

The ICT Driving Licence at the University of Helsinki: Synergy from Cooperation

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Päivi Helminen
Viikki Science Library
P.O. Box 62
00014 University of Helsinki
Finland
paivi.helminen@helsinki.fi

Aim of the ICT Driving Licence

At the 11 faculties of the University of Helsinki, almost 4 000 new students start their studies each year. The goal of the ICT Driving Licence is to make sure that each one of these new students has the necessary information and communication technology (ICT) knowledge and skills. The 3 ECTS (European Credit Transfer System) course is compulsory for all new students of all faculties.

This best practise case describes the rewards and challenges of the ICT Driving Licence implementation at the University of Helsinki. The paper focuses on the case of the Faculty of Agriculture and Forestry, where the information seeking module of the university-wide mass course is tailored to meet the specific learning goals of the introductory courses of the departments.

Background of the ICT Driving Licence

The need for the ICT Driving Licence grew up from the notion that the students had very heterogeneous ICT skills and each year a certain amount of students had poor ICT skills. At least some faculty felt that either 1) they had to spend valuable class time to teach basic ICT skills or 2) they were not competent or interested enough to teach ICT skills and to embed ICT into their own classes. In order to tackle this problem, most faculties had already developed their own courses on IT and information seeking. The ICT Driving Licence project gathered knowledge, experiences, skills, and materials that people had in different faculties, in order to avoid overlapping work. The common curriculum was developed for the 11 faculties in cooperation with all of the faculties, the IT department and the libraries of the University of Helsinki.

A full-time coordinator for ICT education, Olli Salo, has coordinated the project since the Fall 2004. The planning of the joint curriculum started in the Fall 2004.

In the Spring 2005 followed the production phase when the project group and a hired consultant created the online self-study material, teacher guides and exams. In the Fall 2005, the ICT Driving Licence pilot started at all 11 faculties. During the pilot year 2005-2006 students and ICT Driving Licence teachers gave feedback. The Spring 2006 was the time for the further development of the course: the self-study material and exam questions were scrutinized. The problematic questions were abolished and new simulation questions were added. The material will be translated into English and Swedish. An important phase was also the sharing of the best practices between the faculties.

Content: The five modules complete each other

1. Introduction to the use of computers

The first module gives an introduction how to use a computer and its add-ons and what to do in the most common IT problem situations.

2. The computer environment at the University of Helsinki

The second module introduces a new student to the computer environment at the University of Helsinki. Students are advised what kind of online student services the university offer.

3. Modifying and presenting data

The third module helps students to choose the correct programs for assignments and gives the basic information about how to use them.

4. Information seeking

The information seeking module gives just a basic introduction to the services and information resources of the University of Helsinki and information seeking. The sincere aim is to avoid presenting too much material, so a first-year student would not get overwhelmed. The skills will be deepened later. The goal is to cover those kinds of information seeking tasks that most first-year students need: how to find a course book and how to conduct an easy search by topic. In order to give students necessary background information to be able to conduct these tasks, the following topics are covered: information retrieval techniques, types of information resources, how to use the library catalog and the information retrieval portal, how to search the open web, and the basics of copyright issues. The University of Helsinki libraries are responsible for the information seeking module.

5. Data security and privacy protection

The fifth module underlines the importance of the data security both in studies and leisure activities.

Several Components (case: Faculty of Agriculture and Forestry)

The ICT Driving Licence includes several components (Fig 1).

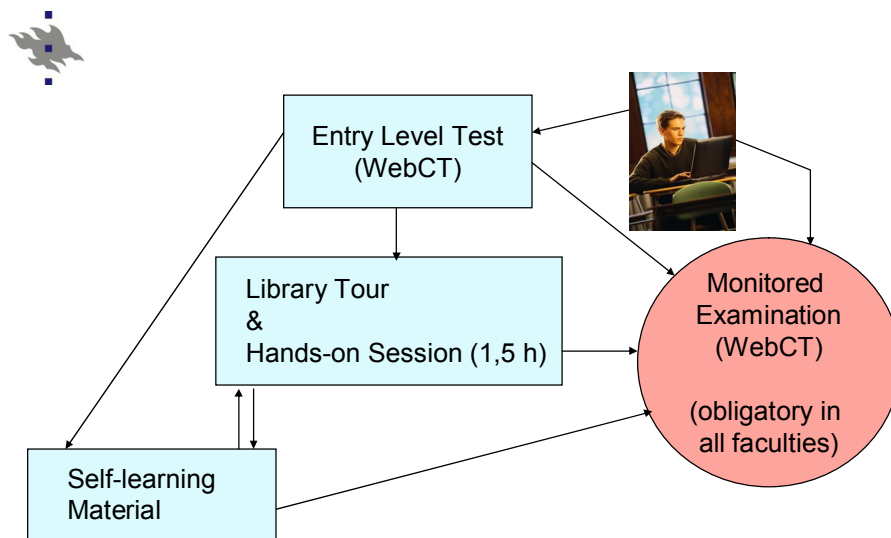


Fig.1. Components of the ICT Driving Licence

A. Entry level test

The course and the tests are administered on the WebCT e-learning platform. The entry level test and the monitored exam have similar types of questions. Questions are randomly selected from a pool of questions.

B. Library tour

Library tours are guided by the library staff.

C. Hands-on session in computer class rooms

The University of Helsinki Libraries are responsible for the information seeking module. The campus libraries and the Undergraduate Library organizes the hands-on session of the information seeking module. It varies by library and by faculty whether the library instruction sessions are embedded or stand-alone

sessions. At the Faculty of Agriculture and Forestry the teaching of information seeking is tailored and embedded in the introductory courses of the departments, such as "Introduction to Plant Production". These 90-minute hands-on sessions bring in subject specific issues.

D. Self-learning material on the web

Until now the openly accessible learning material is only in Finnish but it will be available in English and Swedish in the Fall 2006.

<http://www.helsinki.fi/tvt-ajokortti/materiaali.htm>

E. Monitored exam

In order to pass the course, the student has to gain a minimum of 70 % score from each exam (5 exams altogether). There are 10 questions in each exam.

F. Feedback collection

Feedback is collected from feedback forms on several occasions.

Students who passed the course are asked to fill out a feedback form on the WebCT learning environment. Last year we did not get feedback from all students because it was voluntary to give feedback. The self-learning material contains a feedback button and it is possible to give feedback on each chapter of the material. After the monitored examination students can also give online feedback about the examination. Qualitative interviews and observations are also used to collect feedback.

Different routes for differing learners

A student can take various routes to pass the ICT Driving Licence course, depending on her/his previous knowledge and skills. It varies by department whether the components are compulsory or not. The only component that is compulsory in all 11 faculties is the monitored examination.

It is recommended that the students first take the non-monitored entry-level tests which give students information whether he/she could 1) take the monitored examination directly, 2) study the online course material on her/his own and then take the monitored examination, or 3) participate in the instruction, study the online course material, and after that take the monitored examination.

Although it varies by each faculty whether the teaching is obligatory or not, some libraries, such as Viikki Science Library, highly recommends all students to participate in the information seeking hands-on sessions. In some faculties teaching is obligatory.

Faculties are responsible for the administration of the course: registration, tests, and credits. The University of Helsinki Libraries are responsible for the hands-on

information retrieval sessions and for organizing of the library tours. The self-learning material and test questions for the information seeking module are produced in cooperation with all the libraries of the University of Helsinki.

How did we succeed?

Students' self-assessments indicate that the course improved the ICT skills of the students considerably (Fig. 2).



Fig. 2. Students' self-assessment of their ICT skills before and after the course

The Information retrieval module seemed to be the most challenging module for many students because it contained new information also for those students who were experienced computer users. At least some students stated that they found the information seeking module important and they wanted more time for in-class teaching. Next year a thorough qualitative and quantitative assessment and evaluation is needed.

Factors for Success

Four key factors for the success of the project are coordination, cooperation, timing, and support from the university management.

Coordination

The IT department coordinates the project but it is truly a project of the whole university. There is one full-time coordinator for the project, Olli Salo, who is very skilled to make people work together for the shared goal.

Timing

Because of the Bologna process, the University of Helsinki adopted a two-cycle model for degrees starting on 1 August 2005. Therefore the time was right for launching a new course.

Support from the university management

The Vice Rector Hannele Niemi, who is responsible for the implementation of the reform of the degree structure and for the teaching and library issues, has been an active supporter of the project and a member of the steering group. The ICT Driving Licence curriculum is also a fixed part of the University of Helsinki's Virtual University recommendation for ICT studies in the curriculum reform.

Cooperation

There has been fruitful cooperation on different levels:

1. University level cooperation in the project team: IT department, pedagogical units, libraries, IT teachers and IT pedagogical support personnel from all faculties and representatives from the Student Union and the Open University
2. Faculty level cooperation with IT teachers and librarians
3. Course level cooperation with the teachers of the introductory courses and librarians
4. Library level cooperation: This project brought together the teaching librarians and enhanced cooperation at the ten libraries of the University of Helsinki.

All the faculties and libraries are working together to improve and maintain the ICT Driving Licence. One library/faculty could not have done all this.

Challenges for the future

Although the project has been successful there are challenges waiting in the future.

Funding

Because coordination has been so crucial for the project, it is utterly important to secure a permanent funding in the future. Until now, the funding has been project-based. The university needs a permanent position for a coordinator of the ICT education.

Compromising

The university-wide mass course means inevitably compromising. One size does not fit for all and the self-learning material may contain parts that are not as important in all faculties. Therefore, it is very important that students participate in the hands-on sessions or lectures which address the subject and faculty specific issues.

ICT Driving Licence for the faculty and staff

The faculty and staff need some means to improve their ICT skills. Sometimes faculty and staff have worse ICT skills than students. There have been some preliminary plans for the ICT Driving Licence for the faculty and staff. However, there are many challenges because the skills and needs of the faculty and staff may be even much more heterogeneous than students' skills and needs.

Pedagogical soundness

The pedagogical issues of material and tests need to be continuously assessed and developed in the future. Especially tests are challenging because multiple-choice questions are not very good in measuring actual skills. Therefore, simulation questions were added this year but new questions, which make students apply their knowledge, are needed. The self-study material and tests should encourage students to study these topics further. The ICT Driving Licence provides just a starting point for the learning of ICT skills: ICT literacy skills need to be embedded appropriately in curricula. Despite these concerns, the ICT Driving Licence provides a solid foundation on which to build the ICT skills later.

Further Information:

<http://www.helsinki.fi/tvt-ajokortti/english/>