Networking Education and Teacher Training

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This paper reports on the EU-project 'Professionally Networking Education and Teacher Training' (PRONETT). The key objective of the PRONETT project (2001-2004) is to develop a regional and cross national learning community of pre- and in-service teachers and teacher educators supported by webbased resources and tools to collaborate and to construct shared understandings of teaching and learning in a networked classroom.

The reasons for the initiative and the design principles of the PRONETT portal offering a virtual infrastructure for the collaboration of participating students and teachers at www.PRONETT.org are presented.

The initial pilots carried out by the project partners are described, highlighting the co-ordinating partner's activities targeted at contributing to the local realisation of ICT-rich, competence based Teacher Education Provision.

Results are reported of the evaluation and implementation efforts aimed at validating the original portal design and collecting information to inspire further project development and implementation strategies.

We conclude by summarising the lessons learned and providing recommendations for improved and extended use and further dissemination of the project results and facilities.

1. Introduction

The PRONETT project 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 is called for.

The PRONETT project definition was inspired by recent changes in Teacher Education Provision in Europe (Furlong et al., 2000) and in the Netherlands (Willems et al., 2000, p. 49-60) and in particular by the state funded, Dutch, Educational Partnership Project (EPS, 1999-2002). 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 arrangements was considered highly relevant in this respect.

At Archimedes Lerarenopleiding the EPS project 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: educational partnership with schools; competence based

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learning and training; customized study programmes; dual mode approach; action research support from 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.'
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> (HvU Education & ICT Knowledge Platform 2003, p.5)

1.1. Monitoring of ICT developments in (Teacher) Education in the Netherlands

For the evaluation of its ICT policies (Ministerie van Onderwijs, Cultuur & Wetenschappen,1999) the Dutch Ministry of Education commissions various studies, among which the ICT-Education Monitor (Kral et al., 2002). Some trends in the monitoring reports which are applicable both to teachers and teacher educators are:
- Use of VLEs[3] occurs in teacher education but is only in an experimental stage in secondary education; scarce presence of ICTuse for pedagogically innovative approaches; secondary schools rate their use of ICT for learning as 'beginning', half of the Teacher Training-providers consider themselves advanced in this respect (Braam, 2001, Inspectie van het Onderwijs, 2001a).
- Despite the fact that ICT increasingly forms an integral part of schoolpolicy there is still a lack of competence and confidence among staff to integrate ICT in teaching. (Vreugdenhil et al., 2003).

Teacher Education organisations' potential role in school development is also reported in independent studies initiated by the 'ICT op School' Foundation[4]:

> For a further implementation of ICT in education most school boards are in need of support for the instrumentation of professional development and educational innovation. There is also a need for concrete help with the integration of ICT in daily lesson practice. (Stegers, 2002)

The EPS project, 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 EPS project.
The main points of criticism can be summarised 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. Forms of professional development considered to be effective such as collaboration with schools and (international) collegial networking are scarce. Teacher education providers are explicitly summoned to support regional experiments necessary for innovation and help the develop knowledge building involved (Inspectie van het Onderwijs, 2001b).

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[3] Virtual Learning Environment (e.g. Blackboard, WebCT, Moodle)
[4] The 'ICT op School' Foundation is a state subsidised organisation founded by the Association of Dutch SchoolBoards. Its main goal is to stimulate effective and efficient integration of ICT in primary and secondary education.

1.2 A Dutch Benchmark for ILT[5]/ICT-rich teacher education provision

Confronted with the monitoring results a national working party of teacher educators (the ICT-Network, one of the results of the EPS-collaboration between Teacher Training providers focusing on ICT issues in teacher education decided to develop a description of features defining what is called an 'ICT rich' Teacher Education programme. For a description of this instrument and a number of illustrative practices see (Koenraad et al., 2004)

2. The EU-project PRONETT

2.1 Project goals

The publications (Parnell, 1998, 1999) on some of the functional uses made of ICT at the University of Cardiff led to an exchange of ideas and a partnership to develop a project proposal. 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 (Kirshner & Wopereis, 2002) 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. In line with the participatory model of modern higher education (Collis & Moonen, 2001) the portal is expected to help the student teacher to realise her role as a starting professional (HvU Education & ICT Knowledge Platform, 2003) in the domain of information and learning technology.

2.2 Literature study

As comparable problems with the integration of ICT were experienced by the other core project partners (Cardiff University, University of Gent, Autonomous University of Barcelona) a literature study was called for to define the needs at a European level. The assumptions below were largely corroborated by the available data.
- The use of ICT in schools is on the increase but many teachers do not exploit the use of ICT skills into new methodologies of learning and teaching in curriculum practice.
- The potential of ICT as an educational medium for changing the pedagogy of teaching and learning has yet to be fully exploited
- New web portal software provides exciting instruments for the realisation of constructivist principles and related forms of collaborative learning, problem solving and the creation of collective new knowledge.

(Koenraad et al., 2002)

2.3 PRONETT Web Portal

The multilingual PRONETT portal is a customised version of *'Plone'*, the Zope-based Content Management System (CMS). The inspiration for the initial design of the portal has come from an analysis of the local needs observed by the project partners and the project's literature study (Koenraad et al., 2002) on relevant project related issues in Europe such as ICT training and tools in schools, teacher education, virtual community development and

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[5] ILT = Information and Learning Technologies

school needs. Other considerations refer to critical features of successful continuing 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) (van Eck et al., 2001).

Members have access to personal workspaces to which all sorts of content-types (file, picture, document, forum tool etc) can be added and published. Contents developed in a so-called project folder can be published into a database which is searchable with a dedicated search-engine.

Access to these learning objects is meant to facilitate reuse of educational content and stimulate the dialogue between educational organisations and actors (teacher educator, teacher trainee, school based coaches and in-service teachers). This dialogue is seen as preconditional for the development and sharing of knowledge related to ICT-related pedagogy in (subject) teaching.

Schematically the main ideas in the design philosophy can summarised as seen in Figure 1. below:

PRONETT design principles	Web Portal Element	Functionality
Empowerment of individual (student) teachers.	Personal Workspace	Web based virtual project room, building blocks for designing flexible learning.
Enabling the production of innovative and customized learning materials and environments.	Edu-Tools	Educational engines and templates (e,g, WebQuest-editor).
Support for communication and collaboration by professionals.	Forum	Help and advice, knowledge sharing, offer and demand of products and services.
Access to and re-use of learning objects. Resource for ICT-E curriculum (e.g. meta-evaluation)	Published Projects Catalogue	Show and Share results of course assignments and work related projects. Quality assessment.

Fig. 1. PRONETT Portal Design Principles

Exchange and communication between individuals, project teams and organisations is supported by a 'public' forum. Its file sharing and decentralised user management facilities make it very suitable for CSCL[6] approaches and project- and case based learning, the usefulness of which is widely recognised in higher education (Simons et al., 2000).

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 VLE.

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[6] Computer Supported Collaborative Learning

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.

3. PRONETT Portal implementation pilots

3.1 The Utrecht implementation of PRONETT

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 and in this way also contribute to the realisation of the ICT-rich Teacher Education Provision as benchmarked by the Dutch national EPS-ICTnetwork (Koenraad et al., 2004) and as adopted by ADEF, the federation of Dutch TT-providers.
In this view workplace and school practice related activities are seen as the best part of the curriculum through which the teacher education institute can contribute to developments in the ICT-E domain at regional schools. Consequently workplace based learning is expected to be ICT-rich and to facilitate the student teacher in bringing innovative practices to the school and contributing to school defined needs.

3.1.1 Implementation Goals and Strategy

Expected results of the pilot implementation phase were:
- An evaluation of the feasibility of using school based defined needs as input for curriculum activities.
- A scenario and materials for the full implementation of a demand driven curriculum where ICT-rich education is concerned.
- A contribution to the evaluation of the Graphical User Interface of the PRONETT Portal: data collection of user experiences.

A plan for the pilot implementation phase was developed in line with the guidelines: 1. Don't forget the road map. 2. Follow the leader 3. Be just in time and 4. Watch the 4 Es.
This advice (Collis & Moonen 2001, p.45-66) has been adopted as a generic PRONETT implementation approach. A combination of top down and bottom up strategies was applied. Management as initiator of the full implementation and middle management (ICT-coordinator) to function as leader of the pilot implementation. And involvement of specific, potentially successful teams (Modern Languages, Internationalisation Office) and individual teachers (advanced ICT-users)
To reach the goals mentioned two types of activities were carried out:
a) experiments by teacher educators
b) activities by a working party to operationalise regional collaboration

3.1.2 Results

Pilots at Archimedes Lerarenopleiding
Eight teacher educators in 6 different teams were approached. After having been introduced to the portal functionality by PRONETT-team members in individual sessions four teacher educators in 3 different teams (English, French and Spanish) decided to participate in the pilot implementation. Foreign language methodology courses (n=4) involving the production of

web based materials by student teachers (n=73) were selected as the context for experimentation.

One teacher in the Internationalisation Office decided to experiment with the provision of virtual support for a 2-day, live conference event for student teachers in the Netherlands (n=75). Typical course activities and tasks are:
- motivated selection of authentic resources (paper / multimedia) on the basis of instructional criteria
- presentation of educational reviews of course book materials and URLs
- design of communicative activities and task based activities such as WebQuests for a specific target group of learners in the 12-16 age range by dyad project teams.

An important motivation for the trainers' participation was the provision of facilities for computer supported collaborative production of materials and the opportunity for students to actually publish their results[7]. The trainers, with a view to their personal professional development, also welcomed the chance of experimenting with virtual environments and blended[8] learning.

On the basis of the available, paper based course syllabus the teacher educators and the PRONETT coach collaboratively developed ideas and defined the related functional specifications for the online support of the courses.

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).

The technical realisation of the support structure was then realised by the PRONETT team. Fig.2. below shows a workspace-folder of one of the participating teacher trainers to support her methodology course 'Making Materials'.
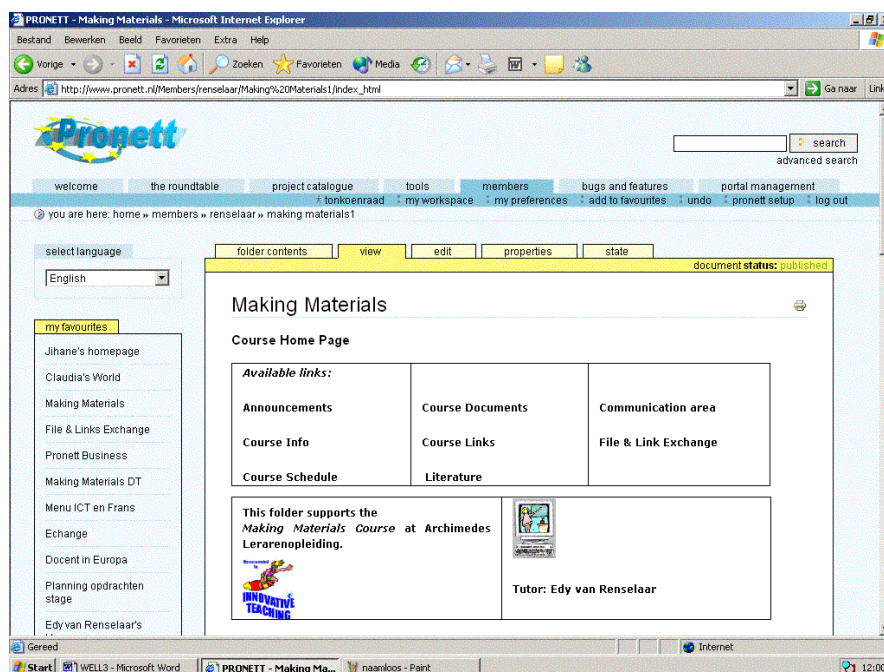

Fig. 2: Course folder in Teacher's Workspace

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[7] Up to 2002 individual trainers and students did not have access to local web publication facilities.

[8] We adopt the definition of ' blended learning' as: the combination of online learning and classroom training; it consist of a mix of ICT supported learning activities combined with some traditional classroom activities".

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 (Koenraad et al., 2003).

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[9] 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.

3.1.3. Utrecht Pilots evaluation

In the foreign language course groups all students met the course requirements and produced web based educational materials. No formal assessment procedure was followed for publication of course products in the PRONETT materials database.
The teacher trainers involved required compliance with course requirements and the related criteria set for final products. For the students of French this meant applying the LanguageQuest design principles and the related evaluation rubric developed by the TalenQuest project (Koenraad & Westhoff, 2003).
Products were shown and results reported and discussed (peer and tutor feedback) during a final plenary session.
Most student collaboration seem to take place during the f2f-meetings and work sessions at the institute. Student dyads usually sat together in front of PC's adding or editing content in one of the partner's folders.
The Spanish workgroups appointed one of them as webmaster so that one folder in this student's workspace could be used as a virtual editorial boardroom and for the hosting of the final product.
Contrary to expectation (especially where the language students were concerned) no overt attempts to make international contacts have been registered. Hardly any observable[10] computer mediated communication took place beyond course or project groups, even within the same language community, let alone trans-nationally.

From the After Action Reviews (AARs) with the teacher educators it appeared that

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[9] Within the categories 'generic' and 'subject specific' three types have been defined:
   a) Developmental tasks b) Coaching tasks and c) Research tasks
   Examples are:
   - contributing to the development of the school website, designing subsites for specific schoolsubjects, developing pages for these sites, designing (a series of) lessons or webquests, developing worksheets for use with professional tools in vocational education (a)
   - advising a subject team on the purchase and/or implementation of specific tools or courseware, coach students/pupils in self access centres (b)
   - mapping needs and competence levels of staff as input for professional development planning (c)

[10] In the pilot implementation phase the evaluation research has been restricted to the, for members, publicly accessible portal areas.

a course period of 7 weeks dedicated to the production of web based materials can only foster such communications if the production teams are international and/or explicit tasks for this domain are set. Existing courses need to be redesigned if an integrated approach to competence development in the areas of e-learning and CALL-methodology and its related ICTskills is to be realised. Besides, trainers also reported lack of time to use the course support site provided in their workspaces to actively experiment with e-learning and online moderating.

A general conclusion was that to really benefit from the functionality for virtual collaboration offered in the PRONETT portal 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 (van Vliet et al., 2003).

3.2 Implementation pilots at Cardiff University

PRONETT members in Cardiff included PGCE pre- and in-service and BEd Voc. students. In the pilot implementation a focus group and volunteer users participated.
Main activities included:

- Folders for web publishing and creation of quest templates (In-service teachers)
- Reflective and periodic Journal accounts whilst on placement. (PGCE)
- In-service peer group interactions in developing teaching resources
- BEd voc degree students for conferencing and writing collaborative papers ~ an initial trials with power point presentations.

All products processed within PRONETT were part of the formal assessment process in the course programmes at Cardiff. Work was evaluated to the criteria stated for the assignments.

3.2.1. Collaboration

Member workspaces have been effectively used for projects which encouraged collaborative use of shared folders. An example is the development of and preparation for art work over a period of time and other approaches to learning. (Constructing paper assembled landscapes as a design brief for a landscape project) Here, the front web page format of the topic folder was used to display the class results at the end of the workshop session by hosting and editing digital photographs. Project information could be beamed directly to the whiteboard from portal workspaces to illustrate construction and overlay techniques etc.

The portal demonstrated functions here which were both virtual and real time in application. The portal appeared to be an effective classroom instrument for learning as well as a collaborative platform for preparation and delivery. Such workshops can be either student group led or teacher centred depending on context or topic. Results, and other information etc. are always accessible to all students if work is published in a project folder item within the portal: as non members can access this interface menu area in the portal.

Learning Journals and placement portfolios
Many students kept comprehensive placement portfolios including their fortnightly learning journals in their workspaces. These were shared with given roles assigned to tutors and peers alike in terms of editorial access. Tutors could access and examine files from home or at work whilst trainees could complete and update portfolios as required.

Lesson folders and home work project folders could be published and accessed by class groups in the catalogue section of the portal as non members. Workspaces and PRONETT were thoroughly appreciated by students who were placed at distance from the University, e.g. the Channel Islands~Jersey.

3.2.2 Cardiff pilots Evaluation

Access to personal workspaces and the functionality provided by the portal was appreciated and used well. Editing within the PRONETT workspace was effective once the system was learnt: as was the case in the trial group but not in the uncontrolled group.

PRONETT following the pilot evaluation, meets user's expectations as a useful collaborative "work bench". At least this is the perceived view. It is seen as a web tool which facilitates working together on assignments and events. Both questionnaire and focus group outcomes highlight the portal role in this respect. PRONETT is not seen as a resource database partly because there is a reluctance to place work in a domain where there is varying quality and no "interface" monitoring function. Besides, lack of understanding about metadata and classification does not help. Given the nature of current assessment and the high focus on individual performance against course criteria it is difficult to see students showing their work in the catalogue for fear of plagiarism and or ridicule if they fall below par or expectation.

Ironically there was reluctance therefore to publish work as students were conscientious of their work being peer reviewed and subsequent correlation with grades received. Current course approaches, audit trails and practice and its associated ethos for measuring everything against FENTO standards apparently goes against collaborative working methodologies and the employment of new approaches to networking and learning.

An older paradigm of training and central agency control over the ITT curriculum in terms of policy and practice is in many ways thwarting new patterns of innovative working and expectation. PRONETT nevertheless functions well when used in given focused and driven contexts in parallel to existing audit and curriculum processes. It is an effective generic tool which can be applied imaginatively.

Students appreciated that a homepage could be constructed using the web format and embody live links and pictures. Once realised, lesson plans and events followed which exploited the potential of posting other web objects and assessment scripts on the front page of various work folders. In this case the student made links to Finland. WebQuests likewise can be constructed using project folders from the item list and published to the catalogue for students to complete or undertake as an assignment.
Others report on opportunities the portal offers to experiment with web based teaching and learning while on placement.

4. Discussion

4.1 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
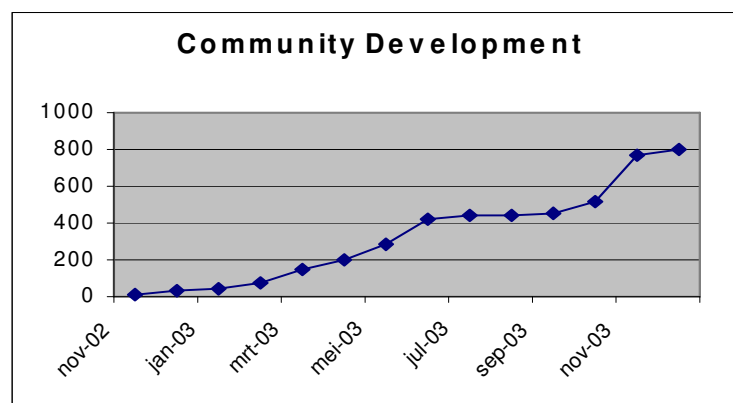
Community Development

Fig.4. Portal membership growth

between March and June 2003 marks the start of the pilots by the partners in Belgium and Holland. With the holidays approaching membership growth stopped at 455 in July. Then in October 2003, 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.

4.2 Usability Research

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

-   an online support for 'traditional' courses (blended learning)
-   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 and autonomous language learning activities
-   virtual facilities to prepare and support a (student) f2f conference
-   web publication of educational material
-   coaching at a distance (learning journals)
-   student portfolio

This flexibility is seen as an advantage over standard VLEs and is well appreciated by the competent ICT-users. For a similar conclusion also see (van Vliet et al., 2003). 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.

Graphical User Interface (GUI)
One of the targets of the piloting phase of the project was to test the portal's design and interface. With the help of various instruments (online questionnaire, interviews, written evaluation forms, observations) data has been collected about user experiences with the

environment. Data received has usefully been incorporated into the new and latest version of the portal. Overall, student reactions can be characterised as fairly positive. Critical remarks, most frequently found in the Dutch cohort, seem to carry the message that the site offered more functionality than users felt they can cope with.

The project's team general conclusion as to the overall design philosophy for the portal was that future development should be rather on the improvement of the individual workspaces and increase the ease of collaboration roles in content production and publication.
Among the new features and adaptations are the use of colour schemes to support the user's sense of location, a further structuring of the search facilities for members and projects and the use of more communicative interface terms and tab-labels to name but a few.

Furthermore we concluded that next to an improved user interface more is needed to promote the actual adoption and active use of the portal. Prospect users should be inspired by more and detailed documentation of 'innovative practice'. And that explicit training is needed for all concerned on how to use the workspaces.

The main changes have been based on the results of the pilots by the project core partners and the accompanying user evaluation research. Next to points of improvement this research has also revealed needs for additional features such as more facilities for member grouping, a facility to enable any Pronett member to invite attention for or participation in his/her project and an Online WebQuest Editor.

4.3 The trans-national dimension

At this stage of development (limited number of materials and curriculum driven activities; no moderating activities at portal level) students nor teachers, after being informed of its existence, apparently start using the portal 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.

Based on observations of the publicly shared areas of the portal we must conclude that there is still great reluctance on the part of the current member population to make use of the asynchronous communication facilities beyond their own course or project groups. Further evaluative research should focus on the workspaces owned by individuals and project groups. Additional user surveys and server data analysis will be needed to assess the size and form of activities, collaboration and knowledge-sharing that takes place in individual workspaces.

This does bring home, however, the complexities involved in developing a distributed community of practice across organisations. As similar observations have been made by other project partners, development of local community cells will be given priority, as the existence of active local groups is seen as preconditional for the germination of an international dimension. 'The differences in time-zones, affiliation and culture combined with size and a heavy reliance on technology make distributed communities different from local ones in several important ways' (Wenger, 2002, p. 119-120)[11].

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[11] Besides, it should be noticed that Wenger's work is based on observations and experiences in the profit sector and within individual, multinational firms, where the need for networking and knowledge sharing is a more integral part of professional life, also considering the competitive (and possibly personal) advantages involved.

On the other hand, now that some of the educators, after the pilot runs, 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: 'e-twinning', the teaming up between partner based teacher educators involved in comparable curriculum activities.

5. Conclusions

The evaluative data collected during the pilot phase has led to the following points for improvement and recommendations for future development:

- The portal is not a ' traditional' VLE. The CMS-basis supports a participatory model of education (student = starting professional). But for full exploitation new forms and levels of literacy are needed for all actors involved.
- The portal should be introduced to students and educators to promote conceptual understanding and improve ease of use of the personal workspaces
- Training should include practice in procedures for collaboration and the technical realisation of vital e-moderating functions and knowledge sharing options
- More detailed documentation is needed of the variety in professional use (possible applications and innovative practices)
- The use of a second language for international communication or exchange of experience does not develop spontaneously. Explicit interventions (e.g. course redesign, special projects) are needed to promote it.
- Introduction of the portal as one of the available standard study tools at an early stage is recommendable. Preferably the portal is used as a standard component in the ICT-E curriculum line to support the development of collaborative competences.
- Participation of teacher educators in this type of project should be facilitated by integrating the activities in their individual professional development plans

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 instructional 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 professional competence development. Anticipating the further (local) development of competence descriptions for teacher educators and teachers (Simons, 2002, p.40-41; van Eck 2002, p. 31-39), possibly also at a European level (Admiraal et al., 2003) the portal offers opportunities for autonomy in the development of attitudes and competencies relevant in the near future for both students and educators. Examples are:
- functioning in or monitoring local communities of learning,
- e-moderating students/pupils projects,
- using the portal for personal professional development,
- designing learning activities using Learning Objects,
- practising Resource based teaching,

- preparation for contributing to and using Learning Object Repositories (Cohere Group 2002).

Another challenge will be to grow from being an unrecognized activity (invisible to the organization and sometimes even to members themselves) to institutionalized (= fully implemented, i.e. given and official status and function in (the partnership of) organization(s) (Wenger et al. 2002, p. 28).

The PRONETT consortium will proceed to develop the portal offering local and regional opportunities for ICT-E competence development in areas such as virtual co-operation, instructional design, blended learning, e-moderating) and a shared infrastructure for e-twinning organisations, international activities and curriculum projects.

Other Teacher Education provision organisations or individual (student) teachers and teacher educators are cordially invited to freely use the portal and its tools, share experiences and/or join our initiative at www.pronett.org

References

Admiraal, W. et al. (2003) The European Syllabus for pioneer teachers. EU-Project 'Ulearn ' Document available at: http://ulearn.itd.ge.cnr.it/documents/report2.doc

Braam, H., Gennip, H. van, Kral, M., Sontag, L. Neut, I., van der & Kools, Q. (2001) ICT in Vogelvlucht. Stand van zaken 2000/2001. Onderwijsmonitor. Tilburg/Nijmegen: IVA/ITS http://www.ict-onderwijsmonitor.nl/pdf/pdf-lijsten%202000-2001/vogelvlucht.pdf [Accessed: 17/06/03]

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 [Accessed: 10/05/03]

Collis, B., Moonen, J. (2001) *Flexible Learning in a Digital World: Experiences and Expectations.* Kogan Page, London, http://education1.edte.utwente.nl/00FlexibleLearning.nsf/FramesForm?ReadForm [Accessed: 10/06/03]

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.

Furlong, J., Barton, L., Miles, S., Whiting, C., Whitty, G. (2000) *Teacher Education in Transition.Re-forming professionalism?* Buckingham: Open University Press

HvU Education & ICT knowledge platform (2003) Educational Innovation & ICT. Giving direction to policy at the University of Professional Education Utrecht. Position Paper.Available at: http://www.koenraad.info/PRONETT

Inspectie van het Onderwijs (2001a). Onderwijsverslag 2001 (Education Report, section ICT) http://www.owinsp.nl/producten/onderwijsverslag_2001/ov2001.html [Accessed: 12/06/03]

Inspectie van het Onderwijs (2001b). Resultaten van 4 jaar ICT-beleid in het onderwijs. (Results of four years of ICT-policies in education). http://www.owinsp.nl/producten/rapporten/resultatenictbeleid.pdf [Accessed: 12/06/03]

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/producten/rapporten/deel_ICT3.pdf [Accessed: 12/06/03]

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.
Available at: http://publications.PRONETT.nl

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 for the EuroCALL 2003 Conference. Available at: http://www.koenraad.info/PRONETT

Koenraad, A.L.M., Westhoff, G. J., (2003) Can you tell a LanguageQuest when you see one? Design critera for TalenQuests. Paper presented at the Eurocall Conference 2003.
Document available at: http://www.koenraad.info/CALL

Koenraad, A.L.M., Jongejan, J.I., Klijn, C., Schoot, H.W., Tomson, A. M. (2004) Benchmark development for the ICT-domain in Dutch Teacher Education Provision. Paper presented at the Minerva Dissemination 2004 Conference: 'ICT in Education and Professional Development of Teachers'. Document available at: http://www.koenraad.info/publications

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
[Accessed: 16/06/03]

Ministerie van Onderwijs, Cultuur & Wetenschappen (1999). Onderwijs On Line, Verbindingen naar de toekomst. (Education On Line, links to the future) Den Haag: SDU.
http://www.ictonderwijs.nl/archief.htm [Accessed: 14/06/03]

Parnell. J. D., (1998) An action research approach to implementing ICT in teacher training with particular reference to the effectiveness of CGI scripts in the utilisation of electronic portfolios. ITTE. Information Technology for Teacher Education. University of Amsterdam ITTE Annual Conference. Printed Paper.

Parnell. J. D., (1999) A Manikin without clothes. in Lewis. R., (Eds.) *Integrating Information and Communication Technology in Higher Education*. ELECTRA, University of Maastricht. Holland. Kluwer Press.

Simons, P. R-J., Linden, J. van der, Duffy, T.M. (Eds) (2000) *New Learning*. Dordrecht, The Netherlands: Kluwer Acadamic Publishers.

Simons, P. R-J., (2002) Digitale Didactiek: hoe (kunnen) academici leren ICT te gebruiken in hun onderwijs (How (can) academics learn to use ICT in their teaching). Inaugural speech. University of Utrecht. http://www.uu.nl/content/INAUGURATIEROBERTJANDEF.pdf
[Accessed: 14/06/03]

Stegers, E. (2002), 'Schoolbesturen over ICT in het onderwijs'. (Schoolboards on ICT in Education) Amsterdam: NIPO
www.ictopschool.net/files/Nipo-bestuur-en-ICT-2002.pdf [Accessed: 14/06/03]

Vliet, R. van, Graaff, R. de, Pilot, A., Scheltinga, H. (2003) Virtuele projectruimten voor leren ontwerpen en onderzoeken. Velon, Tijdschrift voor Lerarenopleiders, 24(1)
Also available as '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 200. Badajoz, Spain
http://www.uu.nl/content/ICTEpaper%20deGraaff%20Pilot%20vanVliet.pdf
[Accessed: 18/09/03]

Vreugdenhil-Tolsma, B., Pluijm, J. van der, Sontag, L., Haaf, J. van, Neut, I. van der, Kools, Q., Hoogenberg, I., Wijk, B. van. ICT-onderwijsmonitor / voortgezet onderwijs 2001 – 2002 http://www.ict-onderwijsmonitor.nl [Accessed: 14/06/03]

Wenger, E., McDermott, R., Snyder, W.M. (2002) *Cultivating communities of practice: a guide to managing knowledge.* Boston: Harvard Business School Press.

Willems, G.M., Stakenborg, J.H.J., Veugelers, W. (Eds) (2000) *Trends in Dutch Teacher Education. VELON.* Garant:Leuven-Apeldoorn.