rogers)
- The use of biographical, historical and geopolitical databases and e-folios in teacher training (Gustafsson, Sjunnesson)
- The development of XML-based digital learning resources using emerging e-learning standards (Borin, Åkerman Sarkisian, Bengtsson, Lingdell, Backlund)

In the DRHumR (‘drummer’) research report series, the members of the DRHum team write about their work and their research findings. In the series, there will be status reports, technical documentation, evaluation reports, and preliminary versions of research articles which will appear elsewhere in a more polished format.

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Introduction

This report describes the effort that the Department of History, Uppsala University has undertaken in order to introduce CSCL (Computer Supported Collaborative Learning) and Digital Resources for Learning, Teaching and Research in History (DRLTRH). In order to accomplish these ambitions the Department has co-operated with other teams involved in the APE track (Archives – Portfolios – Environments), especially the Digital Resources in Humanities (DRHum) experiment carried out within the framework of Swedish Learning Lab (SweLL) and Uppsala Learning Lab (ULL). Outside the Wallenberg Global Learning Network (WGLN) sphere the department has co-operated with the Department of History, University of Lund, in a computer assisted learning project for post graduate students on a national level financed by DISTUM (Swedish Agency for Distance Education)

In the first section of this paper we give a background to the work in progress report which is dealt with in the second section which mostly deals with the introduction of CSCL and digitalised resources into the teaching and learning of second level history students. In the third section we discuss a concrete application in teaching; and lastly in section four we take a look at future implementations.

Section one

History and digitalised sources – a background

History is an extremely textual discipline thus the advantages of making sources digitally available for teaching and research purposes are notable. However new techniques also call for new pedagogical solutions. The Department of History teaches more than 250 students each semester thus being one of the biggest departments within the Faculty of Arts at Uppsala University. The main part of the teaching has traditionally involved problem-based learning (PBL). Learning is largely undertaken in seminars and in smaller discussion and exercise groups thus involving a high degree of PBL. Although the group-based PBL has many advantages it still requires from the students a well-developed ability for individual performance – both for problem generation and problem solving. Depending on the motivation of the groups and the effectiveness of group formations the turnover of the annual student intake may vary. Additionally, recent cuts in Department budget have reduced the number of faculty available for student tutoring. By introducing new pedagogical methods based on CSCL didactics the Department expects to reinforce learning in general and as a result of that to increase the student turnover. The main objective of the introduction of CSCL is consequently to improve the learning situation and individual student performance and as a result of this to increase student turn over.

The Department of History has therefore launched DRLTRH, a project which touches upon the teaching on several levels within the department by introducing CSCL and digitalised sources and resources.

Section two

DRLTRH — digital resources for teaching and research tasks in History

The advantages of introducing the use of digitalised resources, sources and digital adaptations of source material are noteworthy for a discipline like History. Digitalisation gives a possibility to reach large bulks of texts and sources to be used in teaching and research. DRLTRH therefor contain aspects of both didactics and research. In the first case the objective has been to introduce digitalised resources into teaching and the everyday learning routines of the students. The goal was thus not only to introduce new didactic materials but also to make it possible for students themselves to create individual digital study material and to be able to share this material with other students.

The possibility to share material was also considered important for researchers. Research in History embodies the study of large bulks of sources. Great benefits could be obtained if the result of every individual researchers archival studies could be made shareable for the entire research group or community, or even stowed in a database for future researches to use.

In accordance to this the project was initially planned to proceed in four steps:

- 1) To introduce CSCL and digitalised resources into second level graduate courses.
- 2) To create a structure which optimised the use of these new resources
- 3) To introduce the use of e-folios for all students on all levels
- 4) To create a standard for shearing of digitalised sources and digital adaptations of source material.

Section three of this progress report deals mainly with the first two items on the list although the other two will be briefly dealt with in section three when we are giving an outlook into the future while proceeding with the DRLTRH project work.

Section three

Digital sources in teaching undergraduates

The objective of the Department of History has initially been two-folded: firstly to integrate the use of digitalised material into the teaching of under-graduates and consequently to improve the learning situation and individual student performance and as a result of this to increase student turn over; secondly to create a study structure which would ensure an optimal utilisation of these new resources.

In order to optimise student access to electronic media some improvements of the departments' infrastructure have been effectuated. This has been done through the project Mobile Wireless Environment (MoWiE) within the framework of WGLN DILS track 1, *Communicative spaces: Pedagogical mechanisms in computer supported local and distributed learning environments.*

The Ekerman House harbouring the Department of History is an old town house built in early 18th century. A wireless network has been installed in order to accomplish mobile net access for students. The system consists of 3Com 11 Mbs wireless transmitters and for the present 20 laptops equipped with 3 Com wireless communication cards. Students have access to this equipment round the clock.

In accordance with the main goals of DRLTRH the purposes of the introduction a mobile wireless environment (MoWiE) have been:

- ❖ To extend the learning process outside the traditional teacher lead seminars and beyond the prevailing course structures.
- ❖ To further enhance group dynamics in order to make the individual learning process more effective.
- ❖ To promote the use of external (extra-institutional) resources in the learning process.

The new learning environment has given opportunities to introduce new structures for teaching and learning in order to reach the main goals of DRLTRH step one and two.

Thus a new structure for teaching and learning was tested where the use of CSCL and the extensive use of digital resources were made possible. A holistic system was

created were digital resources were to be an integrated part of teaching and learning. This holistic model is here labelled as The Extend Seminar (TES).

The Extended seminar in practice

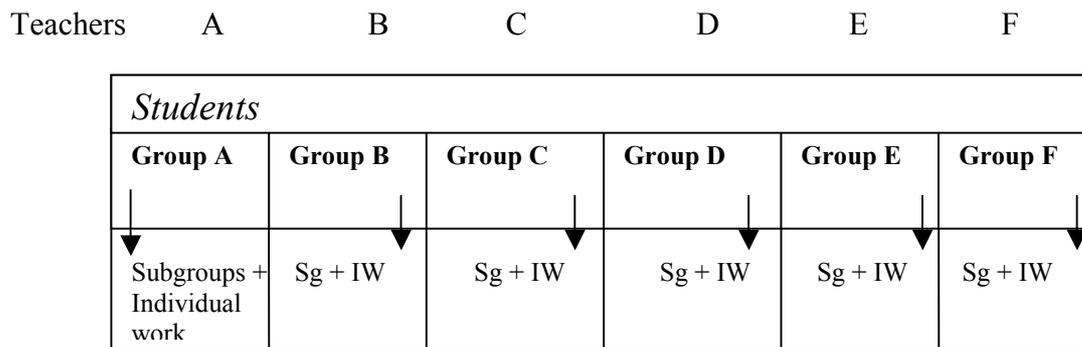


Figure 1 Traditional seminar structure

The learning and teaching situation is in this case fairly traditional: Each teacher administers a limited group of students. Every teacher divides his or her students into subgroups and monitors work in the groups and subgroups. Additionally every teacher supervises the individual students included in his/her group. Into this course structure new computer supported extended course structures were added modified in order to meet the demands of DRLTRH (Figure 2):

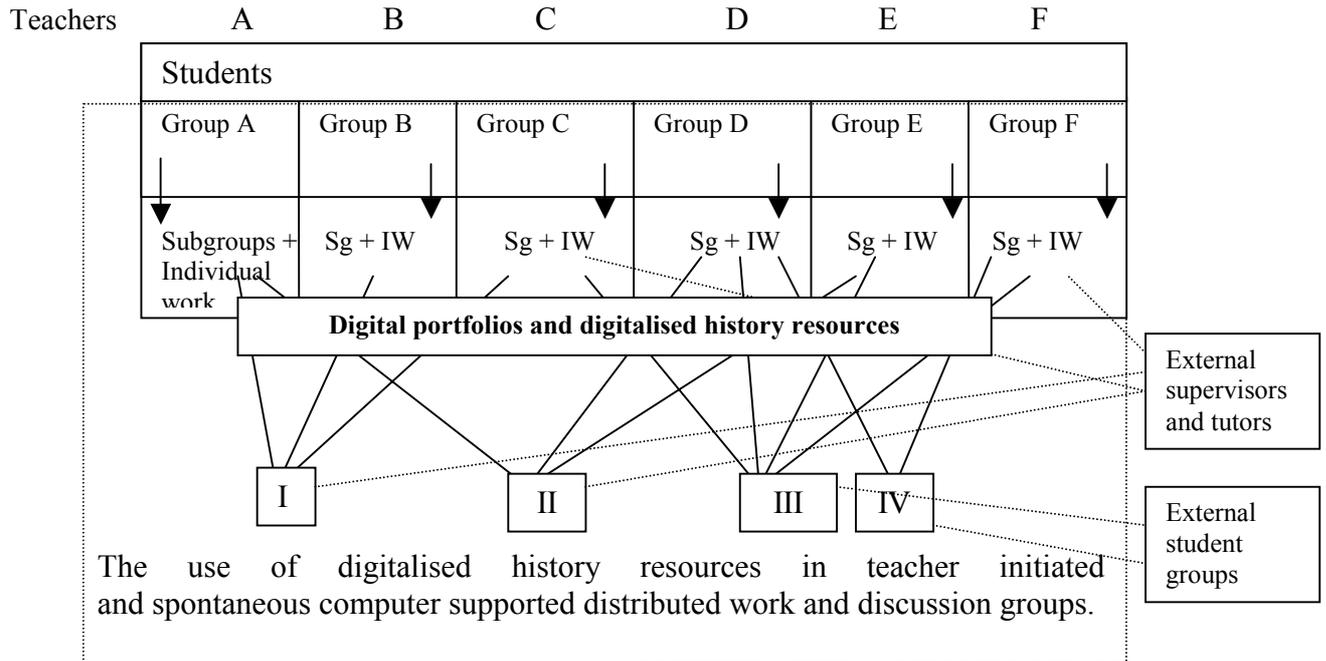


Figure 2: A model of an enhanced computer supported course situation:

Firstly an additional forum for on-line work groups was created in order to encourage both spontaneous and teacher initiated interaction between students belonging to different teachers groups. This forum also opened up the possibility to use external supervisors and tutors (both other teachers within the department and extra-institutional resources).

Secondly digitalised resources, sources and digital adaptations of source material were introduced into the new learning environment.

DRLTRH was in its first two stages based on a modified application of this model. It was tested on a course on second term level. In this case the actual course was *Historical theory and method including research paper*. Course Code 5HA222 Examination Code 9940.

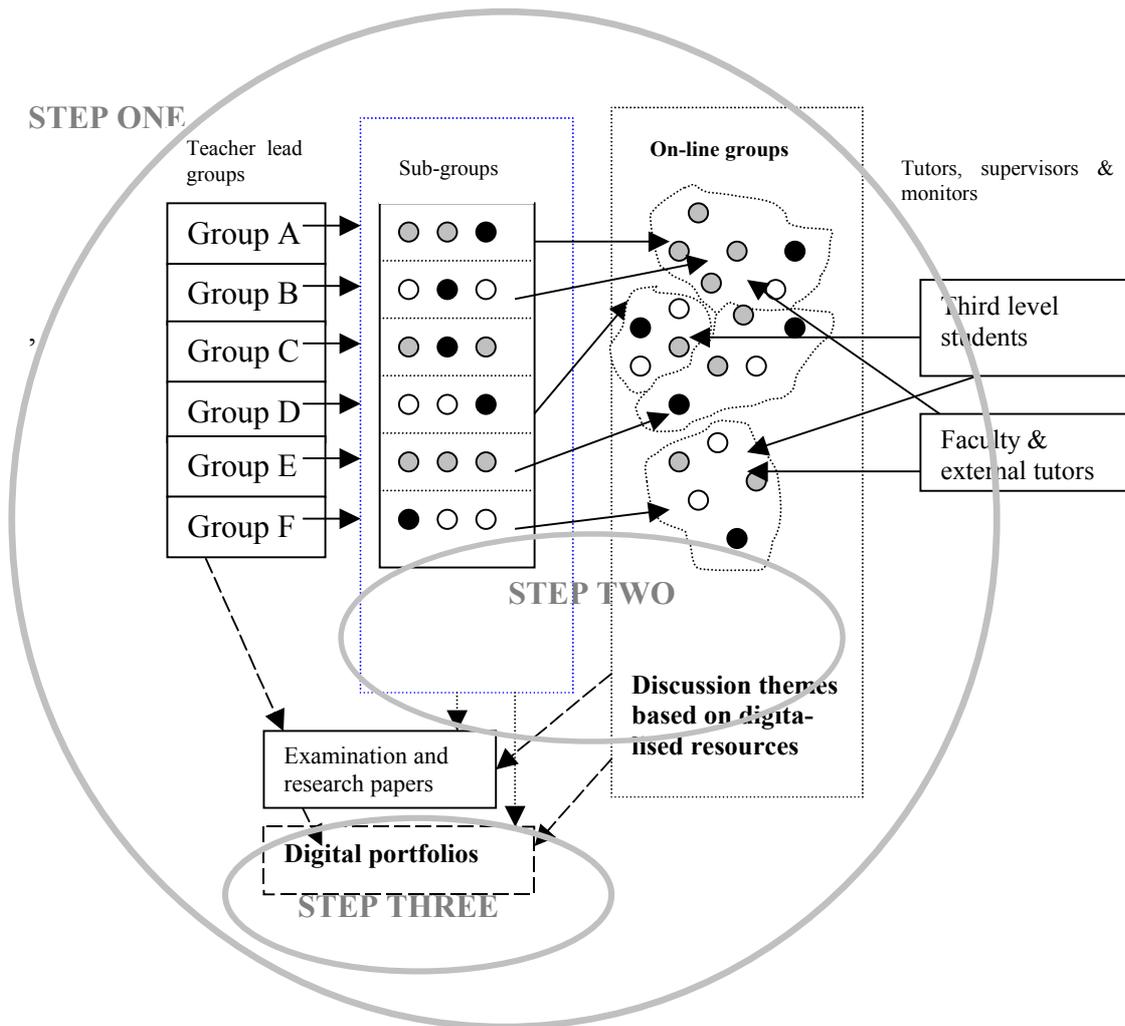


Figure 3: Experiment 3, History 2000. Second level history students. Theory and method, including research paper.

The experiment (DRLTRH Step One) is thus following the standard course structure with the addition of

- A) Method seminars, exercises and discussion themes based on digitalised history sources, (DRLTRH Step Two).
- B) Computer supported discussion groups along different themes fixed according to individual students interests and needs, (DRLTRH Step Two).
- C) External supervising resources on-line. In this case mainly third level history students following the teacher program as well as faculty, (DRLTRH Step Two).

All these new elements were expected to enhance group dynamics and to better integrate students on different levels into scientific discussions; and to increase student turnover. Additionally,

D) All individual and group work is to be included as elements in each student's digital portfolio, as defined in Swedish Learning Lab, Experiment 2, Track B, "Digital resources in Humanities", (DRLTRH Step Three).

DRLTRH Step Two

A) Using digital resources, sources and digital adaptations of source material

To digitalise large amounts of text is a resource and time consuming process. Therefore History has up till now mostly been confined to already digitalised material done by others. In the experiment above three types of material were used, i) digitalised pictures, ii) digital adaptations of source material, (Demografiska Databasen), iii) digitalised source material (The Raoul Wallenberg Interviews), iv)

- i) Department of History co-operates with the Faculty of Arts Picture Data Base Project led by the Department of Art History. The department has more than 60,000 pictures of paintings by European masters. The Faculty of Arts has allocated resources to digitalise these pictures and to continuously update the data base when new pictures are received. As this work barely had started when DRLTRH step one was launched, other on-line picture sources were used: *Collage* <http://collage.nhil.com/categories/abstract.html>; *National Gallery of Art* <http://www.nga.gov/collection>; ImageBase <http://www.thinker.org/imagebase/index-2.html>.

The concrete topic to discuss was Phillippe Ariès *Centuries of Childhood* (Hammondsworth 1979) and Adrian Wilson "The Infancy of the History of Childhood: an Appraisal of Philippe Ariès" *History and Theory* (1983).

The question to ponder on was whether iconographical material can be used to study social change. In this case Ariès view on changes in the societies relation to and treatment of children could be verified in by studying a large amount contemporary paintings..

- ii) The Demographic Data Base has been compiled by Umeå University. A Large amount of parish records from several Swedish parishes have been digitalised and are available on-line for University attached users. The source material is partly transcribed originals, partly statistically reworked. The exercise was to make social classifications using data from several 19th century parishes and to find statistically significant correlations using these classifications. The aim was to give the students a picture of the possibilities and problems of large digitalised databases. The results that the students reached were then discussed on an on-line educational billboard.
- iii) The Raoul Wallenberg Interviews (<http://rwa.bibks.uu.se>) are a result of the efforts of the Raoul Wallenberg Project work to document the memories of Hungarian Jews in the wake of and during the German atrocities during the WW II. Originally the interviews which amount to several hundred were written down in the early 1990's, but they were transferred to digital media by the Faculty of Arts some years later. The digitalisation is purely textual, no instructions for enhanced search has yet been added. The aim of the exercise was to make a point of the problems with this kind of material as historical sources, and to discuss possibilities to define meta tags for to be able to more extensively use large textual material for different kind of theoretical and methodological . The results of this exercise were given on line by every student individually and then also discussed on-line.
- iv) In the process of developing digital resources to be used in teaching as presented in DRLTRH Step One section A, we have searched archives for suitable texts. For the following semester we have chosen a 18th century diary (1771-1818) to be digitalised. This diary consists of about one thousand pages that will be scanned and used during the course: *History theory and method including research paper*. Course Code 5HA222 Examination Code 9940. Our objective is to involve approximately five students in this assignment. This process will from the students point of view include digital scanning, encoding using SGML as well as field testing of the digitalised text by using it as source material in their research papers. To make sure that the text can be used as source material for second level history students we have

asked one student to try to use the material in her second level research paper. The test that showed that the text is quite suitable as source material for research papers at this level. Hopefully this student can be used as a resource in this project.

A crucial part of the process is the encoding. This part involves two sides. First there is the technical side including software issues etc. This part of the process will be managed by ULL. The other side is the actual encoding - a process that touches upon the very core of historical research as well as many other disciplines within the arts and social sciences. To guide the students in the encoding they will work according to a formalised method of Grounded Theory. This method uses the concepts “open coding” and “axial coding”. The process of “open coding” involves identifying and conceptualising categories into phenomenon found in the text will be classified. The goal is to create descriptive, multi-dimensional categories, which will be used for encoding using SGML. It will also function as a preliminary framework for analysis. The SGML encoding will then be used as a tool in the “axial coding”, a technique which involves re-examination of the categories identified to uncover structures by looking at how the categories are linked together. By using this method the process of encoding will be as much an element of research practice as a assignment to produce digitalised texts to be used in future teaching as well as in further research.

DRLTRH Step Two

B) On-line group formation and the creation of new study material

By using electronic media in the courses the students were given a possibility to conduct scientific discussions and to communicate wider than merely in the traditional seminar structure. In this way the possibility for TES was created. Also a possibility was given for students to form their own spontaneous study and discussion groups on-line thus strengthening the students learning situation.

In this interaction a potentiality arose to produce study material using digitalised resources that was created by the students during the courses. This could have been done

in two different ways: either by the monitoring teacher or by the students themselves. Because of the problems that arise in implementing DRLTRH step three, (dealt with below), only the first option was available. The next course shall therefore start with already created material (see iv) above) and use it to accumulate new material by merging old material with new.

DRLTRH Step Two

C) Assessment

The students were generally speaking well prepared for the use of digital equipment, and they did not have a prejudice against the use of digital media in their courses. All students did have access to equipment at home or at the Department.

Assessments were made on two levels. First of all, as a normal standard assessment, i.e. students are asked to evaluate the teachers, different components of the course and the literature. Students' views were then compared to student turnover.

In relation to DRLTRH following questions were relevant:

- 1) How did you evaluate the exercises
- 2) How do you evaluate the on-line discussion groups

The exercises were generally considered as very positive by the students. Especially the insight how source criticism is to be applied on material found on the net was considered rewarding. The possibility to form new digitalised study material as a result of the learning process was asked for.

The on-line discussion groups were also considered as very positive by the students, although not everyone was actively taking part. One group of fourteen partaking was studied more intensively. Here it became obvious that the discussions were dominated by a few (4) very active students who also gave the most positive assessments of the discussion groups. It became obvious that discussion groups did not appear spontaneously. The use of an external moderator was here essential to induce discussions. In addition the teachers had to make the participation obligatory to get all students into the discussions.

Secondly the efficiency of on-line group work was measured. The on-line discussions were monitored by a moderator as well as the teacher. In average students made 7,5 contributions each, however the vast amount of students did only participate passively, that is they did not start discussion threads and only contributed when he/her was approached directly by the teacher, moderator, or other students.

When the activity on the on-line discussion groups eventually were compared to students grades it became obvious that the more active students got better grades. However, these students would probably have been active anyway, and they would have got high grades anyway, so the effect of on-line work could not been established. However, the need to develop efficient pedagogical methods to match the DRLTRH structure, became obvious.

Section four

Outlook towards further DRLTRH steps

The need of student e-portfolios became apparent during the First and Second Step work. To be able to efficiently accumulate digital resources and to use these resources both for course enhancement and the students individual curricula development, e-portfolios are essential.- The Department of History is co-operating with ULL in order to create a functional e-portfolio system to be used by all students, the University at large has also decided to introduce e-folios to each student. We are confident that DRLTRH Step Three can be implemented in a very near future.

To create a standard for shearing of digitalised sources and digital adaptations of source material is also a task for the future. However Department of History has discussed this problem with different actors and a solution might be at hand through the work of Peter Knutar and Thomas Wijkman (Department of Government and Department of Art).

Reports from Uppsala Learning Lab

- 1.2002 *A stitch in time: Enhancing university language education with web-based diagnostic testing*
Lars Borin • Karine Åkerman Sarkisian • Camilla Bengtsson
- 2.2002 *DRHum in History — a status report*
Esbjörn Larsson • György Nováky • John Rogers
- 3.2002 *Digital learning portfolios: inventory and proposal for Swedish teacher education*
Jan Sjunnesson
- 4.2002 *Didax – a system for online testing: technical documentation*
Sanja Babić • Camilla Bengtsson • Mattias Lingdell
-