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This report summarizes the results of the teaching carried out by Hungarian NETIS partner (University of West Hungary) during the project period in Sopron, Hungary.

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NETIS Teaching Report, University of West Hungary

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Sopron, August-December 2008

Table of contents

Basic data.....	6
The didactic approach of the courses.....	8
Competence portfolios and tasks	9
Didactic experiences.....	11

Basic data

Place of course: University of West Hungary, Faculty of Economics, Sopron.

In the first half of the academic year of 2007/2008 we tested the NETIS project teaching materials on a group of 15 students of the Faculty of Economics at the University of West Hungary (Nyugat-Magyarországi Egyetem) in 2nd-4th class, and we had 15x1,5 teaching units. The course was elective. The teaching was delivered in the form of blended learning. The two lessons per week were held in the well-equipped computer lab. The students worked with the Moodle learning management system. We selected four from 13 chapters of the teaching materials because we decided that more chapters in a semester would be too much to handle. The selected themes were technology, networks, e-administration, e-learning. What was the basis for the choice of these modules? The students of the faculty of economics had the following specializations:

- Regional economics
- Non-profit management
- Finance/Banking
- Management and leadership

I asked the students, which topics would have fitted to their specialization. I asked the students about their personal interests too – on this base they chose the relevant tasks (essays): „The user and the shaping of technology”, „My life and the usage of ICT”, „Using of social networks”, „E-democracy at local level”, Reflections on using eLearning environments” etc.

My didactic intention was to practice all the elements of network learning thoroughly. Data mining, knowledge sharing, network building – they are important elements of information society topics. For example: the basis for a successful knowledge exchange is possible only in such a way if you prepare your own knowledge map. The preparation of a detailed dictionary also has proved to be very labour-intensive. The students have written essays on the chosen topics. This process was accompanied with individual tutoring.

What was the advantage of this method? The students could get to know the e-learning environment thoroughly. They could try out and execute single knowledge management steps in your speed. Their activities were tutored individually. They weren't afraid of heavy knowledge controls. The environment was productive. My intention was to show the ways of the knowledge acquisition, and not to inform about full knowledge narratives.

I accepted the disadvantage that not all the topics of the course were touched. I only recommended the rest for the BSc students and their teachers. Of course completely different ways of the knowledge acquisition are possible for MSc or PhD students.

In the second half of the academic year of 2007/2008 I didn't have sufficient registrations for the elective course „Information society” (only 6 registrations). I also announced an elective course "Data mining". I got 15 registrations from BSc students (1st class) for this course. I decided that we would practice the creation of an ePortfolio and a knowledge map in this course. In addition, we were able to learn intensively the Internet

search and the creation of an own learning database (in wiki and in glossary). Anyway, these elements are important parts of all modules of the course „Information society.”¹

¹ I exported this course in the NETIS moodle platform: Module 12/a: „E-portfolios in the network learning”, in Hungarian version.

The didactic approach of the courses

One of the important goal of the courses was to organize effective knowledge sharing between students and to involve other tutors and student groups in a common learning organisation.

Participants in this kind of networked learning need information about the knowledge structure of each other. The problems are: In which way can you document and share the knowledge in the learning network? What kind of knowledge do you have? In which way can you register and document the prior learning experiment, the tacit knowledge? A possible solution can be the using of knowledge maps and e-portfolios as tools for knowledge sharing?

The learning goals in form of sophisticated competence portfolios are helpful tools to manage the self-organised learning process. The participants can check their own competences and steer the learning due to this self-evaluation.

To reach the given learning goals the course creative tasks and projects were provided. We created an e-portfolio in WIKI of Moodle and incorporated the knowledge map of the students in it.

What were the main objectives of the experiment?

- Organising learning into a network, i.e. students studying from each other
- The creation of an e-portfolio and knowledge map which would enable us to mutually exploit one another's tacit and explicit knowledge.
- Testing creative project tasks with Internet support.

An important point of the experiment (by the I. semester course) were the reflection of the moral of the renewed circumstances, and secondly, by generalizing our daily experiences, to lay down a map of the potential opportunities and contradictions of the information society. We tried to organise a reflection of the everyday experiences of the students, regarding the given topics, e. g. the use of information technology, networking, e-government, eLearning etc..

Competence portfolios and tasks

The competence-portfolio table planned through joint work served the goal of guiding students in the preparation of their own individual knowledge map, thus providing a source of knowledge, which is more systematically and easier to document than biographical narratives.

The function of the database-management function (WIKI) built into Moodle provided help in the preparation of an e-portfolio, for which the following short list of possible themes was proposed:

- Learning biography
- Learning style
- Completed tests, exercises
- Selected sources of study
- Hobbies
- Success stories
- Family background
- Participation in real and virtual social networks
- Work experience
- Experience abroad
- Knowledge map

To the competence portfolios we ordered project-like tasks supported by Internet. The tasks aim to be solved in a cooperative way. These kinds of assignments helped a lot in reaching the given competence. This way every student was able to compare his/her own catalogue of competence with the learning objectives and subsequently solve the assignments according to his/her needs. In every instance Internet supported tasks were assigned to the competences that were to be mastered. We designed these project-type tasks in such a way that their completion would lead to the acquisition of the desired competence. In theory, the students were able to select those tasks to complete which (revealed with the help of the competence catalogue) could compensate for their gaps in knowledge. All of these elements of the integrated learning environment (competence catalogue, project ideas, information, opportunities for self-evaluation and communication) enable participants to develop that particular competence that they were the most motivated to achieve based on their personal drive. Toolbars containing checklists, tables, flowcharts and methodology guides, as well as accessible lists of online and printed literature were provided for the projects.

The tasks (creative projects):

- A glossary to be developed. On this platform the students are asked to create a common additional glossary. The students look into whether there are expressions in the text of the chapter which they cannot understand. These are placed in the glossary (lexicon) of the given chapter. If they are not able to find a suitable definition, they then use the Internet to find explanations that help them to understand the expression. These are stored in the glossary of each chapter. Thus, by the end of the semester

a glossary is developed through collective work, which helps with individual problems of understanding.

- Analysis of Internet forums

The students select an Internet forum suitable for the topics of the chapter and analyse it in regard to what kind of information exchange is taking place in them. Possible questions:

- Information flow (centralised vs. decentralised diffusion of information)
- Content of information (alternatively: their position on the data, information, knowledge/master knowledge scale – relative to the level of the question posed)
- The degree of information-spread/proliferation spontaneity/organisation
- The relevance of the information to the set objective
- The degree to which the credibility of the information can be validated

The students organise a type of information exchange forum in which their own collection of links, parts of texts and book titles connected to the chapter can be stored, and these can be exchanged and commented on by them. They organise debates on the Internet forum on selected problems from the chapter.

- Comments on media presentations.
- Creation of own profile.
- Creation of an own ePortfolio. The students make their own e-portfolios with the assistance of Moodle's WIKI function. The e-portfolio facilitates network, co-operative learning. One of the important points when creating the e-portfolio must be that when a given piece of information is provided it must help the other participants of the network to understand the tacit knowledge and knowledge source the portfolio's maker offers.
- Exchange of experiences. In this forum students are asked to exchange experiences by looking at the personnel profile of the participants and examinations details on the specific experiences and knowledge of the participants of the course.
- Learning blogs. The students have the possibility of commenting on their learning process in the blog menu. Bibliography database. Students are asked to contribute by updating the list of the literature.
- Self controlling questionnaire. The student completes the questionnaire in the beginning and the end of the semester thus enabling identification of how much the student has learnt. Self controlling questionnaires helps to identify the own competencies (for example "Networks"). I am able to ... (1: not at all, 5: excellently)
 - define the concept of network society.
 - identify the most important economic and social changes pertaining to networking.
 - identify the major authors who write on networking and related concepts.
 - identify, describe the characteristics of the social network used.
 - participate in the "Small World Project".
 - reflect my participation in social networks
 - analyse the Moodle learning environment as a knowledge-exchange network.

Didactic experiences

The students have used the interactive tools intensively. It has brought them obvious joy that they can take part even in the knowledge creation. They have been enthusiastic when the entries have increased in the dictionary. A positive echo also has reaped that they could look and learn from the solutions of other persons and groups. With joy they have created the ePortfolio of their own. Some interesting success stories arose for discovering the hidden knowledge.

Hence, a whole new series of questions arose:

- Do the students have the knowledge (informal, tacit, experiential) that fits in with the themes of the course?
- Do the students need to adjust to the course or does the course have to be adjusted to their preliminary knowledge?
- How can students learn from one another (and indeed how can they be taught), if personal knowledge is not represented? Does the present organisational framework have the potential for such intensive work to be done so that individual competence-portfolios and knowledge maps enabling students to use each other as sources of knowledge could be created?
- How is it possible to create the opportunity for the teachers and students of other traditional universities” to be integrated into the co-operative knowledge production afforded by network learning?
- How does the role of the teacher change in such an operational method?
- Is this teaching method suitable for preparing students to meet the rigidly designed exam requirements?
- Is the Hungarian university system of today ready to embrace this kind of an intensive tuition tailored to the individual?
- What does the “knowledge” which must be transferred actually mean?
- While teaching methods are closely tied to the curricula, the present curricula do not support experimental projects. How can this contradiction be resolved?

The most difficult task in the project was to organise effective knowledge sharing between students and to involve the other tutors and the other student groups of other institutions in a common learning organisation.

What could we make come true of the network learning? The students have occasionally helped each other. However, this has mainly confined to technical problems. The knowledge exchange often confined to technical solutions, namely, how to organise the dictionary or the database.

We could not involve tutors of other universities in the network.

It was more difficult than expected to identify the knowledge of the students and to create a good ePortfolio in the WIKI database of the course.

The students and the university staff are socialised for the traditional centralised, linear learning teaching. To become familiar with the new technology and the new didactic paradigm requires, in the initial phase, approximately to triple effort of work. However, this effort is not usually recognised in the University time scheduling. Neither are the traditional regulations of the studies compatible with the networked learning. A question that occurs is regarding the accreditation when several institutions teach together, in a cooperative network.

What difficulties were encountered when using the knowledge map? Drawing up the knowledge map entailed collaborative elements built on using each other's experiences but it did not serve as a genuinely mutual and professional knowledge base. Since the exploration of tacit knowledge, the recognition of everyday experiences as knowledge, and the analytical definition of knowledge levels were very time consuming, there was not enough time and energy left to motivate and organise a real exchange. The economics students who were inexperienced in the types of tasks the e-learning course expected them to perform, for example in rendering their everyday and "tacit" - i.e. non-structured – knowledge explicit and explaining this. The formulation of experiential knowledge in the form of organised concepts proved difficult and required the use of special methodology.

Although we had some creative tasks that included elements such as learning from each other, the practical use of the competence-catalogues, and the application of these were rather ad hoc and rare. For example, it was not possible to motivate the students to comment on one another's solutions to tasks. (However, students who were more experienced in searching the Internet and using Moodle successfully helped the beginners and it all developed in a spontaneous way.)

Another plan that proved to be an illusion was that the students would follow individual learning routes based on their individual knowledge maps. Although the students did fill in the self-assessment tests, we did not use the results of these to explore ramified learning routes with several stages. A completely different kind of logistics and a different organisational form would have been necessary for this, which could not be realised within the framework of our project. The study of individual knowledge maps and the organisation of each students learning route could not be carried out in just one semester.