
THE DUTCH DIGITAL UNIVERSITY: REALISING ECOMPETENCE VIA INSTITUTIONAL COOPERATION

Maurice De Volder
Open University
Netherlands

Introduction

Having neither teachers nor students, the *Dutch Digital University* (DU) is not a real or even a *virtual* university, but a consortium of ten Dutch universities that were founded in 2001. The participating universities cooperate with the aim of developing and sharing products, tools and expertise with respect to the innovative use of ICT in education. Funded by contributions from its member institutions and government grants, the DU supports projects to the tune of about €9 million per annum. Staff members of the cooperating universities are paid for undertaking projects approved by the DU Board of Directors. The projects are submitted to one of the DU Programmes, one of which is the *Expertise Programme*. In the Expertise Programme, expertise on eLearning and management of eLearning is developed and later shared by means of handbooks, websites, workshops and consultancy. Through the Expertise Programme, eCompetence is realised via institutional cooperation. A number of expertise projects will be described in this paper and future plans of the DU will be discussed.

1. Rationale for setting up the Digital University

Most institutes of higher education are facing the same challenges: educate more students with less money, offer better quality and use modern technology at the same time. To help overcome this challenge, ten universities in the Netherlands decided in 2001 to create a consortium called *Digitale Universiteit* (Digital University). The ten associated institutions together represent about one in three of all students enrolled in Dutch higher education. Legally speaking, the consortium takes the form of a Foundation (a non-profit organisation). The founding members of the DU consortium are the following institutions:

1. University of Amsterdam
2. Free University
3. University of Twente
4. Open University, Netherlands
5. Fontys Technical University
6. Inholland Technical University
7. Technical University of Amsterdam
8. Technical University of Rotterdam
9. Technical University of Utrecht

10. Saxion Technical University

The mission of the Digital University (DU) is to realise economies of scale for educational innovation, supported by information and communications technology. To realise this mission, the DU has set up a relevant knowledge network for developing and sharing products, tools and expertise in the area of innovative use of ICT in education.

Since the Digital University (DU) has no students or teachers; only project members and project outcomes, it is not a real or even a virtual university. The project managers and members are staff from participating universities who are hired by the DU to work on a temporary basis for the DU projects. The DU has only a limited central staff (of about ten people) with administrative and coordination duties. Decisions about which projects to fund are made by a Board consisting of representatives from the member organisations.

To fund projects, the DU collects fees from the consortium members relative to their size, and receives some additional funding from the Ministry of Education. Projects fall into one of four categories called “programmes”:

- Digital resources and tools
- Electronic Learning Environment (ELE)
- eLearning expertise
- eLearning strategies

We will briefly discuss the first two programmes and go deeper into the last two, which are, of course, most relevant to eCompetence.

2. Digital Resources and Tools and ELE programmes

Financially speaking, the digital resources and tools programme is by far the biggest of these. Digital resources were developed in several domains: Economics, Education, Management Sciences, Medicine, Psychology, Law, Environmental Sciences, Art, Information Technology and Statistics. Most of the digital courses are available online, while the simulated practicals are delivered on DVD because they are highly interactive in nature, making it more cost-effective for students to run through the practical on a stand-alone machine. For example, using the DVD entitled *The Virtual Law Office*, students can practice their interaction skills with law clients.

Tools developed in DU-projects are digital tests/assessments, feedback tools and a digital portfolio. For example, the MyCQ tool lets students receive “360 degrees feedback” on their professional competencies. From 2005 the Digital University will focus on the transformation of entire educational programmes instead of digitising only one course at a time. The contents and tools are freely available to any interested party within or outside the field of higher education through a Creative Commons license, which deals with open content.¹ Most resources and tools are in Dutch, but some are translated partly in English, such as the student tool called *Question Bank*.² The learning content management system Learn eXact³ was selected by the DU as a tool to help transfer learning objects to the different online learning environments of the partner universities.

¹ www.creativecommons.org

² www.digiuni.nl/digiuni//gfx/content/0507%20tommy-gb.swf

³ www.learnexact.com

The Electronic Learning Environment programme has not developed a single electronic learning environment ELE for all the DU-partners, but aims, instead, at ensuring maximum interoperability between the different systems used by the partner institutions, such as Blackboard. This implies that the e-platforms used by the partners and the content and tools developed in the projects have to comply to certain technological standards, such as the *Learning Resources Meta-data Specification* developed by the *IMS Global Learning Consortium*.⁴ Instead of loosely coupled commercial systems, the ELE programme aims at the increased use and integration of Open Source Software, as in the SAKAI-project.⁵ The Sakai Project has its origins at the University of Michigan and Indiana University, where both universities independently began open source efforts to replicate and enhance the functionality of their existing e-platforms. The Sakai Project follows what is called the community source model, which is an extension to the already successful, economically feasible, open source movement forged by projects such as Apache, Linux and Mozilla.

3. The Expertise Programme

The Expertise Programme in general aims at the development and dissemination of expertise with respect to the effective use of ICT in education, or *eCompetence*. This dissemination is achieved through freely available manuals, open and closed websites, and workshops (fees based) or consultancy for DU and non-DU staff. The materials are mainly in the Dutch language with the exception of some parts translated in English such as is the case for the portfolio implementation website. Projects are initiated by one or more partner institutions who submit a proposal for enhancing a certain aspect of eCompetence through cooperation in an expertise project. If a preliminary project outline is approved, the project goes through the following phases: definition, design, realisation, implementation and dissemination.

This approach is perhaps best understood through brief descriptions of a number of supported projects.

3.1 *Independent learning with digital materials* (www.du.nl/zelfstandigleren)

This is an exploration of didactical models for competency-based eLearning. Two models have been developed: one for task-based education (a task is usually more theoretical and limited in time) and one for project-based education (a project is usually more focused on a practical case and takes quite some time). Based on those two models, guidelines have been produced for planning and implementing eLearning.

3.2 *Flexible assessment methods* (www.du.nl/flextoets)

An inventory was made of all the possible digital assessment methods from which a teacher or a department can choose, taking into account the different functions of assessment in education. The project focuses on the flexibility achieved by using ICT-based assessment and the management and organisation issues to realise this flexibility.

3.3 *Costs and benefits of eLearning* (www.du.nl/kostenbaten)

The project delivers a methodological framework and a practical instrument for the estimation of the costs and benefits of eLearning for educational institutions. This instrument was validated in a number of case studies and a number of recommendations have been made. This enables managers to make informed, strategic decisions about the appropriateness of eLearning solutions for particular contexts.

⁴ www.imsglobal.org/metadata

⁵ www.sakaiproject.org/cms.

3.4 **Portfolio Implementation** (<http://www.du.nl/portfolioimplementation>)

In the project on portfolio implementation, information was gathered about the factors influencing the successful implementation of a *digital portfolio*. The first category of success factors is infrastructure: availability of ICT, quality of ICT and ICT-support. The second level success factors are management commitment: explicit vision on ICT in education, adequate financing, concrete operational plan and a strategy for change. The third group of factors are people: attitude to innovation, tutoring skills, reflection skills and ICT skills.

3.5 **Digital support of collaborative learning** (<http://www.du.nl/saldo>)

Didactical concepts are described for computer-supported collaborative learning (CSCL) and criteria are developed to help teachers and managers decide when and how to use CSCL in specific situations. Attention is also given to the competencies needed by teachers in order to be able to facilitate CSCL and recommendations are made for the implementation by management of CSCL. Finally, CSCL software specifications are compared on educational criteria.

3.6 **Information skills** (www.du.nl/vdk)

This project focuses on the knowledge gathering skills needed by students to be able to become a competent lifelong learner in an ICT-based knowledge society. Information literate people know how to learn because they know how knowledge is organised, how to find information and how to use information in such a way that others can learn from them. A number of online instruction programmes have been investigated, such as TILT, DelftSpecial, and MEEWIZ. These are offered by the university libraries as separate courses and are not integrated in the regular teaching activities. The *Association of College and Research Libraries* published a set of information skill standards but they are not adapted for use in higher education. Within the project a checklist for assessing information skills within the regular curriculum was made. For instance, when writing a paper a student needs to account for his/her information search strategy and critically evaluate the information found.

3.7 **Virtual enterprise** (www.du.nl/virtueelbedrijf)

An educational setting is designed where students act as employees in a virtual enterprise for 3 to 12 months. Students work in a team on an assignment, for example, writing a consultancy report on an environmental problem. In contrast to an internship, students are never physically present in a company but work together by means of ICT tools. Guidelines have been made for teachers who want to use a virtual company for teaching purposes, for students who take part in such a learning experience and for ICT-managers who need to provide the necessary ICT-infrastructure.

3.8 **Online course in e-tutoring** (<http://www.inholland.nl/documents/eLearning/>)

This has delivered an online course aimed at teachers who want to tutor/support their students via the Internet. Because almost all universities have some form of blended learning, this course can be widely used for faculty development. People enrolling for this course are supposed to already possess basic skills in face-to-face tutoring. The online course starts with an assessment and is individually tailored according to the personal development plan of the trainee.

4. **The eLearning strategies programme**

The eLearning strategies programme aims at improving eCompetence in universities by focusing on the *management level*. Firstly, for example, one project focuses on how educational managers cope with the use of ICT in education. Educational managers are facing a number of challenges: formulate new ICT policy or assimilate central ICT policy, translate policy into an operational strategy and manage educational innovations effectively and efficiently. These managers report that they are not

experienced in management of ICT in education. Therefore, this work aims to develop and disseminate expertise about translating an *educational vision* into an *innovation strategy*, about writing the related planning document and about the systematic execution of such a plan. All this information⁶ is made available on a website and managers can consult several instruments, case descriptions, example documents and background literature.

A related piece of work focuses on enhancing the institutional priorities through inter-university cooperation. This based on the drafting of an inventory of innovation priorities which acts as a framework for exploring the various possibilities and setting goals and timeframes.

5. The road ahead

A lot of digital resources, tools and expertise have already been developed in DU projects, but they have to be widely used and kept up-to-date. This requires a continuous commitment at all levels of the partner institutions which often seems difficult to achieve as shown by the experience of the ESPELON case. ESPELON was a commercial company set up in 2003 by the Dutch DU and the Dutch SURF Foundation. This company acted as an Educational Service Provider for digital educational resources and tools which were produced in innovation projects funded by the DU or SURF. ESPELON took care of marketing and sales of these products, technical hosting, hosting services, support (helpdesk) and product maintenance. The costs were covered by user fees. However, in 2005, ESPELON was terminated because there was no hope of it reaching its financial goal of becoming self-supporting.⁷ Universities balked at having to pay large fees for the products and services offered by ESPELON.

In order to improve the commitment of university departments to the wide-spread use of the resources and tools developed in DU projects, the DU decided to focus on innovation on the scale of entire study programmes, or study domains, instead of the development of single courses or developing separate tools. These types of DU-programmes are known as *domain programmes*, for example, business administration and economics. A university participating in a domain programme has to formulate an innovation strategy for that domain. These plans are combined into a three-year plan describing the digital resources, tools and expertise to be developed by means of projects. The different projects have to be interrelated, consistent and in tune with each other. A clear advantage of the domain programme policy is the coherence and consistency of embedded projects.

In order to stimulate the continued use and development of eCompetence, communities of practice (CoPs) are growing in importance in the DU, not only during the project life cycle but especially when a project is finished. An internal report has been published on the use of communities of practice for educational innovation. A number of communities of practice are now active on the following topics:

- management of ICT in education
- using CoPs for innovation
- implementing a learning content management system (LCMS)
- portfolio implementation
- open source software

The Digital University is a work in progress and is always reinventing itself. Following the ESPELON debacle, the DU is exploring the possibilities of closer cooperation with SURF, the Dutch higher

⁶ Covering topics such as agenda setting, policy preparation, definition, execution and evaluation

⁷ A common problem that has its equivalent in attempts at eLearning commercialisation in other countries also.

education and research partnership organisation for network services and ICT. The mission of SURF is to exploit and improve a common advanced ICT infrastructure that will enable higher education institutes better realise their own ambitions and improve the quality of learning, teaching and research. The missions of DU and SURF, in principle, will enable the exploitation of synergies.

References:

ACRL www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm

Creative Commons: <http://www.creativecommons.org>

DU www.du.nl

ESPELON www.espelon.nl

ICTE www.du.nl/ictobeleid

IMS www.imsglobal.org/metadata

SAKAI <http://www.sakaiproject.org/cms/>

SURF <http://www.surf.nl>

Author

Prof. dr. Maurice De Volder

Open University Netherlands, Educational Technology Expertise Centre

Valkenburgerweg 177, 6419 AT Heerlen, The Netherlands

Maurice.DeVolder@ou.nl