

---

**PROMOTING INFORMATION AND LEARNING TECHNOLOGY IN  
TEACHER EDUCATION:  
A PILOT IMPLEMENTATION OF THE PRONETT PORTAL.**

*Ton Koenraad, Utrecht University of Professional Education - Faculty of Education*

---

Paper Presented at:

The Third EDEN Research Workshop  
and International Conference

*Supporting the Learner in  
Distance Education and E-Learning*

Jointly offered by  
EDEN - European Distance and E-Learning Network  
and the Centre for Distance Education at  
Carl von Ossietzky University of Oldenburg

4-6 March 2004  
Oldenburg, Germany

## Abstract

This paper reports the results of the pilot implementation of the web portal that is being developed in the PRONETT project by the Faculty of Education of the Utrecht University of Professional Education. The key objective of the EU project PRONETT at [www.pronett.org](http://www.pronett.org) is to offer a network approach for students, practising teachers and teacher-educators to collaborate and to construct shared understandings of teaching and learning in a networked classroom and institutional environment. The Pronett portal is expected to offer a virtual infrastructure that supports teacher educators, student teachers and in-service teachers in the (co)production, execution and evaluation of practice based ICT-rich teaching and learning. Access to (the design process of) concrete learning objects will facilitate reuse of educational content and stimulate the dialogue between educational organisations and actors involved. This dialogue is seen as precondition for the development and sharing of knowledge related to ICT related pedagogy in subject teaching.

Beside contributing to the Pronett specific project targets the implementation design for the Utrecht region also aims to contribute to the local realisation of ICT-rich, competence based Teacher Education Provision as benchmarked by the national representative board of Dutch Teacher Training providers, ADEF.

This paper and/or some sources referred can be downloaded from: <http://www.koenraad.info/Pronett>

## 1. Introduction

The project 'Professionals Networking Education and Teacher Training' (Pronett) was initiated by Archimedes Lerarenopleiding, the department of the Faculty of Education in Utrecht, the Netherlands, responsible for the regional initial teacher training and continuing professional development for vocational and secondary education. For a better understanding of the motives for the project a closer look at the context in time and place may be called for.

The Pronett project definition was inspired by recent changes in Teacher Education Provision in Europe [4] and in the Netherlands [14] and in particular by the recent state funded Dutch Educational Partnership Project (EPS, 2000-2002). This national project was targeted at innovation of teacher education, provision of a solution to the shortage of teachers (expected to grow to some 15.000 vacancies in 2006) and the delivery of teachers with qualifications required by the changes taking place in (Dutch) schools and society. The competence to apply ICT in designing powerful learning environments was considered highly relevant in this respect.

At Archimedes Lerarenopleiding the EPSproject has contributed to the development of the current curriculum model based on close collaboration with regional schools. The model integrates subject studies and professional preparation and is nationally known as 'The Utrecht Model'. Its key elements are: partnership, competence based learning and training, customized study programmes, dual mode approach and lectureships. It aims to meet the requirements of modern higher education as defined locally as:

*'...education in which students develop into starting professionals and which takes place in interaction with the professional field. The professional field is involved in formulating competences, formulating and providing (study) assignments, giving feedback on students' results and in the assessment and development of knowledge. Students carry out assignments in the role of the starting professional, which means that they produce work of a high level and that they can demonstrate that their work meets relevant current standards. ICT is an important tool in creating a rich learning environment as well as in creating the necessary conditions: the use of ICT makes it possible to organise educational processes differently.[5]*

### **Monitoring of ICT developments in (Teacher) Education**

For the evaluation of its ICT policies the Ministry of Education commissions various studies, among which the ICT-Education Monitor [10]. The EPSproject, being a major national project, was subject to

an additional, dedicated monitoring procedure carried out by the Inspectorate. The first interim report was highly critical of the developments in the ICT domain of the EPSproject. The main points of criticism can be summarized as: ICT as a didactic tool has not been adequately integrated in the teacher training pedagogy. Trainers' ICT expertise is at the level of basic skills, excepting those involved in expert centres. Student teachers are not adequately prepared to apply ICT in their future careers. Collaboration with schools and (international) collegial networking are scarce.

## **2. The EU-project PRONETT**

### ***2.1 Project goals***

Coalition to define an EU-project with international partners was triggered by the urgency for action emanating from the various monitoring reports and the developing (ideas for) national benchmarks for ICT rich Teacher Education [8, 6] on the one hand and the lack of local educational leadership in the ICT domain on the other.

The project's aim is to develop a regional and cross national networked learning community of pre- and in-service teachers and teacher educators in Primary, Secondary and Vocational Education. A web portal offering a virtual infrastructure that supports the (co)production, execution and evaluation of practice based ILT-rich learning is seen as a facilitating instrument. With access to a variety of web-based resources and tools to support collaborative inquiry into and facilitation of the discourse on learning to teach in a networked classroom .

In line with the participatory model of modern higher education [2] the portal is expected to help the student teacher to realize her role as a starting professional [5] in the domain of information and learning technology.

### ***2.2 Pronett Web Portal***

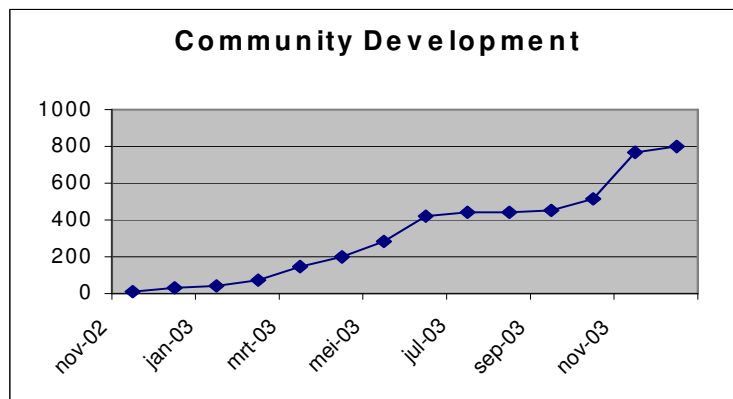
The multilingual Pronett portal is a customized version of the Zope-based Content Management System '*Plone*'. The inspiration for the design of the portal has come from an analysis of the local needs observed by the project partners and a literature study [7] on relevant project related issues in Europe such as ICT training and tools in schools, teacher education, virtual community development and school needs. Other considerations refer to critical features of successful professional development approaches in the ICT-E domain such as: needs based, learning by doing, enabling 'design & try-out & evaluate'-sequences, on-the-job elements promoting reflection and feedback (also in networks of teachers) [3].

Members have access to personal workspaces to which all sorts of content-types (file, picture, document, forum tool etc) can be added and published.

The automated registration feature of this Open Source software is considered important in this respect as it makes students and individual teachers less dependent on the software provision of their Teacher Training provider and/or at their placement and workplace schools. Especially in a competence based curriculum model this independence is essential as it offers users possibilities to experiment with web based teaching regardless of the presence of (or access to!) a local virtual learning environment (VLE). It also opens up possibilities for individuals to solicit for alternative ways of help or coaching in the event of the (not so unlikely) absence of adequate local support, specific expertise or tutoring. It will also help to disseminate the project as there are no administrative obstacles for teachers and student teachers of other organisations in the European member states to start participating.

### 2.3 Portal Membership Development

In the first 12 months since its first publication in November 2002 some 750 students and teachers have taken out an account on the portal. After a gentle take off in December 2002 when a number of Cardiff students began using the portal a growth spurt in the period between March and June 2003 marks the start of the pilots by the partners in Belgium and Holland. With the holidays approaching



Membership stopped at 455 in July. Then in October, with academic life picking up speed again, an international cohort of some 250 new arrivals came on board. As system maintenance has been carried out over time in terms of removing double or dead accounts (due to failed registrations) this graph gives some idea of the quantitative scope of the project in its first online year.

## 3. The Utrecht implementation of Pronett

### 3.1 Context, goals and strategies

Next to contributing to the general PRONETT Project objectives the Utrecht based project partner defined targets to support the further development of the Utrecht Curriculum Model. The workplace related activities are seen as the best part of the curriculum through which the teacher education institute can realise a practice based development of ICT-E competences and at the same time contribute to developments in the ICT-E domain at regional schools. Ideally workplace based learning is ICT-rich and facilitates the student teacher in bringing innovative practices to the school and contributing to school defined needs. The pilot implementation phase was expected to evaluate the feasibility of using school based defined needs as input for curriculum activities and to contribute to the evaluation of the Graphical User Interface of the web portal.

An implementation plan was developed in line with the guidelines described by Collis & Moonen [2] that have been adopted as a generic Pronett implementation approach. A combination of top down and bottom up strategies was applied. To reach the goals mentioned two types of activities were carried out: teaching experiments by teacher educators and activities by a working party to operationalise regional collaboration.

### 3.2 Results

#### 3.2.1 Pilots at Archimedes Lerarenopleiding

Eight teacher educators in 6 different teams were approached. The portal functionality was presented by Pronett team members in individual sessions to those teacher educators (n=4) who decided to actively participate in the pilots. Three teacher educators wanted to use the portal to support one of their courses involving the production of web based materials. One teacher decided to experiment with the provision of virtual support for a (student) live conference.

After having selected a particular course the teacher educators and the Pronett coach collaboratively developed ideas and the related functional specifications for the online support of this course. The

technical implementation of the support structure was then realised by the Pronett team (for an example see Fig. 2. below). Some training was given to develop vital skills for the realisation of their role as e-moderator (e.g. uploading relevant documents, presentation of links, placing last minute messages, allocating rights to individual students for specific folders).

For those courses that required students to develop web-based materials specific templates (WebQuest, E-zine format) were developed. Partly to avoid the need for training students in the use of yet another piece of software beside Pronett (e.g. FrontPage) and partly to facilitate the publishing process of those materials within the Pronett environment.

For more information on the implementation pilots in the Modern Language Department see [9].

### 3.2.2. Regional Collaboration

With the aim to further operationalise the ICT-rich workplace based learning concept a working party consisting of the Archimedes implementation team and ICT-coordinators from 4 regional, affiliate schools has explored the feasibility of using school based defined needs as input for curriculum activities. This has resulted in an inventory of (pre)conditions for the implementation of school defined curriculum tasks, a (concept) list of school defined ICT-needs and a description of the tasks and responsibilities for the actors involved in the task definition and coaching of the developmental work by student teachers.

### 3.2.3. Evaluation of the Graphical User Interface (GUI) of the Pronett Portal

Various instruments (online questionnaire, interviews, written evaluation forms, observations) have been used to collect information about user experiences with the interface. On the basis of the analysis of these research data some improvements have been made to enlarge the intuitiveness of the portal interface and the personal workspaces in particular. In educational terms it appears that to benefit maximally from the functionality offered when the portal is used as a Virtual Project Room Environment (VPRE), teacher educators and students alike will have to be explicitly introduced to some of the available features to become confident and independent users. For similar findings see [12].

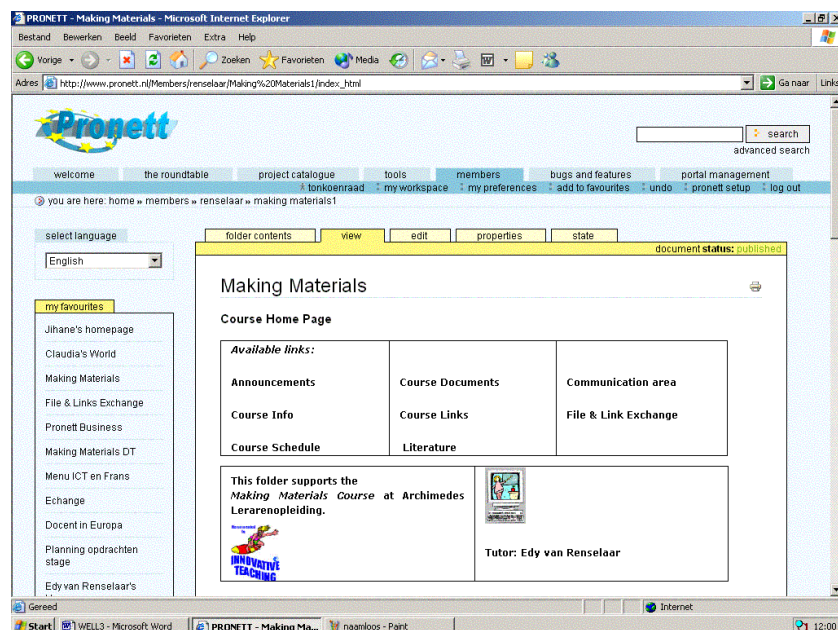


Fig.2 Folder in Trainer's workspace to support a materials design course.

Informal evaluative remarks by teachers involved also indicated that students found it confusing to learn to work with a new GUI and the custom made WebQuest template provided simultaneously.

Trainers reported to have lacked the time to use the course support site provided in their workspace to actively experiment with e-learning and online moderating. Facilities to approach students in the course as a group were missed.

## **4. Discussion**

### ***4.1 Flexibility***

The experiments have shown that it is possible, with only limited developmental work, to use the portal to support such diverse contexts of use as:

- an online support for 'traditional' courses
- the provision of tools and publication facilities for educational design courses
- the collaborative production of web based materials by teams
- a stimulating environment for task based language learning activities
- virtual facilities to support a (student) f2f conference such as pages for plenary and collaborative activities and personal and project team-rooms

Experiments reported by other project partners include tele-tutoring and extranet applications. This flexibility is seen as an advantage over standard VLEs and is well appreciated by the competent ICT-users. This very feature, however, also causes problems for less sophisticated users. Some of whom – in the context of a particular course - felt that the options offered were not in balance with the tasks required or even frustrated an efficient realisation.

### ***4.2 The trans-national dimension***

At this stage of development (relatively limited number of users, activities and materials) students nor teachers, after being informed of the portal's existence, apparently start using it of their own accord. We assume that as yet things will only get going through curriculum based impulses, i.e. teacher educators who take the initiative to embed use of the portal in their teaching and define explicit tasks and activities for students to do. Hardly any observable communication takes place even within the same language community, let alone trans-nationally. It is, as yet, not known how users feel about the concurrence of various languages in content objects such as forum messages and published projects.

This does bring home, however, the complexities involved in developing a distributed community of practice across organisations [13]. As similar observations have been made by other project partners development of local community cells will be given priority as of September 2003, as the existence of active local groups is seen as preconditional for the germination of an international dimension.

On the other hand, now that some of the educators, after the pilot, realised the chances offered for international collaboration and educational projects, internationalisation and authentic use of foreign languages for language learning existing courses are expected to be adapted to include these goals. This suggests another strategy to be explored at project level: the teaming up between partner based teacher educators responsible for comparable curriculum activities and the involvement of e-twinning schools.

### ***4.3 Further efforts needed***

Although the portal could compensate for the absence of a local VLE and supports the realisation of educational ICT-based design projects, full implementation is not likely to occur if the prospective users are not convinced of its added value over installed ICT-facilities for students, teachers and educators. In this context the possibility of developing the learning object database for local and international support for knowledge sharing on the design process (making professional feedback visible) and facilitating resource based teaching (meta-evaluation of final products) should be more explicitly highlighted. Another argument that can be put forward relates to competence development. Anticipating the further (local) development of competence descriptions for teacher educators and teachers [3, 11] the portal offers opportunities for autonomy in the development of attitudes and

competences relevant in the near future for both students and educators that current standard VLEs do not provide. Examples are: functioning in or monitoring local communities of learning, e-moderating students/pupils projects, using the internet for personal professional development, designing learning activities using Learning Objects, practising Resource based teaching, preparation for contributing to and using Learning Object Repositories [1]. Active management support and well-planned change management targeted at realising a joint effort of all organisations involved (local teams and affiliated placement schools) and levels of application will be needed [8] to develop a position for the ICT-E domain within the learning organisation potential of the Utrecht Model.

## References (The document URLs were last checked on 08/01/04)

1. COHERE GROUP (2002) *The Learning Object Economy: Implications for Faculty Expertise*. Canadian Journal of Learning and Technology 28(3)  
<http://www.cjlt.ca/content/vol28.3/cohere.html>
2. COLLIS, B., MOONEN, J. (2001) *Flexible Learning in a Digital World: Experiences and Expectations*. Kogan Page, London,  
<http://education1.edte.utwente.nl/00FlexibleLearning.nsf/WebLinksViewForm?readform>
3. ECK, E. VAN., VOLMAN, M., KRAAN, A., DIJK, E. (2002) *Ontwikkeling van ICT-competenties van docenten. Een reviewstudie* (Development of teachers' ICT-competences. A review study). Amsterdam: SCO-Kohnstamm Instituut.
4. FURLONG, J., BARTON, L., MILES, S., WHITING, C., WHITTY, G. (2000) *Teacher Education in Transition. Re-forming professionalism?* Buckingham: Open University Press
5. HVU EDUCATION & ICT KNOWLEDGE PLATFORM (2003) *Educational Innovation & ICT. Giving direction to policy at the University of Professional Education Utrecht*. Position Paper  
<http://www.koenraad.info/Pronett>
6. KIRSCHNER, P.A., WOPEREIS, I.G.J.H. (2002), *ICT3. Information and Communication Technology for Teacher Training. Pedagogic benchmarks for Teacher Education*. Heerlen: Open Universiteit. <http://www.owinsp.nl/publicaties/8048>
7. KOENRAAD, A.L.M., PARNELL, J. D., QUINTANA-TRIAS, L., ANDERTON, B. (2002) *Support for teachers and Trainees in Promoting ICT with Web Learning Technologies: from 'learn to use' to 'use to learn.'* Pronett Project Document <http://publications.pronett.nl>
8. KOENRAAD, A.L.M. (2003) *Supporting a demand driven, practice based approach to ICT-E competences development of educators: a pilot implementation of the PRONETT portal*. Paper presented at the ISATT 2003 conference <http://publications.pronett.nl>
9. KOENRAAD, A.L.M., HAAN, K., MARCILLA Y SEVILLA, A., RENSELAAR, E. VAN., SODOYER, A. (2003) *Learning to design WELL in a multilingual community of practice: a pilot implementation of the EU-Project PRONETT*. Paper presented at the Eurocall 2003 Conference. <http://publications.pronett.nl>
10. KRAL, M., MOOREN, A. VAN DER., NEUT, I. VAN DER., POPPEL, J. VAN., UERZ, D. (2002) *ICT Education Monitor: 4 years of education & ICT*. IVA/ITS  
<http://www.ict-onderwijsmonitor.nl/pdf/pdf-lijsten%202001-2002/ICTMonitor%20ENG.pdf>
11. SIMONS, P. R.-J., (2002) *Digitale Didactiek: hoe (kunnen) academici leren ICT te gebruiken in hun onderwijs* (Digital Didactics: how (can) academics learn to use ICT in their teaching). Inaugural speech. University of Utrecht.  
<http://www.uu.nl/content/INAUGURATIEROBERTJANDEF.pdf>
12. VLIET, R. VAN, GRAAFF, R. DE, PILOT, A., SCHELTINGA, H. (2003) *Virtual Project Rooms for Education in Design and Research' . Proceedings from the International Conference on Information and Communication Technologies in Education ICTE 2002, 13-16 November 2000*. Badajoz, Spain  
<http://www.uu.nl/content/ICTEpaper%20deGraaff%20Pilot%20vanVliet.pdf>
13. WENGER, E., MCDERMOTT, R., SNYDER, W.M. (2002) *Cultivating communities of practice: a guide to managing knowledge*. Boston: Harvard Business School Press.
14. WILLEMS, G.M., STAKENBORG, J.H.J., VEUGELERS, W. (Eds) (2000) *Trends in Dutch Teacher Education*. VELON. Garant:Leuven-Apeldoorn.

**Author**

Ton Koenraad, MA (Utrecht)

Utrecht University of Professional Education, Faculty of Education

Archimedeslaan 16

3584 BA Utrecht, The Netherlands

Mail: [Ton.Koenraad@feo.hvu.nl](mailto:Ton.Koenraad@feo.hvu.nl)

Homepage: <http://www.feo.hvu.nl/koen2>