Information Society Studies in Practice - a Networked Learning Case Study

Robert Pinter

Information Society Research Institute, Budapest University of Technology and Economics, pinter.robert@ittk.hu

Abstract

NETIS (Network for Teaching Information Society) is a consortium, the aim of which is to develop a course as part of a two-year programme (2006-2008), with the support of the European Union funded Leonardo da Vinci Programme. The course prepared by NETIS is designed to provide an introduction to the information society studies mainly for undergraduate students.

The project aims to improve the skills and competences of students, teachers and researchers by developing a widely accessible, innovative e-learning course on the information society. We use a modular course-design and take advantage of international synergies to produce adaptable, reliable contents. Through applying these means NETIS expects to increase the participants' awareness and reflections on the impact of the information society on everyday life.

NETIS has developed an electronic and e-learning course book in both printed and electronic forms and an electronic textbook on the information society, and has organized test teaching in participant countries. Meanwhile NETIS publishes research reports on students', teachers' and researchers' expectations regarding learning and teaching the information society. Finally the NETIS team will prepare a methodology report on how to teach this subject in Europe, and how to use traditional and e-learning methods in a blended mode.

Keywords

Network for Teaching Information Society (NETIS), information society studies, networked learning, teachers, students, case study

NETIS in general

NETIS (Network for Teaching Information Society) is a consortium, the aim of which is to develop a course as part of a two-year programme (2006-2008), with the support of the European Union funded Leonardo da Vinci Programme. The course prepared by NETIS is designed to provide an introduction to information society studies mainly for undergraduate students.

One of the main achievements of this initiative is a course book which was published in Hungarian in 2007 and will be published in English and Greek in 2008, and prepared in printed, in Moodle (e-learning) and in CD versions. The course book is supplemented with a separate collection of readings to provide further help to students (i.e. textbook with studies, student papers and country reports). Based on these materials courses were taught in several institutions of higher education from the autumn of 2007 in England, Greece, Hungary and Slovakia, both through traditional learning and e-learning.

The NETIS team introduces the project itself, and its general experience in a separate panel at the 6th Networked Learning Conference: teaching methods regarding networked learning based on feedback from students (Sadler, 2008) and teachers (Bessenyei & Stoffova, 2008) and cultural aspects of the project (Siakas, 2008). This article provides the general introduction for the project and the other papers concentrate on the results in the most important fields.

The project aims to improve the skills and competences of students, teachers and researchers by developing a widely accessible, innovative e-learning course on the information society. We use a modular course-design and take advantage of international synergies to produce adaptable, reliable content. By applying these means NETIS expects to increase the participants' awareness and reflections on the impact of the information society on everyday life.

Teaching materials

Course book: 'Information society – from theory to the political practice'

The last ten years has seen a greater focus in the European Union on the 'the information society' than ever before. In addition to political programmes and economic development projects, numerous exciting research projects have been conducted and scientific publications have appeared. At the same time, people can increasingly perceive in their everyday lives that they are living in an information society. This is why Information Society Studies has been included in higher education curricula in many countries. Despite this, young professionals often find it difficult to fully appreciate the complexities of this field – partly due to deficiencies in higher education programmes and partly to the wide array of issues that Information Society Studies encompasses, from enabling technologies to shifts in the nature of society, its governance, economics and culture. Because the challenges presented by the information society can be felt in every sphere and sub-system of society, including amongst others, culture, education and healthcare, it is necessary to provide all participants in higher education with knowledge about the information society. When they encounter questions and dilemmas relating to the field, they will be able to recognise the applicability of their newly gained knowledge to society, the economy, politics and culture, i.e. to their own lives.

The aim of the NETIS consortium, with the support of the Leonardo da Vinci Programme, is to develop a course which will be able to fulfil the above-described role and provide an introduction to information society studies for all those interested. Our aspiration is that a model course will be designed based not only on the prepared teaching materials but also on the experiences of teachers as well as students, and that it will hopefully be regarded as being of a high standard all over Europe.

Obviously it is not only students who can benefit from a course book like this but also teachers, researchers, experts and all those who find this area interesting. Because the book is written in modules with each topic as an independent unit in itself as well as part of the larger whole, it is not necessary to read the course book in its entirety. The book contains thirteen chapters and covers the following topics:

* the concept, theory and history of the information society,
* the social role of technology,
* the network society and economy,
* the use of space and changes in social relations pertaining to space,
* the growing significance of innovation in the economy and in society,
* issues of legal regulation,
* the information society strategy of the European Union,
* electronic government and administration,
* the digital divide and e-equal opportunities,
* digital culture, the digitalisation of the cultural heritage, information literacy,
* electronic education, life long learning.

Naturally, a course book cannot address every relevant issue in every area. The aim of the book is to provide students with a strong theoretical background, placing special emphasis on the possible interpretations of the political applications and approaches taken to the subject. That is why issues

relating to information policy, digital equal opportunities, electronic government and digital culture, for example, have been included.[1]

It is important to emphasize that this course book primarily takes the approach of social sciences since there are other complex and detailed approaches that could be taken to the information society focussing more on economic, political and cultural aspects. We decided to take a more general approach so that the book would prove useful not only in programmes devoted to economics, political science and culture (e.g. for cultural anthropology, communication science, cultural management) but would also provide a sound foundation for students of almost all courses thus opening the way to more specialised studies on the subject.

Textbook: 'Colourful information society'

In tandem with the course book the project is also developing an electronic textbook which contains country reports, papers from the project partners (e.g. case studies, background studies and essays on relevant issues of the information society) and papers from students. This book will also serve as teaching material in itself, with a total of 15-30 relevant chapters on the topic. The textbook is presently being complied hence we only conclude the plans and the first steps made in this part of the project here.

Country reports: development of the information society on a national level
The textbook contains six country reports (six countries are represented in the NETIS project and every country partner is responsible for the preparation of their own report). These reports focus on how developed the information society is in the given country. Because all of the reports are written with the same structure, comparison is possible between the respective performances of the countries. The reports will be available in the native language of the given country as well as in English.

We use a decade-long or a longer time perspective in the following structure (based on a Hungarian research report on progress in the information society in 2007, see Blue Paper, 2007):
- Contents
- (Executive) Summary
- Introduction to the given Country Report
- The magic of numbers (important statistics on ICT infrastructure, use etc.)
- Information Society Politics
- Electronic public administration
- Information society and the economy
- Digital culture
- Education and R&D
- Recommendations – interesting topics for future information society research
- Bibliography

Based on the country reports we prepare a final analysis of the country reports, which summarize the differences and similarities between the six member countries in the NETIS project in regard to the development of information society in the last ten years.

Papers from project participants
NETIS partners are also preparing papers for the textbook and these materials will be available in February-March, 2008. The planned topics are: history of information society, e-learning (e-learning 2.0 experiences, learning management systems, simulation in e-learning), social linguistics and IT, digital TV, eInclusion, eVote, network knowledge transfer, cultural implications of the information society, small regions and ICT, Massively Multiplayer Online Role Playing Games (MMORPG) and identity, ID-theft in popular movies and hiperlocal information.

---

[1] A detailed explanation of what guidelines were followed in narrowing down the broad theme of information society to the topics dealt with in the book can be found in the final, closing chapter of the book (available after free registration at http://netis.nyme.hu).

We will publish a separate chapter on the current level of development: main trends and statistics of countries and world regions related to the information society in this decade. The textbook also contain annexes with statistics, bibliography, glossary, and further relevant sources in the research field.

Papers from students

NETIS put out a Call for Papers for students to publish papers in the textbook. The Call for Papers was successful. We have received 20 abstracts from four countries and from 16 individuals. There were abstracts not only from graduate students, but from PhD students and even young researchers as well:

- Five abstracts from Greece, all of them from ATEI of Thessaloniki with their interests being e-crime, cultural heritage, e-health, smart cards and e-commerce.
- 12 abstracts from Hungary (one of them is a full paper already). Topics are: education, social networks, the digital divide, the regulation of the internet and digital culture.
- Two abstracts from Italy on the topic of virtual identity and accessibility (e-Inclusion).
- One abstract from Middlesex University on training and e-Inclusion.

The idea for the work in the future is for every student to have a tutor who would help in his/her research. We primarily try to find a tutor for the students within NETIS or outside the NETIS network if necessary. Final papers will be published in the textbook by the end of May 2008, and the best ones will be published in thematic quarterlies of information society studies.

NETIS from the perspective of students

Needs and expectations of students – an online survey

At the beginning of the project the NETIS team carried out non-representative online surveys in five participating countries (England, Estonia, Greece, Hungary and Slovakia) in order to gain detailed information on the main target group's needs. Based on this research we identified needs and expectations of undergraduate students regarding participation in an information society course (January and March 2007, 492 respondents).

Results in general:

1. Experienced students:
- Participants are experienced computer and internet users.
- The majority of the students participating in the survey attend university lectures and seminars.
- The majority of students require online contact with their teachers and fellow students.
- Among the online services, the majority of students require examination themes (85%), precise description of assumptions (73%) and an online course syllabus (67%).

2. The textbook is necessary – in both a printed and online form:
- Irrespective of having participated in Information Society courses, respondents generally require a book on this topic.
- For the vast majority (80%) of the respondents a course textbook would be very useful.
- The majority of students (61%) considered the use of both printed and online versions as the best approach; the rest chose either a printed or online format in equal proportions.
- Half of the respondents would even buy the printed course textbook, while few students would be willing to pay for the online textbook.
- Nevertheless, almost every student said that they would be happy to use an online textbook if they did not have to pay for it.

3. Pros and Cons – A High Degree of Awareness:
- Respondents argued mainly in favour of the low price, easy accessibility and practicability of the online textbooks. They also appreciate the up-to-datedness and the possibility to easily update these books as well as the facility to search in the text.
- The main argument against online textbooks is that they are not easy to read on the screen. It turns out from the survey that the majority of students would not be willing to pay for online materials. In their opinion, access to online materials should be free of charge; or if a tuition fee is required, it should cover all expenses including courses and materials.

4. Summary – blended learning based on online and printed course textbook:
Generally, students are conscious of the tools and methods available and a great degree of awareness can be seen from their answers. After having looked into their requirements it is definitely worth providing them with both offline and online course textbooks and having blended learning based on these materials.

Feedback of students on courses

Teaching was started in September 2007, and meanwhile the test teaching NETIS team has been gathering students' feedback. In traditional classes we ask students to evaluate the given class (between one and ten), to justify their grade, and to reply to questions related to the class, e.g. interactivity of students, interesting and boring parts etc.

In our e-learning system we use online surveys to gather more detailed feedback from the students. These surveys include *Attitudes towards Thinking and Learning* in general (20 questions, e.g. *"In evaluating what someone says, I focus on the quality of their argument, not on the person who's presenting it.*" - Answers must be on a five-grade Likert-scale, between *strongly disagree* and *strongly agree*.) Further surveys serve as feedback after every class (or chapter) in the e-learning system, these are: *Reactions to the latest events* (with questions such as *"At what moment in class were you most engaged as a learner?"*; five open questions altogether) and *Relevance* (with questions such as *"In this online unit my learning focuses on issues that interest me."* Answers can vary between *almost never* and *almost always*; 26 questions altogether).

The first results show (based mainly on the Hungarian classes) that students mostly favour the conversation part in traditional classes, and need extra motivation to use the e-learning system, while half of them needed the course book in printed format. However all of them found it helpful to have the materials in electronic form.

Teaching information society – the experience of teachers

Basic information on teaching information society in NETIS

NETIS organizes test teaching in four countries as mentioned above, providing classes in both semesters of the academic year 2007/2008. We plan to have traditional seminars and lectures in these countries (with groups of varying sizes), blended learning and e-learning, elective and compulsory classes as well. Hence we can make intercultural comparisons between these countries and between the different teaching methods, based on the size of groups, electivity of courses and type of course.

Reports on teachers and researchers

A preliminary research aiming to investigate the views of other researchers and teachers of information society was carried out in all six member countries, with in-depth-interviews (May-September 2007):

Table 1: Interviews with teachers and researchers

Country	Interviews
Estonia	5
Greece	6
Hungary	7
Italy	8
Slovakia	6
UK	10[2]

In *Estonia* there is a clear need for additional teaching materials in the subject of the information society. Although books regarding the information society from eminent authors (e.g. Webster, 1995; Castells, 1996, 1997, 1998) are available in Estonia, more accessible additional materials might be useful. Blended learning was suggested as the main teaching method, although piloting of teaching with recorded lectures might be worth trying as well. Moodle as an e-learning environment is very popular in Estonia among teachers as well as students. Actually, having conventional lectures supported with Moodle is currently a standard solution at the Tallinn University of Technology and students have enthusiastically welcomed this.

The *Greek* interviewees stressed that Information Society books are usually written either from a Social Science or from Information Systems viewpoint. In the NETIS case the chapters were considered to be multidisciplinary and multicultural, which is likely to bridge the gap in viewpoints from the different disciplines. As a result this is likely to embrace a wider target group, including students both from social and economic study programmes to IT students. The blended learning methodology provided by NETIS is likely to secure a good course outcome, primarily because the teacher can highlight topics and concerns relevant to the targeted students and secondly because the e-learning platform provides hands-on exercises.

Summing up the results in *Hungary*, it can be claimed that those teaching and researching information society generally like the course book, and similarly to other fundamental issues in the discipline, emphasis falls on different areas according to the interests of the individual. It draws attention to the fact that researching information society is in the early stages; while the course book itself serves as an important initiative.

In regard to research into and teaching of the information society in *Italy*, all the experts agree that a lot has been achieved in recent years but also that much remains to be done to bring Italy up to a satisfactory and homogeneous level in the national sphere. Universities are not "totally" ready to answer the key questions posed by the information society and there is a lot of resistance at all levels among educators and teachers. Students live in the information age both completely and actively while universities live it passively and consider it as a disturbing element rather than as a major opportunity to rethink and reinvent themselves. That is why the course book can be interesting at a regional level, for the educational environment (and for the local authorities and as well). Interviewees suggested choosing a simple and understandable language that would allow the course book to be targeted to various users' categories. The course division into modules will allow the user to choose the content that answers better to needs or specific interests. The course should be available at every educational level (in order to build a network culture).

Students are familiar with computers and the internet in *Slovakia* and the latter is considered as an important source during studies. The course book was welcomed by students who stated that they preferred the online version in contrast to the printed one. Blended learning was suggested as the main teaching method, but piloting of teaching with recorded lectures might also be worth trying. Moodle as an e-learning environment is very popular in Slovakia among both teachers and students alike. Having conventional lectures supported with Moodle is currently a standard approach in several universities in Slovakia, and students respond very positively to this educational form.

---

[2] Report is not yet available.

The final result report is not yet finished, but generally it can be said that respondents are open to projects such as NETIS and express a willingness to use its materials and methodological recommendations in the future.

Teachers' log on courses

Teachers in NETIS participate in research on various experience acquired in teaching. We have asked them to prepare teaching logs and systematically record their impressions after every class. The first post of the semester records the background information of the given course (e.g. hosting organization, background and number of students, lecture or seminar, compulsory / elective, start-end of course, type of exam etc.). The last post concludes the teaching activity, shows the main findings, and makes suggestions regarding teaching and learning methodology.

The short logs on each class contain information on administrative aspects, feelings and impressions of teachers, interaction between students and teacher, and feedback on the teaching methods / materials. Hence we have feedback from the students as well (completing questionnaires at the end of each class), we can match the experiences of students and teachers, and come to joint conclusions.

Structure of teaching logs (recorded as blog posts in NETIS Moodle system):
- Who was the lecturer (was there a guest lecturer).
- Where was it (was it in the normal class).
- Grade of the class (between one and ten), and the justification for giving it by the teacher.
- Feelings and impressions of the teacher about the given class (with suggestions regarding methodological implications).
- Number and names of students who attended, most active students.
- Questions posed by students.
- Feedback from the students regarding NETIS materials.
- Interaction between students and its content.
- The questions / creative situations used from the NETIS course book.
- Other questions, and tasks that were given to the students.

Based on these teaching logs NETIS plans that to prepare a report on teaching methodology regarding multicultural, e-learning based, and networked education. This report and the experiences of those involved in the NETIS project could be useful and practical for teachers in higher education, and researchers in the field.

Conclusions

Based on the research findings of our project and the results from teaching we can describe the experiences of students and teachers, their expectations and impressions. The aims of this research are to give methodological advice to teachers on how to teach our course book, to teach information society in general, to teach a blended learning course with the use of a Moodle system, and to teach in a network with other teachers and students.

NETIS also helps to understand the adoption of such materials and curriculum in different countries. The conclusions are beneficial not only for teachers and researchers on information society but also for any teacher who plans to use e-learning systems, plans to teach a blended learning course, plans to have networked learning or organizes international collaboration in education.

References

Bessenyei, I. & Stoffa, N. (2008). Information Society Studies in Practice – a Networked Learning Case Study: Experiences of Teachers in NETIS project. *Paper for 6th Networked Learning Conference*, Halkidiki, 5-6th May 2008.

Blue Paper 2007 (2007). *Report from the 8th Internet Boat*. Published by eWorld and Enamiké. April 19, 2007. Written by the BUTE-UNESCO Information Society Research Institute and GKIeNET Ltd. Research teams http://internethajo.hu/media/Blue_Paper_2007.pdf [viewed 6 January 2008].

Castells, M. (1996). *Information Age: Economy, Society and Culture, Volume I: The Rise of the Network Society*. Oxford: Blackwell.

Castells, Manuel (1997). *Information Age: Economy, Society and Culture, Volume II: The Power of Identity*. Oxford: Blackwell.

Castells, Manuel (1998). *The Information Age: Economy, Society and Culture, Vol. III.: The End of the Millennium*. Oxford: Blackwell.

Pinter, R. & Rab, A. & Szekely, L. (2007). Student Survey Report. *NETIS Project Report*. http://www.netisproject.eu/doc/NETIS_students_survey_report_final.pdf [viewed 6 January 2008].

Sadler, C. (2008). Information Society Studies in Practice – a Networked Learning Case Study: student needs and feedbacks in NETIS project. *Paper for 6th Networked Learning Conference*, Halkidiki, 5-6th May 2008.

Siakas, K. (2008). A Distributed Multicultural Network for Teaching Information Society: Cultural Diversity Aspects. *Paper for 6th Networked Learning Conference*, Halkidiki, 5-6th May 2008.

Webster, F. (1995). *Theories of the Information Society*. London and New York: Routledge.

Acknowledgments

Partners of NETIS consortium:

- Consortium leader from Hungary: Information Society Research Institute (ITTK), Budapest University of Technology and Economics, Budapest.
- Estonia: Praxis Center for Policy Studies, Tallinn.
- Greece: Department of Informatics, Alexander Technological Educational Institute, Thessaloniki.
- Hungary: Information Society Education and Research Group, University of West Hungary, Sopron.
- Italy: SCIENTER, Bologna.
- Slovakia: János Selye University, Komarno.
- United Kingdom: School of Computing Science, Middlesex University, London.