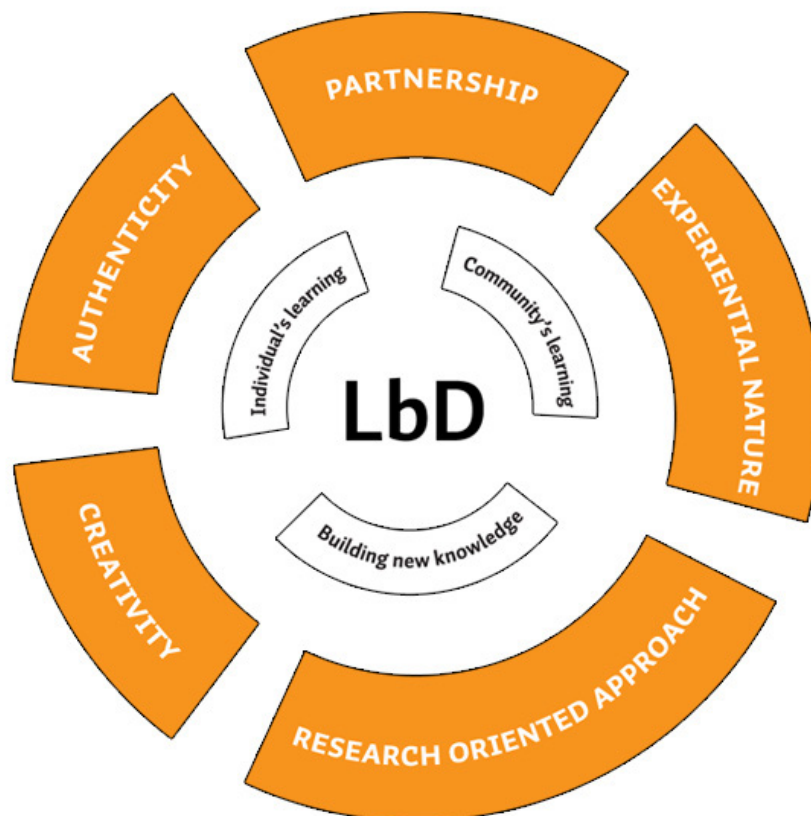**Outi Kallioinen (ed.)**

LEARNING BY DEVELOPING - NEW WAYS TO LEARN
Proceedings of the 1st Conference on Innovative Pedagogical Models in Higher Education, February 6 – 7, 2008, Finland
Laurea University of Applied Sciences.

INTRODUCTION

In today's world competent and highly qualified workers and experts can be seen as success factors of the society in global competition. Globalisation, ageing population, rise of new economies, security issues, environmental issues, climate change, etc. have among other crucial issues created a desire to focus on the competences and expertise in the society in order to be better prepared for future. This creates a huge challenge for higher education institutions around the world. Many higher education institutions are also tightly involved with the innovation system of their regions. Intensively increasing impact in the regional development and close networks with working life have urged especially professional HE institutions to analyse and develop the contents and models of their curricula and create new pedagogical solutions.

In February 2008 Laurea University of Applied Sciences organised its first international conference on innovative pedagogical models in higher education – Learning by Developing, New Ways to Learn. The conference gathered together 160 researchers, developers, lecturers and innovators, who were interested in higher education pedagogy and its development. The conference offered a great opportunity to visit Laurea's learning environments, listen to most interesting keynote sessions and discuss, benchmark and evaluate various pedagogical models that were presented. During the conference there were also possibilities to network with colleagues with similar interests.

Laurea staff has been developing a new innovative pedagogical model called Learning by Developing for the past years. The model was evaluated by an international evaluation team (chaired by Dr. Shailendra Vyakarnam) during last year and the evaluation report was published as part of the conference. You can find the report Making a Difference, A report on Learning by Developing – Innovation in Higher Education at Laurea at at: http://www.laurea.fi/internet/en/02_rd_and_services/01_Group/07_Publications/02_B_series /index.jsp

At the conference there were three thematic workshops, to which the 38 abstracts had been selected using double-blind review process. In the presentations the participants shared their ideas and research results followed by lively discussions. The workshop sessions addressed the following themes:

> 1. *Innovation and Entrepreneurship*
> 2. *Learning Environments and Methods*
> 3. *Teaching, Learning and Guidance*

This conference publication is divided into three sections according to the workshops and in each section the articles will more profoundly open up the ideas and results that were presented in the short presentation at the conference. The publication does not cover the entire workshop programme as we could only fit into this publication the articles that arrived by due date.

On behalf of our university I wish you enjoyable moments with this conference publication and hopefully you get new thoughts and ideas to be further developed in your own context.

Outi Kallioinen

Development Director, Laurea University of Applied Sciences

Workshop I *Innovation and entrepreneurship*

The 360-approach: an entrepreneurial BBA

 Marjo Arola, Päivi Katajamäki, Beata Taijala, Tero Turunen & Anmari Viljamaa

Abstract:

The paper describes the framework and philosophy of a renewed degree program launched in January 2008 in the Seinäjoki University of Applied Sciences, based on predecessor programs running since 1992. The entrepreneurial BBA is based on the overarching principle of treating entrepreneurship as a capability to be developed within individuals rather than as a taught subject. The crux of the approach is in the title: a holistic, 360-degree orientation to teaching entrepreneurship, i.e. the 360 approach. Entrepreneurship is viewed as an emergent capability of the student, developed over the 3.5 years of studies. The model aims to apply the Kolb learning cycle concept on degree program level. Entrepreneurial attitudes are implicitly taught in the program that explicitly focuses on abilities and applicable substance knowledge. Teaching methods, student guidance, course substance and practice are combined in manner that supports entrepreneurial development. Partnership with a focal firm ties together the individual student's learning experiences whenever possible, giving the students a live, holistic understanding of how an SME operates. This enhances the students' ability to weigh realistically and pragmatically the possibility of a career as an entrepreneur.

Background

The concept of entrepreneurship has been interpreted in various ways over the past decades. In policy level discourse focus is frequently on entrepreneurship from the perspective of innovation or employment. In the former, importance of entrepreneurship is derived from Schumpeterian ideas of creation and creative destruction leading to innovation. In the latter, self-employment is seen as a means of reducing unemployment. The scope of entrepreneurship scholarship is naturally far more varied. (see e.g. Storey 1994, Landström 2005, Cornelius, Landström & Persson 2006; Reader & Watkins 2006).

In practice small businesses and entrepreneurship are frequently treated as synonymous although they are not (Wennekers & Thurik 1999). While entrepreneurship research is concerned with the creation of the new (e.g. Wickham 2004: 114), research on small firms need not focus on entrepreneurial characteristics. Definitional issues aside, there is wide acknowledgement that, to quote Wennekers & Thurik (1999:51), "[e]ntrepreneurship matters". From the perspective of the higher education system, the issue of entrepreneurship is both important and complex. There is on one hand the need to educate future scholars for the challenging research field of entrepreneurship, but also the need to provide training that supports active entrepreneurship, i.e. starting, acquiring and running of firms. In universities of applied sciences focus is naturally on the last-mentioned: teaching the future entrepreneurs.

In the Kauhava Business School unit of Seinäjoki University of Applied Sciences, a BBA degree program for SME Business Management begun in 1992. The region of Southern Ostrobothnia is traditionally viewed as an area with uncommon entrepreneurial spirit, and the degree program was built on basis of a long tradition in entrepreneurship training on the same site (Riukulehto 2007). The latest survey of graduates suggests that both factors are still at work. In Seinäjoki

University of Applied Sciences, 6.5 % of graduates are employed as entrepreneurs or freelancers shortly after graduation, about twice the national average (Varamäki, Heikkilä, Taipalus & Lautamaja 2007). For the BBA program in Kauhava, although it draws a large share of its students from other regions, the rate is 9.6 % (ibid.). This suggests that the program, with its particular focus on SME business management, is indeed enabling entrepreneurship in some way – or at minimum, that the program does not destroy existing entrepreneurial intent as has recently been suggested of some entrepreneurship-focused degree programs (cf. eg. Pihkala 2008).

One reason for this relative success may be that the BBA program in question is not overtly entrepreneurial in the sense of creation of new entrepreneurship, i.e. the Schumpeterian innovative entrepreneurship. The explicit focus is more on SME management skills, while the program implementation implicitly seeks to foster the confidence and openness to opportunity needed in starting a business. Emphasis is thus on individuals' entrepreneurial capabilities which are held to include both the skills to manage a small business and the mental attitudes necessary for wanting to. The philosophy is that while all the students are not going to be (happy as) entrepreneurs, all the students benefit from development of entrepreneurial thinking: the ability to see opportunities, to self-organize and organize, to work with and through others.

While the philosophy described above has been a part of the program from its inception, the conscious development of it has focused more on individual aspects of the program (e.g. internationalization, various modules and methods) rather than on the program as a whole. In 2007 a curricula development process afforded an opportunity to systematize the approach and take a further step in integrating the training with small business experience. The following sections describe this latest stage in developing an entrepreneurial BBA.

The 360 concept

The key idea in the curricula development of the degree program was to ensure that *all* aspects of the program reflect its overall goals – hence the label "360-degree approach". The concept is based on the view that entrepreneurship is an emergent capability, present in every student, and the program should foster its development in all, without suggesting that entrepreneurship in the sense of "start your own business" is something that all should do. The program combines mainly traditional business administration topics with methods both traditional and innovative, continuous practical application in the course of the studies, and a flexible guidance approach that encourages and supports students' own decision-making in the formulation of their study plans. Focal enterprises provide the linkage between the elements (Figure 1).
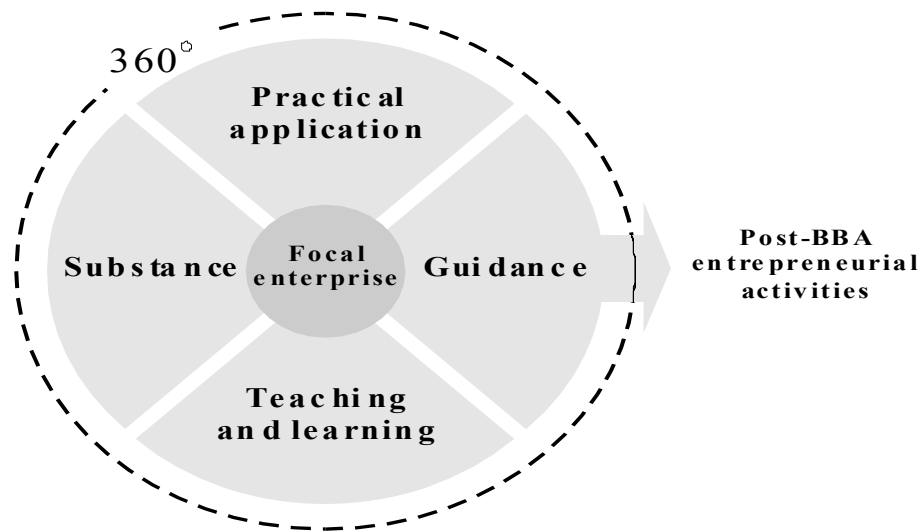
Figure 1. The 360 approach.

Focal enterprise and student teams

Focal enterprises are, literally, the central item in the 360-approach. SMEs are recruited to work together with students in a long-term relationship. The partner enterprises commit to the project for one year at a time, and agree to give the students access to their operations. By preference the firms should also be large enough to serve as a practical example in most courses, i.e. 10 or more employees, or alternatively, have a strong inclination and prospects for growth. However, the most important criterion in selection of focal enterprises is the active interest of top management in the partnership. A focal enterprise can expect to spend at least half a day per month of management time in give-and-take with its student team. This is a considerable resource investment for most SMEs, hence top management commitment is vital.

Each focal enterprise is assigned a team of 4 to 7 students. Teams are selected based on some basic personality features and expressed interest in a particular field. Thus, the teams are not allowed to self-select in their first year, although in the second year they may reorganise to a degree. However, while the teams are not self-chosen, they are required to self-organise. Each team must choose its own top management team, with obligatory change of position after a set period. The student teams also manage their contacts with the focal enterprise independently as far as possible.

The student teams are assigned team tutors, members of the teaching staff who support the team and assist as needed. The tutors meet with their teams once a week. Exercises supportive of course assignments are frequently given in the meetings, but the main purpose is to ensure a continuous contact with a familiar teacher. The tutors also advice on use of "external consult-ants", i.e. other members of teaching staff, suggest sources of information, and generally work to ensure that individual course assignments involving the focal enterprise are carried out suc-cessfully.

The team structure is based on the idea that a considerable part of the studies take the form of group learning projects, in which the final outcome of a course assignment is frequently a report put together by the group as a whole. It is important to note that the focal enterprise

6

activities, i.e. the weekly meetings and contacts with the focal enterprises, are not in fact themselves a course for credit. Rather, the focal enterprise activities are the means by which the assignments of the courses can be carried out. Since the various courses call for expertise in different fields, the students' team structure promotes active interaction not within the student body but with teaching staff as well. The students gain experience in utilizing diverse knowledge resources in problem solving.

Guidance

The team tutoring system ensures that each student has, from the beginning, at least one teacher who is familiar with his or her background and situation. The team tutors keep abreast of the progress of their teams. Thus, in addition to the usual guidance counseling which is also provided, the students have an additional point of support in study planning and assistance in managing any exceptional situation. As an additional advantage, the team tutors are, due to their close contact with their teams, in a good position to spot potential problems before they become insurmountable. Perhaps more importantly, the team structure itself is a powerful incentive for accomplishment. As each team members' contribution to the whole is weighed in the social as well as academic sphere, individual motivation is enhanced.

Furthermore, the focal enterprises themselves are a unique input into students' study planning. While most BBA studies include assignments carried out for firms, the 360 approach is based on a long term working relationship with a specific SME. This offers the students a prolonged opportunity to observe and examine SME management. Contact with the focal enterprise tells its own real-time story of the needs of businesses, which may influence choices in elective studies.

Teaching and learning

In selection of teaching methods, teachers seek to integrate into courses learning tasks and exercises that encourage students not only to critically analyze existing environment but also to actively suggest new and innovative solutions. Further, because it is recognized that networking and cooperation skills are extremely important for entrepreneurs in the modern economy (e.g. Fuller & Lewis 2002), course assignments are, as far as possible, designed to require team effort and active use of external resources. Team-based outputs are required particularly in the first two years of studies. Assignments are more likely to be individual in the third and fourth year, i.e. the students are not necessarily required to cooperate with their enterprise team on most assignments (Figure 2). However, the strong team emphasis of the first two study years is expected to encourage self-organizing use of complementary skills in the later phases as well: to team up where synergies exist.

1. year

- Emphasis on descriptive analyses, structured exercises, possibility of firm-generated projects
- *Team outputs*

2. year

- Emphasis on project assignments, e.g. research and planning projects
- Entrepreneurship team
- *Team outputs*

3. year

- Traineeships, projects concurrent with semester abroad
- *Individual or team outputs*

4. year

- Specialization and thesis
- Projects relating to specialization
- *Mainly individual outputs*

Figure 2. Change of emphasis in outputs over the 3.5 years of studies.

Furthermore, in order to promote a holistic, generalist perspective, team teaching is used for the basic courses involving the substance of entrepreneurship and SME management. For example, the first business course in the program, Introduction to Business for 9 credits, is taught by three teachers. The perspectives of production, entrepreneurship and marketing are thus integrated into a more complete view of business operations.

The program extensively applies experiential learning. The program draws on a variant of Kolb's learning cycle with somewhat increase emphasis on social aspects of learning (e.g. Vince 1998, Petkus 2000). Advanced and professional courses frequently incorporate projects involving either the focal enterprise or other firms, ensuring an experiential element also in advanced theoretical areas. In this it is an advantage to have a long relationship with a focal enterprise: familiarity allows a deeper, more textured understanding of the enterprise, and hence a better platform for development of the students' own expertise.

Active, critical thinking is required from the beginning, but different levels of problem definition in the tasks enable a gradual progress towards more challenging tasks. Some problems involve implementation (e.g. write a pr-story), some planning (e.g. make a communications plan), some diagnostics (what are the problems, what are the aims), and so on. Ultimately the aim is to ensure the students are able to recognize and define as well as solve problems.

Substance

In the course content particular attention is given to inclusion of issues involving SMEs and entrepreneurial activities. This in itself is no distinguishing characteristic since all BBA programs do so. However, in the BBA program described here, the use of focal enterprise as the common threat has an influence also on course content.

First, for the students having a real firm as the receiver and user of the outputs of a course connects the theoretical content to its practical application. If a teacher doesn't make the connection e.g. by use of examples drawn from focal enterprises or their fields, the students will. Moreover, the constant 'presence' of the focal enterprise shapes the actual content that is taught, as the students push the teachers to explain what they observe. Thus the implemen-

tation of each course is, on level of detail, influenced by the business environment, which helps ensure the program as a whole is business-oriented.

Second, while course content is preplanned in the program on general level, the program allows for the possibility of unforeseen suggestions for projects arising for the cooperation with the focal enterprise. The focal enterprise may, for example, propose to their team a task which would not be covered by any of the courses for the current year. Such projects are strongly encouraged. Whenever possible, they are included as credit inputs for courses in the curriculum. If the project fits no preplanned course, but clearly contributes to the competencies sought in the program, the project is incorporated in the students' personal study plan as an elective. This procedure generally concerns projects on smallish scale, i.e. about 3 credits per participating student. As a further option, the program includes an elective course titled Business Project, which allows the inclusion of also larger, individual projects. Time is allotted for teachers to act as consultants on the students' projects. Thus, the content of an individual's study program may be affected by the focal enterprise on micro level (e.g. content of lectures), intermediate level (e.g. partial credit for existing courses through projects) and macro level (e.g. the Business project course and influence on course choices).

Practical application

In the 360 approach practical application, through use of focal enterprises, is integrated in all parts of the studies. However, from the viewpoint of entrepreneurship, it is worthwhile to consider separately the possibilities for practical application of entrepreneurial skills within the program.

A BBA from a Finnish university of applied sciences always incorporates a practical training period In the degree program in question it is also possible to have the traineeship in the student's own startup business, if it is judged that the criteria for a traineeship can be fulfilled in starting the business. Further, in the second year, students with a strong interest in an entrepreneurial career, have the option of forming an enterprise team of their own (a start-up team), where they work on their planned businesses rather than on an assigned focal enterprise. In addition, Seinäjoki University of Applied Sciences maintains a pre-incubator, Yritystalli, for students from all programs. Students in the start-up team may participate in the Yritystalli activities.

All students, not only those in the start-up team, have an opportunity to voluntarily try their hand in an actual business. The student body has run a business since 1995, the business being since 2002 the local cinema, Y-Kino. The cinema operates on the school premises and has three shows a week. The management group in charge changes each year.

Summary and some considerations for the future

The 360 approach encompasses five interlocking, mutually complementary elements that contribute to graduating students' preparedness for post-BBA entrepreneurial activities. *Focal enterprises* are SMEs that commit to a partnership with a team of students. Their participation ensures the on all levels is oriented to needs to working life. In *guidance*, team tutors and the social peer environment of the team constitute an important supportive element to traditional guidance counseling. Contact with the focal enterprises provides input into individual study planning as students are able to form their own understanding of the know-how needed in managing a business. *Teaching and learning* methods of the program strongly emphasize experiential learning and team-based outputs from students. Team teaching is used in basic business courses to ensure a holistic outlook on SME management. *Teaching substance*, i.e. content, is strongly influenced by the partnership with focal enterprises on several levels. Finally, the students have in various ways the opportunity for *practical application* of entrepreneurial capabilities in traineeship, in start-up teams and in voluntary activities of the student body.

The basic ideology of the 360-approach is simple but demanding. *All elements of the curriculum should incorporate support to growth of individuals with both attitudinal resources and professional competence to take on entrepreneurial responsibilities.*

The teaching and learning methodology, together with the substance of courses, are intended to promote a habit of seeing world-as-opportunity rather than world-as-limitations. Seeing the world as an environment of opportunities means considerable freedom for the individuals able to take advantage of it. This open, sensing way of looking at studying has its flip side also: the students less prepared for self-organizing in the beginning of their studies might find themselves unable to cope. The guidance system together with the team-embedded social environment aims to counter any tendency to drift out of focus.

The 360 "ideology" is challenging for the teachers as well as the students. Considerable flexibility and commitment is called for from the teaching staff, as the traditional role of a lecturer is replaced with the role of a tutor supporting individual learning processes (cf. the LbD methodology used in Laurea, see e.g. Fränti & Pirinen 2005; Raij 2007). At the same time, the "live" connection with a focal enterprise, managed by the student teams themselves, is an invaluable learning environment. On one hand, the focal enterprises give the students a practical focus that supports application of concepts and hence the creation of learner's own conceptual toolbox. On the other hand, the team structure is in itself a dynamic learning environment – a testing ground for leadership roles and personal responsibility.

A new program, incorporating the entrepreneurial BBA concept, was launched in January 2008 in the Seinäjoki University of Applied Sciences, in the degree program for SME business management. As the first student teams have just begun their learning journey with the partner firms, it is too early to predict the results of the program. The team tutors, two of whom are among the authors of this paper, concur that the beginning has been promising.

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Coping at Home as an Learning by Developing-research-project

Arja Piirainen, University of Jyväskylä

Irma Sarekoski and Katariina Raij Laurea University of Applied Sciences

Coping at Home project, is included in a larger initiative run by the Finnish Funding Agency for Technology and Innovation, Finnwell-program (Tekes). The purpose of the welfare technology created is defined as supporting the everyday life of family caregivers using technological innovations in order to facilitate and support the provision of family care. The study aims to change the previously established view of elderly people as feeble or frail. The purpose of the Coping at Home study is to produce a customer-driven service concept that promotes living at home among elderly family carers, and to evaluate the effects of the resulting concept from the points of view of carer families, the City of Espoo and the concept producers. It is intended to produce research data for welfare organisations to use regionally, nationally and internationally in relation to facilitating living at home and delaying institutionalisation.

The three-task integration model, Learning by Developing, created at Laurea (cf. e.g. Raij 2007) has allowed students to develop competence in using gerontechnology. The new technology is expected to provide a solution to problems related to availability of services at home. It comprises the invention and production of tools, as well as their use and application (Löfquist et al. 2005). Gerontechnology emphasises user-orientation, striving to make technological solutions as user-friendly as possible (Design for All), as well as product development that involves the elderly customer (Kuusi 2001).

Espoo home care families

City of Espoo

Private companies, Laurea, TDC-Song, MediXine, Videra, Lääkärikeskusy-htymä, Fysiosport-tis, HUR, IST, Sendai No Oka, Tohoku Co-

Coping at Home re-search trian-gulation

WLC Senior Lecturers

Laurea and uni-versity students
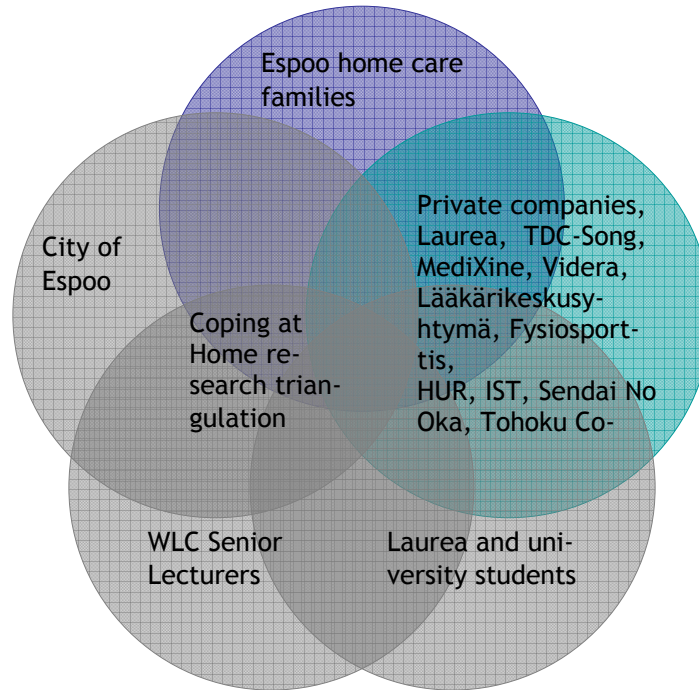
Figure 1. Participant cooperation in research triangulation

The integrated learning platform happens in participants' home and Well Life Center. The key participant in the new innovation produced as a shared platform is between the carer family, based on whom, with whom and for whom the entire CaringTV concept was produced. Other actors in the project were the City of Espoo, which is where the participating family carers live. Espoo also developed its own services for the elderly. The third invaluable participant was comprised of private companies, which created new technologies and shaped their services and products to make them suitable for the purposes involved. The fourth participant was com-prised of social welfare and health care professionals. The research project was part of their professional development. The fifth participant was represented by Laurea University of Ap-plied Sciences Well Life Center Senior Lecturers, who provided instruction and guidance for future professionals in their educational development. The sixth participant was comprised of researchers, who worked together with the participants to analyse and conceptualise the re-search as well as introduce into the national and international dialogue (see Figure 1). Interna-tional research cooperation was realised under the auspices of the Active project together with the Tohoku Fukushi University. During the research project, three joint Sendai-Finland seminars were held, whose two publications reported research results, which were discussed during presentations (Piirainen et al. 2006, Raij et al. 2008).

The study will generate knowledge and develop an operating culture that utilises technology. Action research is used to achieve interaction between practical action and theoretical research (Stenhouse 1975, Heikkinen et al. 2006). Action research combines theory and experiential data with change. Its core question is: How do different interests and knowledge bases construct a shared search for alternatives through joint learning? Its starting point is the status quo and how that can be changed collaboratively (Kirjonen 1999). The basis of the action research was to create a new type of service culture, jointly produced by the elderly, university of applied sciences students, educators, families, private companies, and the City of Espoo. The objective of the research is an invigorated, self-sufficient and decision-making elderly person, who lives in a social, symbolic and physical environment that establishes a meaningful foundation for him.

The first stage of the study used CaringTV to form a bidirectional, image-based, verbal and non-verbal connection between elderly family caregivers in Espoo and welfare experts. CaringTV is a platform for encounters in the social field, where the customer and expert meet to share expertise. Successful meetings, support messages, therapy, interaction in the assistance situation, rehabilitation, service guidance and dialogue help people to identify their own needs and resources and therefore to get a grasp on controlling their lives. The second stage saw further development of CaringTV's participatory programming, guidance and advice services, and produced a new wireless CaringTV service marketplace, which allowed for the family caregivers' state of health to be evaluated at home. Programme operations were systematised into daily productions by students, diverse experts, organisations, church groups and companies. Guidance and advice services were expanded to become regular reception times by medical and physiotherapy experts, using a virtual service marketplace.

A change in the service culture comprehends changes in the approaches used by the individual, peer groups, service provider experts and students, municipalities, service providers and institutes of higher education. (see figure 1.) Cultural change requires social participation, where citizens actively participate in the building of communities, services and society (Russo etc. 2007). They are linked by both interactive closeness and the establishment of more distant expert and service networks and their participation in them. Participation in cultural change is also a pedagogical process. It requires each participant to question their own expertise and adopt new information so that the productive approaches used by them themselves, groups and services will also change (Pike 2007). Laurea's Learning by developing (LbD) offer in autumn 2006 a new kind of integrative learning space for developing. In the changing of geriatric service culture social participation (Geissel 2008) and changes in pedagogic attitudes and critical thinking form a dynamic whole. The functionality of the CaringTV -concept, which is representative of this new service culture, is evaluated based on cultural, social and pedagogical factors (see figure 2).
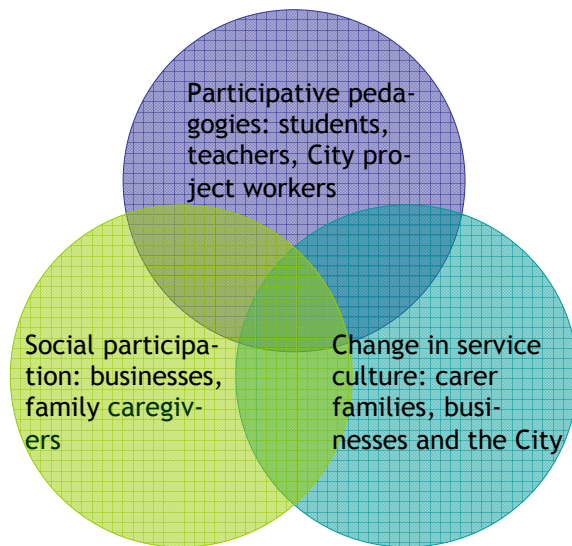
Figure 2. CaringTV -concept evaluation factors

The functionality of the service concept was also evaluated by participants according to their own point of view. Changes in the service culture are evaluated from the perspective of both participating carer families and participating private companies and the City. Social participation is evaluated by the degree of family carer interactivity with CaringTV and the level of private company involvement in development of the services. Participative pedagogies is evaluated from the perspective of social welfare and health care students and educators.

The CaringTV concept as an agent of service culture change

Changes in the service culture are evaluated from the point of view of both participating carer families and participating private companies and the City. Here we concentrate to families. After one and half year we interviewed those 25 Families of family caregivers' to find out what are their experiences in using the CaringTV. According to a narrative analysis of interviews (Polkinghorne 1988, Hänninen 1999) conducted with family carers in 2006 and 2007, four different client narratives with varying meaning for CaringTV were identified: Active, Silent, Occasional and Transferor users. Their status as family carers was not distinguished only according to the themes of successful family care giving, rather greater emphasis was placed on what significance the services had for them and how they participated in the production and development of the services. The CaringTV client groups Active, silent, occasional users and transferors, were identified, based on an analysis of the data (Piirainen & Sarekoski 2007, see Figure 3).
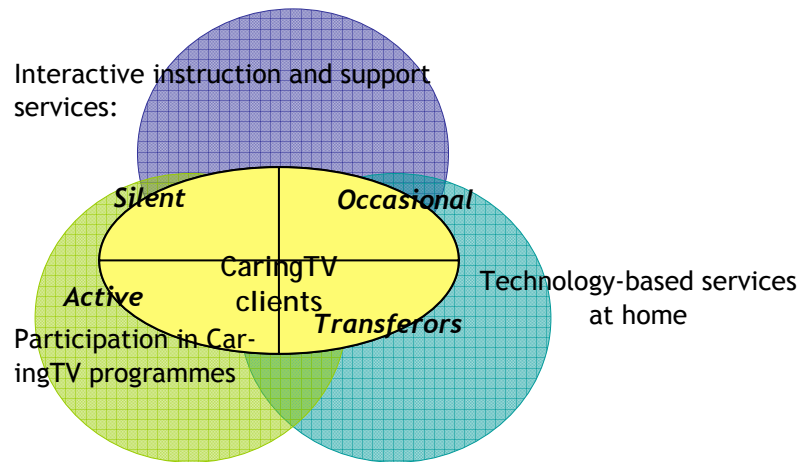
Figure 3. Client relationships in the CaringTV concept

The client groups used various CaringTV services. Active users were involved in all the services offered by the service concept and found them very agreeable. They saw the new service as an opportunity, in which they could serve as a service developer and active participant. It was important for them that their voice was heard. Silent users want to participate, but in the background. For them CaringTV represents an opportunity for personal coping and a safeguard for family care giving, in which the significant other would not need to participate. They use personalised guidance and support services and participate more as listeners and observers in peer discussion groups (see Figure 3).

For Occasional users CaringTV is an unusual place to develop skills in family care giving. They make an effort to participate when they feel that they could work together with an otherwise strange working group and learn about family care giving-related support and care tasks together. Occasional users participate together with their significant others, making an effort to provide care for them using this resource. Participative programmes related to family care giving are of particular importance to them. They want to ensure the proper care of their loved ones with it and use physician and physiotherapist services for the promotion of their significant other's health and functional capacity.

For Transferors, CaringTV participants and services provide support during changes in the life situation. When mourning the loss of a loved one, CaringTV serves as a meeting place for the people closest to the bereaved, when they are unable to leave home and there is no one else to provide assistance. A closely knit network assists people in processing difficult emotions and strange situations.

Another Transferor group consists of family caregivers who have fallen ill themselves and, therefore, cannot look after their significant others or themselves anymore. For these users, CaringTV becomes a tool for evaluating their own health and welfare as well as a social channel, when they are forced to stay at home alone while ill. CaringTV takes on a whole new

meaning with the changes in life. These Transferors use CaringTV's service market, participate in the programmes and also serve as a service developer in their new situation.

Various family caregivers client groups felt that the new service culture had changed their own activity, such as Active users, for whom participation in development of the service concept gave them the opportunity to learn new technologies and welfare skills. They wanted to have a say in the development of services affecting them. For them, the new service also provided a new social peer-to-peer network, which convened every day virtually via CaringTV. Silent users participated by following the development of their own services, but did not participate actively in the development. For Occasional users the new service was a necessary supplement, which they kept on hand for a "rainy day". For Transferors, the new service culture added a sense of security for life changes. Access to the new service culture required learning new things in a life crisis (see Figure 3).

Research project as pedagogical LbD for students and teachers

Pedagogically, production of the new CaringTV concept also required learning and changing skills. The service concept included the production of participative CaringTV programmes together with family carers. Students and educators from the Laurea University of Applied Sciences were committed to the development of a new service for elderly family caregivers. Programme production was part of the curriculum for Health Care and Social Welfare Education students. The students produced 314 different programmes.

For students of Laurea University of Applied Sciences, Coping at Home research-project was a possibility to learn together with real life clients and see elderly people living at home. At the same time they were apart of technology development process in Espoo city.
One group of students was apart of this project. In the Autumn of 2006 advanced physiotherapist students (N=22) took the "Physiotherapy of Elderly People" study unit under the Coping at Home research project's interactive CaringTV programme production. The study unit was worth 1.5 credits. The goal of the study unit was for the student to learn about typical geriatric illnesses, their prevention and rehabilitation. Students receive instruction in therapy planning, implementation and evaluation (Laurea University of Applied Sciences 2004). Student progress was evaluated using individually improved concept maps (Immonen-Orpana 2007) and improved Vee diagrams (Åhlberg 1993, 1997) drafted in small groups.

In the Theoretical basis students described the task both in terms of experiential data and previously acquired theoretical knowledge. They explained the importance of their chosen theme, but also admitted to lacking knowledge on how to apply the knowledge for the elderly. The Conceptual basis applied in some cases to the successful aging concept content of student groups and some simply to the theme of the television programme. When describing the Methodological basis – "What methods do I plan to use to answer my focus question(s)?" – of the task, all the groups mentioned the Internet or online databases. In the Knowledge acquisition section, the students described their examination of source data, going through the material and assessing the accuracy of the data. (Immonen-Orpana 2008)

The small student groups stated that the real data they were able to acquire was comprised of books and research articles. In describing their Transformations, one group said that their conclusion was based on experience; another said it made use of all the data it had acquired; the third and fifth groups gleaned information from the research results published in research articles; the fourth group arrived at its conclusions using key concepts; the fifth and ninth group had come up with preliminary task hypotheses or claims, based on which they delimited the acquired data. The sixth, seventh and eight groups drew general conclusions from the written material for practice by the elderly. (Immonen-Orpana 2008.)

According to these future experts in welfare, producing television programmes increased the data researched (by the seventh group), but the third group felt that the volume of data was either not increased or superficial in nature. One group felt that simply searching for information supported the learning process. The students acquired researched data on the welfare of the elderly, which changed their value claims in a direction that took the elderly into consideration, respected them and took responsibility for them. The students saw the activity as a new type of learning opportunity; the process was interesting and educational to the students, and it showed them how to examine and identify the importance of researched data and value data. (Immonen-Orpana 2008.)

In the Coping at Home study educators participated in programme production for CaringTV. According to the project records, a total of 14 educators from the Laurea University of Applied Sciences participated in the project. The educators evaluated the participation in CaringTV programmes, which was examined in an email survey sent to them on 19–21 January 2007. The unstructured survey was sent out via email to 14 of the Laurea educators who participated in programme production or as thesis advisors. The survey was completed by 13 of the 14 educators (response rate: 93%).

A content analysis (Silverman 2005, Denzin & Lincoln 2003) of the responses to questions about what use the Coping at Home project had for instruction and how the production of CaringTV programmes changed the nature of instruction showed that the Coping at Home research project added a new dimension to teaching by offering an authentic learning environment where it was possible to meet real clients. It facilitated the development of skills in using technology to develop welfare services and provided an opportunity to deal with students as motivated and responsible partners. It offers new alternatives, enhancing cooperation and making it possible to participate in the creation of new skills. However, not all the educators participating in the project felt that they had derived any benefit from CaringTV.

The CaringTV service concept is a new investigative operating model as well as a model for creating constructive data, thus making it a new approach to working in cooperation with colleagues and students for the development of new skills and confidence. According to nearly all the educators, the students learned the content of the subject matter being taught, data acquisition skills, responsibility and planning, cooperative skills, new group and individual direction approaches, and interaction skills.

In comparing the results to earlier studies on nursing students' attitudes toward the elderly and perceptions of geriatric work in Finland, it can surmised that the CaringTV concept created new opportunities for students to change their attitudes toward the elderly in a more positive direction. An earlier study (Hirvonen et al. 2004) showed that the attitudes of social welfare and health care students towards the elderly had become slightly more negative during course of the programme, which affected the choices they made in such a way that they did not wish to continue their geriatrics studies further. Hirvonen et al. (2004) also stated that other studies supported their findings. This negative shift in attitudes was absorbed during guided exercises and on-the-job learning. The students felt that educator support and the practical application of theoretical instruction preceding practice were important (Fagerberg et al. 2000; Koskinen & Silen-Lipponen 2001).

Shared knowledge is a way to produce new innovation. To produce new expertise in learning gives possibilities to share, chance experiences, learn from others and develop together. (Tynjälä 2006, Nonaka ym.1995) The innovation aspect of the Coping at Home research project played a central role in the motivation and desire of all actors to develop their operations extensively and systematically in relation to the goals set for projects. Simply wanting something, however, will not achieve progress, rather all involved parties must also possess the ability to identify and visualise new challenges as well as the ability to find the necessary resources and

expertise in the research and development of processes related to the promotion and mainte-nance of elderly welfare.

This was the project challenge, as any new project is a leap into the unknown, where the meaning of cooperation and group cohesion is emphasised. In return for their participation, the companies received new product ideas and increased business. This signifies the fulfilment of the Triple Helix model described in Laurea's strategy – i.e. overlapping cooperation between higher education, businesses and the public sector. The Well Life Center facilitated this coop-eration by offering a physical space in which the various parties could meet and exchange ideas.

Students from Laurea Otaniemi participated in the Coping at Home project in accordance with Laurea's Learning by Developing (LbD) model. By participating in planning and implementing the programme production for CaringTV using research analysis, students became familiar with typical illnesses of the elderly, how to prevent and to treat them, as well as with planning, carrying out and evaluating therapy for elderly patients. Experience showed that applied re-search-based learning increased not only the students' competence in elderly care, but also their interest in working with the elderly. This means that the availability of competent staff for geriatric care can be improved by developing learning models.

Group cohesion refers to the desire of a group's members, or project participants, to stay and work in a group. The more the participants want to stay in the group, the more likely they are to commit to its goals. Ideally cooperation can enrich the conducting of research, as the thoughts, views and support of other researchers can actually be very conducive to the re-search itself, when research and development work is focused on the right functions that ad-vance the project (Jokinen & Juhila 2002, pp. 109–118).

Research triangulation as the creator of innovation

According to Denzin ym. (1998) and Tuomi & Sarajärvi (2006, pp. 141–142), triangulation is the combined use of different methods, researchers, data sources or theories in research. As trian-gulation combines several methods and approaches, it involves multiple perspectives or para-digms. Indeed, triangulation can be used to enhance the reliability of the research. The differ-ent research methods or perspectives used by researchers can result in a situation where re-search results applying to the same phenomenon can be simultaneously valid and contradict one another.

In triangulation Denzin ym. (1998) and Tuomi & Sarajärvi (2006, p. 141) make the following distinctions: data triangulation, which is the use of several different sources of data in a single research project, such as the family carer interviews, theme papers written by educator and private company participants, worker interviews and the results of student Vee heuristics in this study. In researcher triangulation, such as used in the Coping at Home project, several researchers study the same phenomenon and are involved in either part of the research or the entire research process. In theory triangulation several theoretical perspectives in the inter-pretation of research data are used, such as, in this study, a good life, successful aging and theories of value chain transitions. In method triangulation several data collection methods are used to obtain research data (Eskola & Suoranta 1998, pp. 69–70), such as the surveys, pre-pared tests and interviews used in this study.

There were 12 parties and a total of 32 different actors working in partnership in the research project. The basis of partnership is the high level of expertise possessed by the parties, the mutual value added that partnerships brings and trust between the parties. This trust is ini-tially formed between people working in a company and, over time, evolves into a trust be-tween different companies. Partnership involves the commitment of the organisation as a whole and each stakeholder to long-term, close cooperation in order to achieve common goals and the resulting value added. Partnership is not just a relationship formed under contract, but

a state of being that forms over time, an approach to working based on confidentiality and openness. Partnership is a conscious strategic choice (Suomen kuntaliitto 2005, pp. 4-5).

Partnership involves a cooperative relationship, an operating approach in which the various parties share common goals, operations are constantly improved, knowledge capital and learning grow, the level of trust increases and value added is accrued as a product of teamwork. In partnership all parties go through the moments of truth, emotions, experiences and facts encountered in a research project as well as the concrete cooperation and experiences with operating methods and the evaluation of results.

Partnership phases in the Coping at Home research project

In the Coping at Home research project the analysis of focus group interviews conducted at discussion meetings showed the presentation of Argote & McGrath's (1993) group formation core processes, in which each group formation phase has its own typical development task related to the task performance and socioemotional interaction. In the first phase of group formation, or "forming", ideas and plans as well as common goals and values must be developed. In this study the entire actor group committed to development at a discussion meeting held on 6 February 2006.
The actor group had reached Argote & McGrath's (1993) second phase, or "storming", in May of 2006. At this time, agreement was reached concerning goals and values, while some of the carer families decided to pull out of the project. The research group reached the third phase, "norming", in November of 2006, when the challenges encountered during task performance were examined and the norms, roles and delegation of responsibilities guiding the work were established. The study entered another action research cycle.
In the fourth and last group formation phase, its members should already be able to execute the task and, for this purpose, the group's members must maintain a certain level of cohesion and solidarity. The actor group reached this last phase in March of 2007, at which time its activities were oriented toward the testing of the service concept.
In addition to the group formation phases, other perspectives related to the group lifecycle affect how the work group's functioning and efficiency change temporally. Four work group temporal change perspectives are basically represented by four core processes, which describe mutually related and repeated action chains, from which the work group's development is formed (Argote & McGrath 1993).

The core processes describing work group changes over time are building processes, which comprehends the formation and development of the group as a sociotechnical system and contain both interaction and task performance related factors. Action processes describe the group's task performance, reformation processes refer to changes following the group's own developmental and task performance-related experiences, and external relations processes refer to the group's development resulting from changes to its principals and environment (Wenger 1998).

Lindström et al. (2003), in a study on Finnish work groups, divided them into developed and undeveloped groups, according to the core processes of temporal changes. The results showed that members of developed groups felt that the group's work comprised a sensible work entity. Official team thinking had entered the picture. The "we" idea had begun to take hold, and the group began to feel cohesive. In these groups mutual responsibility and independence was advanced, and work was done flexibly and across occupational boundaries. Constant general conversation about work, a daily analysis of members' work, and the elimination and resolution of friction were typical of these groups. Short general work meetings were held frequently. Confidence in the development of personal opinions had been increasing all the time. These groups usually had fun together. According to the Coping at Home research results, Active CaringTV users functioned in the manner of a developed group.

At the outset of the Coping at Home research project group formation and partnership, with its various phases of development, initially followed Ståhle (2000) at the operative level, which demonstrated that at first partnerships could not be advantaged openly, small orders were made, each member had their own needs in relation to the project's goals, and the cooperative link was not optimal. Naturally, this approach did not produce beneficial value added for the research projects. The exchange of information and level of trust between members was minimal. Over time, partnership became tactical, where each member's skills were already integrated and advantaged as well as learned from others. The level of trust increased. As the project progressed, it was possible to see the actor meetings leaning toward development and innovation. The members noticed that they had gained a strategic advantage, where the correlations became vital and meaningful and member roles complemented one another. The generation of value added could be observed (see Figure 4). Methods proliferated. The actors in this phase lived in strategic partnership, where the operating environment is dynamic and, according to Ståhle (2002), in this type of environment chaos is absolutely necessary for growth in development and new skills.

According to Ståhle (2002), in order for the research project to progress toward its goals and to initiate the restructuring and re-imaging companies, chaos and imbalance are needed in familiar, daily operations and competences. Chaos occurs for two reasons: the abundance and variety of information, which occurred a great deal in the project. This means that the entire operation requires a great deal of spontaneity, openness, information exchange, and an investigative, developing approach in order for it to establish itself. The exchange of information should be sufficiently spontaneous, because the more freedom there is in it, the more chaos it will be able to create. Although innovations cannot be predicted or controlled, a certain amount of influence can still be brought to bear on them. In other words, it is possible to create the conditions in which innovations are more likely to occur than otherwise.

Generating value added
(Adapted from Ståhle 2000)
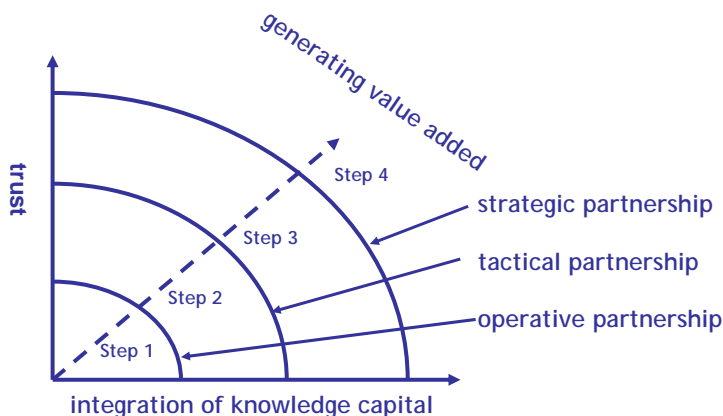
Figure 4. Generating value added in the Coping at Home study

The more chaos that is allowed to flourish during the project, the greater the chances for innovations, or vice versa. In the absence of chaos changes are few and far between or completely non-existent in the research and development of processes related to the promotion and main-

tenance of elderly welfare. According to Ståhle (2002), chaos organises itself, which is the core of innovation. The intellectual disorder created in the Coping at Home project took on a whole new form in November 2006. The research entered its second phase and produced new expertise and learning results which stemmed from developmental learning; a desired change for the family carers, in which space was given to allow things to find their own form through discussion in order to achieve successful family care giving and identify the CaringTV participants.

Conclusion

Over its two-year period, the various project participants met at management group meetings 6 times, at discussion meetings 4 times, at partner meetings 32 times and at other planning and development meetings 45 times. How, then, was it possible for a partnership of 12 parties to work with 32 different actors? What achieved the project group's cohesion? What benefit was derived from partnership?

According to the Association of Finnish Local and Regional Authorities (2005, pp. 4–5), a characteristic of partnership is the "win-win" principle, i.e. all parties benefit from all the work performed. In addition to providing the principal cost benefits, partnerships generate, among other things, an increase in actor expertise and development as the bearer of overall responsibility for planning. Seen from a service provider perspective, achieving steady demand was essential to creating opportunities for the long-term development of a service. These affect the preservation of competitiveness in the future. A key aspect of cooperation in partnership is product development, which demonstrates an especially functional relationship between partners.

The basis for execution of the Coping at Home project was that the actor group is multidisciplinary and its participants represent experts and students from different clusters. When actors from different fields networked and combined their expertise and operations in Coping at Home cooperative projects, a dynamic operating environment was formed. It was rife with possibilities, which a single actor would not have been able to realise on its own when working in stable business processes in a potentially closed innovation system. This multidisciplinary group of actors consolidated the core competences of various fields from various clusters, thus offering the project participants new opportunities. This eventually blurred the boundaries of actors working in strategic partnership and their mutual networking capabilities were stimulated, information was shared and the level of trust increased. According to Chesbrough (2004), the companies no longer strived for permanence or to keep expertise and benefits to themselves. The companies no longer existed in a closed innovation system, which limits the use of acquired data to only within the company.

THREE BASIC TYPES OF VALUE NETWORKS

(Adapted from Möller et al. 2004)

Established method of working as business partners

Reform networks

Innovation networks

Basic business network

Business reforming/ enhancing network

New business building network

Different partners
• stable business
• processes

Partnership chaos
• new welfare enterprise processes

New innovations
• completely new value systems, which contain new and existing actors

Stable value system

Established value system gradual reforms

Forming value system radical reforms

Figure 5. Reforming actor business by altering value networks

Working in partnership allowed for the realisation of open innovation during the project, by taking advantage of expertise outside the organisation, which injected value added into its own daily operating processes. Information was also shared and the internal company information that should be outsourced was identified. At the same time, it became possible to reform actor businesses as proposed by Möller et al. (2004), which involved the use of networking and new partnerships to transition from established operating methods to an open innovation system, where innovations were identified and then further developed and distributed. The most important goal of partnership is the creation of value, wherein each partner, a link in the value chain, increases the value of the network as a whole (see Figure 5). In this project a stable value system was used to work for the good of people, which was achieved by restructuring the value system and being highly attuned to innovation.

Learning by Developing makes it possible that all the participants can learn together in the research-project. Research –process instructs the participants' knowledge creation and made evaluation possible. The students' learn new knowledge, skills, and values. The results of action research in different time of process stop the process and so direct it in the new direction. Reflection and refleksion in and after action was possible together. So also students' can evaluate and was evaluated in research group. The pedagogical knowledge creation process was going on at the same time, than group cohesion.

Internationally the CaringTV concept is an interesting high-tech innovation, whose development and application can be discussed at, for example, the EU Open Days conference. The FinnSight 2015 report also sees two-way television technology as making it possible for the elderly to continue living at home through the audiovisual contact offered by interactive digital TV. The opportunity for social interaction between family and friends as well as nursing staff is seen as providing a sense of security for living at home alone. In such cases the monitoring of medication and the person's cognitive condition, among others, can be done via a remote connection. This type of service also faces professional and ethical challenges, such as issues related to surveillance and human interaction (FinnSight 2015).

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INNOVATION AND ENTREPRENEURSHIP. *Innovative teaching methods to gain entrepreneurship skills by the example of BPTF (Business practice teaching firm)'s model*

Ilona Kojelytė, Valerij Misiuk
Vilnius College of Higher Education, Lithuania

1. Introduction

Science and business interaction in innovation environment can be shown in the following way:
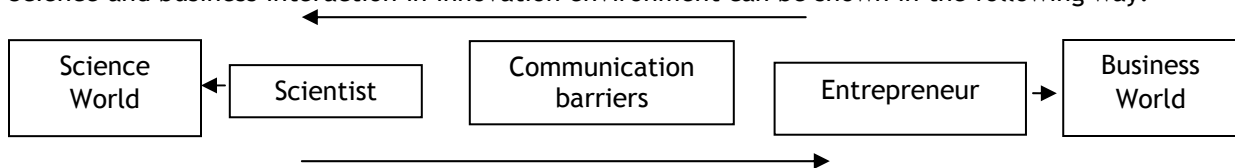
The possible ways of solving the problem of unbalanced interests between the representatives of science and business are:

- Coordination of common understanding by using educational programms;
- Creation of organizational structures which could help to garantee close cooperation between science and business representatives;
- Redistribution and connection of personell of science and business institutions.

Entrepreneurship has always been a key factor in economic growth, innovation, and the development of firms and businesses. Now it is a dynamic and expanding area of research, teaching, and debate. Entrepreneurship – it's measure of leadership of creative, active and responsible personality and it is personality's ability to dream about future, to form his goals, to create a strategy and ways to reach that goals, to inspire oneself and his/her team for purposeful and persistent activity in achievement of setted goals.

Nowadays in intensively changing business world we can find the lack of student's interest, motivation, activity, independence and gap between theory and practice. Considering that business practice teaching firm is orientated to use theorethical knowlege in practice, we can affirm, that it is the most suitable media for developing the entrepreneurship skills by the help of innovative teaching methods.

2. Description of Business Practice Teaching Firm

Business Practice Teaching Firm (BPTF) – is a virtual firm, which imitates a real company's activity. The objective of BPTF is the development of students' knowledge and skills in business area. It is great oportunity to use theoretical knowledge of personell management, marketing, sales planning, advertising, work with suppliers, logistics, finance, accounting, organizational behaviour, foreign languages and information technologies practically. Students working in a practice firm solve company problems by their own in responsible position level, realize ideas and work plans, gain practical work experience. Everything is real (financial documents, agreements, tax rates and etc.). The only differences from a real company are: there are no real goods (they are existing only in the documents) and there are no real money (they are existing in the fictitious bank accounts and other fictitious documents).
In the whole teaching proccess we have to analyse the theory subjects, practical tasks and activity of business practice teaching firm in complex. There can not be suitable the exact and only one teaching method effective in every part of teaching path. For that there is need of diffferent innovative teaching methods. We use verbal, demonstrative and practical methods,

direct teaching, research and modeling of real life situations (case study). And the main task in this way is to coordinate all teaching methods: academic, active, interactive and etc. in seeking the last result: to encrease student's entrepreneurship skills on a lavish scale. This is possible in the way of taking in inovative teaching elements in different levels of the classic teaching methods.

Very important reason to call BPTF as an ideal media for developing entrepreneurship skills is that it includes wide range of subjects, starting from office-work, continue with marketing, accounting, sales managment, personell management, organizational behaviour and other subjects. Some subjects are known by students before, but some they meet in
BPTF for the first time. So at that moment we have a new method of learning – learning by doing.
Because we memorize: 20 % - what we heard;
                                          30% - what we read;

                                     40% - what we say;

                                   50% - what we write;

                                 80% - what we do;

                               100% - what we teach.

3. Teaching in BPTF

Learning is coordinated, purposeful, polyhedral and complex teacher's and student's activity. Main points in this proccess is rendering and obtain of knowledge (information) and forming of system of thinking. There are different kinds of teaching methods, which are classified according to some criteria. And innovative teaching method should display through the inplementation of existing teaching methods or their combinations in learning proccess transforming theory into practice and practice into theory, seeking the develepment of student's personality, having complex analytic thinking, able to adapt to constantly changing business environment and challenges.

We see two main pedagogical development trends:
- Development of traditional teaching methods seeking more effective reclamation of given information (analysis of traditional situation);
- Using innovative teaching methods to improve students' creativity and analytic way of problem solving (analysis of not traditional situation).

Structural elements of innovative learning:
knowledge given not prepared in order to leave the field for finding answer;
need of different kind of tools and recourses;
maximum of student's independent work;
analysis and comparence of a classical „easy" problem and new „complex" problem;
learning should include every kind of ways: team work, group work, individual work and oth.

Further please find the scheme of integration of classic teaching methods and innovative methods and seeked skills of proffesional entrepreneur:
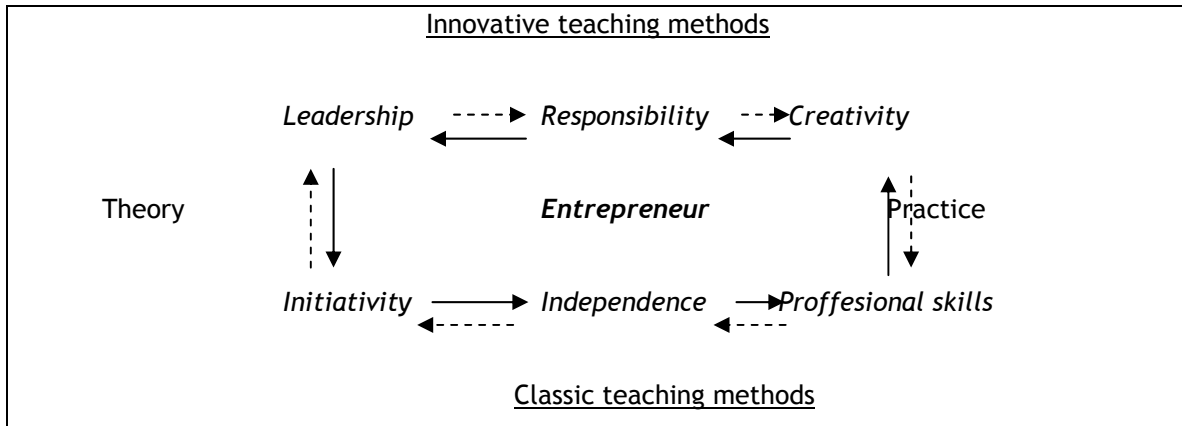
The shown aspects provide the way to competitive advantage and adaptation to constantly changing business environment.

Stages of entrepreneurship skills improvement:
- Personal self-training;
- Purposeful and constant actions;
- Analysis of results and activity adjustment;
- Synergic importances using experience of other people, advices, help of time and work.

The following scheme shoes our vision of innovative and more practically useful way of teaching in BPTF, when entrepreneur is invited to give lecturer in the start and students make the dissemination of their experience after practice in BPTF:

Theory subjects

	Entrepreneur's visit and his company's story. Start of business. Giving real examples, which show that theoretical knowledge is necessary for business decisions.
Entrepreneur / BTPF lectutrer	
	Lecturer shows model of Practice firm, explains work of main four departments. Choosing positions, writing CVs, motivation letters, placement documentation.
BPTF lecturer	
	Students work in BPTF simulating real company situations. Lecturer work with students in team as more experienced colleague.
BPTF lecturer / student	
	During seminar students do presentations of their cases solving and share their experience among themselves.
Student	
	Evaluation, dissemination of work in BPTF and exchange of experience with guests from faculty with the help of seminar, discussion, game or competition.
Student / Guests	

Practice in a real company

4. Research of students' entrepreneurship skills improvement

There was made the small research of students' opinion about themselves how they evaluate their entrepreneurship skills improvement after practice in BPTF. The following graphs show the number (0 is min and 5 is max) of their skills before practice (blue columns) and after practice (red columns) on axis "x" and percentage of answers on axis "y".

Initiativity
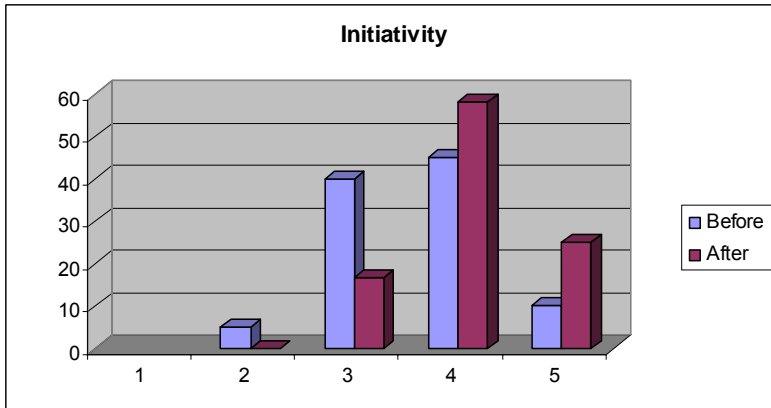
Before practice answers vary from number 3 to 4 and after practice near to 60% answers go on number 4.

Self-confidence

Before practice answers vary 3 to 4 on equal numbers and after practice 48% evaluate their skills of self-confidence for number 4 and 32% even to number 5.

Risk-taking, turn to behave
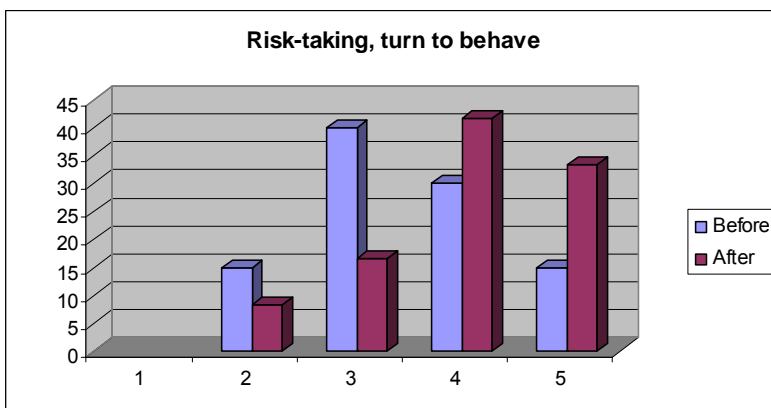
Risk-taking and turn to behave were evaluated the same, at first majority gave their answer for 3, and after practice answers significantly changed to 4 and second was 5.
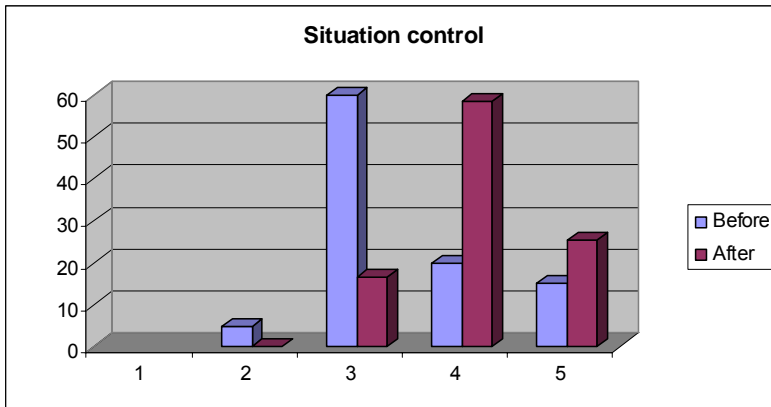
Situation control

About control of situation at first 58% of students could give to themselves number 3 and after practice 56% could give number 4.

Innovativity / creativity
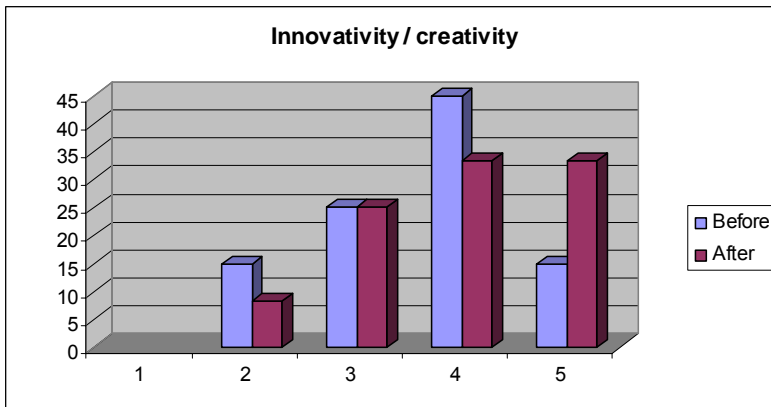
Innovativity and creativity were also evaluated identically and here numbers were changed from 4 to number 5.
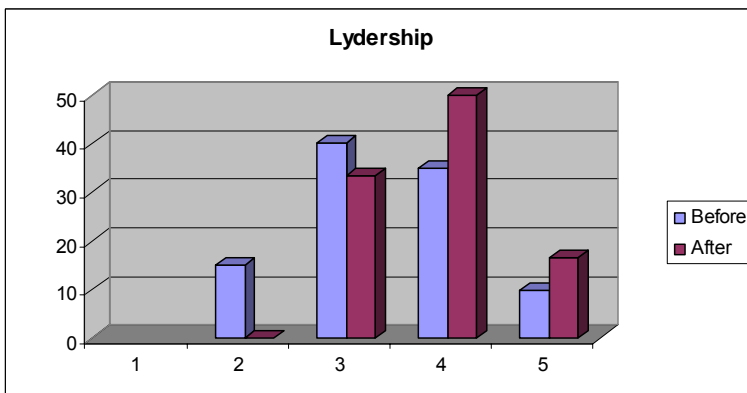
Lydership

Leadership was improved from 38% answer for number 3 to 48% answers for number 4.

5. Conclusions

- There is used group and team work in BPTF, where can be shown every student's personal features and competence level, and according to this can be setted special individual and compex teaching methods.
- One of the important points in BPTF is that lecturer is appreciable not as a traditional lecturer, but as a partner, as more experienced collegue, and that lets students to take responsibility of taking business decisions.
- Using of innovative teaching methods in BPTF provides the way of „through doing to knowledge", which lets to assimilate more information and experience.
- Teaching process in BPTF is anticipated to reality, because there is real company's situation in consideration and entrepreneur (or his/her company story) takes part in it, what turns to synergetic effect, when students understand that theory is necessary and have more real view of practical business.
- BPTF is an ideal media for using innovative teaching methods in study process, because it connects theory and practice and give posibility to show complex of students' acquired competencies, innovativity and personal features and at the same time to adapt to the changing business environment.
- Innovative teaching methods should be approached as the qualitative changes or proccess, oriented to solving non standart problems.
- Analysis of using innovative teaching methods to improve entrepreneurship skills gives us the key expressions:
  - systemic complex view of study process;
  - importance of communication;
  - international (global) relations;
  - synthesis of theory and practice.

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Workshop II *Learning environments and methods*

LbD for Beginners – Learning Professional Expertise as a First Year Student

Laura Salmi
Senior Lecturer
Laurea University of Applied Sciences
Vanha maantie 9, 02650 Espoo, Finland
tel. +358 9 8868 7466
laura.salmi@laurea.fi

Learning by Developing is defined as a method applying investigative learning to authentic situations. Learning is accomplished through the process of development in a professional setting, while at the same time the needed knowledge and skills are acquired. It is a way for students to practise working as experts while still building their professional education. But can this method be applied in the first few months of the studies too? A solution is presented here as implemented in the Business Programme of Laurea University of Applied Sciences.

This paper focuses on the practical solutions adopted with first year students. There are approximately 160 first year students, divided into six groups, in the business program of the Leppävaara unit of Laurea. The observations reported in this article are based on the experiences of the teacher team responsible for the first semester studies in the business programme, as well as student feedback, collected both via a survey at the end of the semester and through team and individual feedback discussions between students and tutors.

Investigative learning as a basis for LbD

Hakkarainen, Lonka and Lipponen (2004, 17) claim that learning is at best an investigative process. This means not only analytical information processing and assessment, but also practical experimenting and learning from experience. Wenger (1998, 73) proposes that learning and expertise are transmitted through unofficial communities of practise. These communities have common goals, exist at work or other environments, but their members are not necessarily aware of this communal structure. These ideas – learning seen as an investigative process and communities of practice being the environments that foster learning – are the key elements behind the model presented here. One aspect of learning in a community is the sharing of the learning process and its outcomes. Sharing one's expertise provides a forum for testing that expertise and justifying one's viewpoints (Hakkarainen et al., 186). In collaborative problem solving the participants typically adopt different roles and serve their different viewpoints to each other, thus deepening their understanding of the problem (Miyake, 1986). To the individual, the community or the group provides scaffolding, permitting the individual to perform tasks more demanding than would be possible for them by themselves (Brown, 1993, 191).

Learning by Developing seeks to apply these ideas to authentic situations in working life. In such a situation, contrary to traditional educational environments, there are no known solutions to the problems. The solutions are always the result of a more thorough process, including the definition, analysis and description of the problem, as well as the choice of suitable methods to be applied (Fränti & Pirinen, 2005, 37). Most of these steps will be omitted when the problem is defined and proposed by the teacher. With this approach, it is hoped that true expertise will be achieved, meaning flexible and intuitive action in problem solving, not re-

stricted to specific situations and contexts. This fulfils an important requirement of professional expertise, as defined by Tynjälä (1999, 160-161).

The key concepts behind the Learning by Developing model are authenticity, companionship, an experience-based, investigative approach and creativity (Raij, 2005, 27-28). Authenticity is achieved through real-life development projects serving outside partners. Companionship means shared working, learning and responsibility. Practical experience is the medium through which learning and new knowledge is reflected upon and identified. The investigative approach is the way in which learning is organised, as described above. Creativity is seen in the adoption of new solutions and working methods.

Implementation of LbD in the first semester of business studies

A major challenge of using LbD in the first semester of studies is the inexperience of the students both as students and as representatives of their field of study. However, the main problem lies in the fact that, while teaching the basics of most disciplines, teachers are dealing with large groups of students. The solutions suitable for groups of a few students working in a single project or two are clearly not applicable to groups of over a hundred. In addition, learning the basics of one's profession often involves building a general understanding of the field in question, on which a more thorough and focused expertise can then be built. Fulfilling this need for a broad base can be extremely difficult in the context of a particular development project, where the focus by necessity is usually narrowed down to a single problem or topic. Compromises are needed. For example, in the beginning the working process is more strongly guided and some control measures, such as examinations, are employed to steer timetables and work phases.

The cornerstones of our approach are a strong emphasis on team work, the providing of guidance to students through various media whenever needed, and a holistic view of the students' work process, rather than one based on the traditional framework of disciplines. The students work independently in teams, on a project combining the different aspects of basic business skills, while teachers are at their disposal to provide advice if and when needed and to discuss their work progress.

Some of these ideas have been implemented on a smaller scale for several years, but a major shift in learning and teaching methods was enforced in connection with a new curriculum introduced for the academic year 2006-2007. The curriculum was designed to bring flexibility in structure, as well as larger units that would enable longer time-spans for the learning processes (Kivelä & Ojasalo, 2007, 125). The curriculum is composed of "themes" of approximately 30-35 ECTS credits each. The themes are divided into courses of five to fifteen credits each. In the business programme, the first semester consists of one theme, "Company and Business Operating Environments", divided into four study units, "Industries and Business Operating Environments", "Business Operations and Processes", Professional Skills to Support Business Processes" and "English for Network Economy". The theme is tied together by a "Theme project" that occupies most of the students' time and covers most of the content of the four courses.

The project is essentially a framework for the construction of basic knowledge about business. The students approach the matter on three levels: the business environment, the company and the individual skills needed for business. These three levels correspond to the three study units, complemented by English language studies, that form the first theme. The students choose a business cluster that they concentrate on and start by gathering information about the structure and functioning of the cluster, as well as economic development in relation to that cluster. They choose two or three companies from that cluster whose business models and networks they get acquainted with. The students familiarise themselves with a company's processes and define a small research problem which they solve to gain a more thorough understanding of the topic or industry they have chosen for their project. While the students work on

their project, they study topics and skills that will advance their work. Among the skills they employ on the project are computer, written communication, presentation, project and team work skills.

To support the execution of the project, theoretical and practical lectures and exercises are provided along the way. These are not held in a regular or evenly spaced rhythm, but rather at times estimated to be most useful in support of the students' work. The lectures are more numerous in the beginning of the semester. Some of the exercises are meant to anticipate and give tools for the work phases in the project, some are meant to be an opportunity to discuss and process the topics and challenges encountered in carrying out the project.

To give the students a place and a time where they can work on their projects while receiving help and guidance if needed, there is a weekly "work session", common to two student groups, i.e. approximately 50 students. Teachers visit this work session so that students can ask questions and receive feedback on their work. The students are encouraged to seek guidance also at other times and through other media.

The execution of the project is supported also by several check-points and deadlines that set interim goals and permit remedial feedback to be given. One of the main ideas behind this working method is that the students do not carry out one-time assignments that will be graded and then put aside, but rather working as a process that will be guided and corrected as it progresses to permit them to improve their work. This idea is implemented beyond the first semester. Continuity is sought from the first to the second semester and beyond, when possible, through arrangements of work distribution among teachers, planning and communication. When the same teachers work with the same students for a time period of a year or more, true continuity in the learning process can be achieved.

The function of the examinations, besides being a tool for assessment, is to make sure the students acquire knowledge that they need for their work, in time for it to be useful. For example, quite early in the semester, the students are given a simple examination on the main concepts related to the business environment where they will operate. Learning to explain these concepts gives them the tools to speak and write about the phenomena they are investigating. Figure 1 shows an overview of the components that form the working environment.
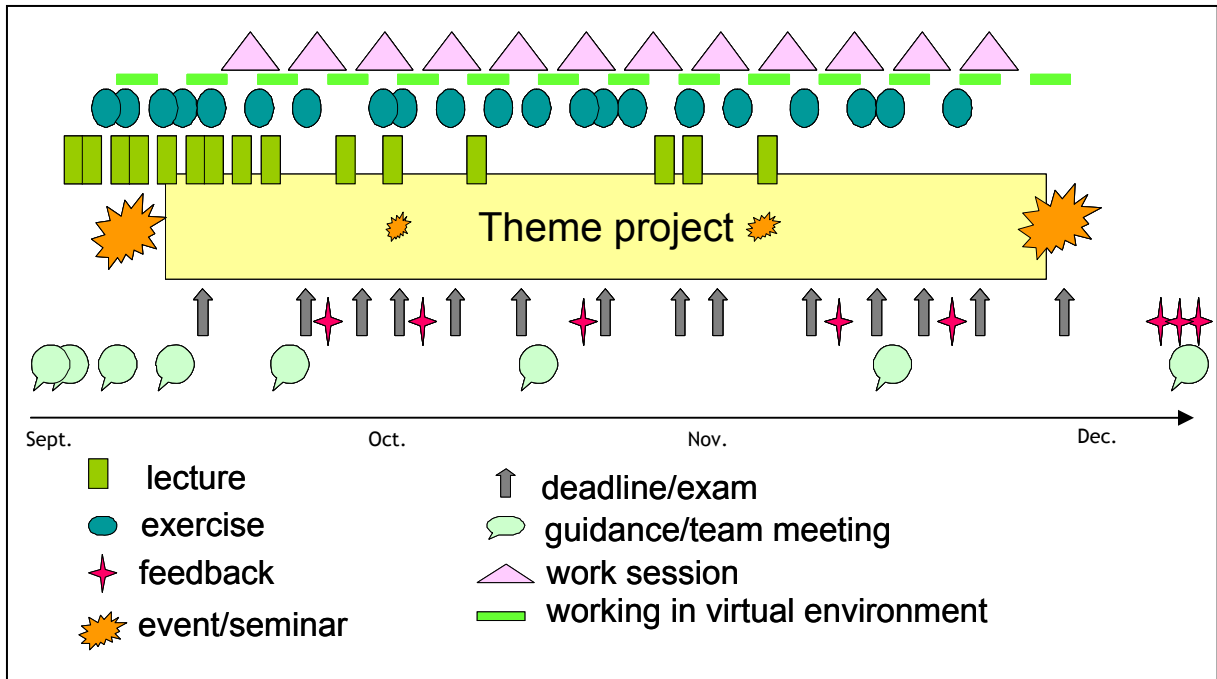
Figure 1. Timeline of the first semester studies

Cornerstones of the approach: team work and guidance

The forming of the student teams is of crucial importance, as most of the work will be carried out in the context of the team's chosen project and the team is responsible as a whole for the working process and for the result. For that reason, a lot of emphasis is put on guidance along the way, in team work as well as in the subjects related to the projects. Each group of students has a tutor – a teacher who is also teaching within the theme.

The students choose their teammates themselves, a couple of weeks into the semester. From the very first day, the importance of teamwork is explained. The students are told to assess their own motivation and goals in their studies and to choose their team so that the team can agree on its goal and level of commitment to the project.

A series of guidance meetings takes place during the semester to provide support to the teams, as well as to individual students. In the beginning of the semester, all students fill in a personal background form that is used as a basis for a short individual talk with the group's tutor. On this form, the students answer questions about their reasons for choosing this field of study, plans for future and previous work or other relevant experience. The students also give their personal impressions of their own level of e.g. language, computer and presentation skills, as well as their preferred working methods.

In addition to the individual talks, the tutor meets each team at least twice: once when the team has started to work on the project and again when the project is finished and all teachers have given feedback on the team's results. In between these meetings, the tutor will meet with the teams when need arises. Some teams find their working patterns easily and work without problems from beginning to end, solving occasional difficulties along the way, and do not need any special help from the tutor. Other teams experience difficulties or need help in finding the working arrangements to guarantee the project's completion. Difficulties arise mostly due to inexperience in studying and working in an environment requiring independent planning and control of one's work and that of others. The problems are mostly related to timetables, planning and difficulties in attaining the goals that the team has set itself, but

sometimes also to differences in motivation or commitment between team members. However, the selection of the teams by the students themselves prevents most of the common problems related to group work, e.g. uneven workload distribution and "free riders".

The sharing of knowledge and learning results is another goal that requires special attention. The sharing takes place on three levels. The most important and most intensive sharing of knowledge takes place inside the student teams. The students are advised to plan for working methods that will guarantee that knowledge and skills will be shared by the whole team. Ways to ensure this are quite simple, from regular team meetings to varying the work distribution among the team. However, without planning, these considerations will not be catered for. In most teams, interaction is daily and very intensive all through the semester.

Another forum of knowledge sharing is the group that the students work in during lessons with teachers. There are usually six teams in one group. The group is the main study-related social environment of the students. Most of the project outcomes are discussed and processed with the group, usually with the guidance of a teacher. At the end of the semester, project results and learning outcomes are presented in a common two-day seminar where all students are present. Other participants, such as representatives from companies students have contacted, are also welcome. This is a good opportunity for teachers as well to learn new things, receive up-to-date information and hear the students' point of view on the process.

A significant part of the daily interaction between students and teachers, as well as among students, takes place in a virtual learning environment. The environment operates on the three levels of sharing mentioned above. The environment is common to all students and teachers involved in the theme, containing information such as course descriptions and timetables, materials and instructions, messages about current topics and a discussion board. Inside the environment, each student group has its own place, where the group can share their thoughts, interact with their tutor and submit the assignments related to their studies. In addition to these, each team has their own folder with discussion board, where they can freely organise their working space and use it in the way best suited to them. As the team's use of the working space typically reflects the extent and nature of the team's interaction and working methods, the teams' spaces are used as one object of assessment when grading the teams' project management skills.

One important goal in the Learning by Developing method of learning is the creation of innovation. At the start of the studies, it is necessary to accept that the results of the students' activities must primarily satisfy the need of the students to learn, rather than the needs of some outside organisation. However, even first-year students can find a way to make the results of their learning process benefit other parties as well. Most of the student teams are in contact with one or several companies, at least when seeking information or trying to learn about business processes. Some of the teams try to find ways to collaborate with the companies, especially when planning the small research project that is part of their studies. Investigating a topic related to the companies' operations and obtaining results that are useful for the companies gives a great amount of motivation and a sense of accomplishment to the teams. However, the students are free to choose their topics and for many teams, it is enough to focus on questions that are new to them.

Results and experiences

This type of studying for first-year students has now been implemented twice. The experiences are very encouraging. The results have been perceived as highly satisfactory, compared to traditional methods used previously. Students manage to acquire a combination of knowledge, skills and general competences, while learning by applying these knowledge and skills. We have concluded that it is possible to guide the students into learning a sound enough basis of profes-

sional skills, while leaving them enough freedom and responsibility to also learn to work as professionals and govern their own learning.

Qualitative measures for learning outcomes are observed by teachers in their dealings with students. They are manifested by a better quality in the students' outputs, such as reports and analyses. However, overt monitoring – in the form of e.g. team discussions – is necessary to make sure that the learning is achieved by all members of the team. A quantitative measure used is the accumulation of credits. So far, data is available only for one year. This data suggests that the credit accumulation is greater than in previous years. Preliminary results for the second year support this. Combining this with the perceived enhancement in quality leads the teacher team to consider this method more successful than traditional methods.

Student feedback suggests challenges and successes. Among the challenges is the large workload that students face, as they need not only to study the subjects, but also apply them in practice from the beginning. A lot of emphasis needs to be put on the first weeks to create a working dialogue with the students to provide them with a forum for questioning and criticising the method. The main criticism is that students have to start working on something without being told explicitly how to do it. This is intentional, as leaving the definition of the problems and how to tackle them to the students is one of the cornerstones of investigative learning. With some discussion, the students usually understand the idea behind the method. Discussion about the methods is necessary though, and must not be neglected.

A more lasting challenge is the students' wish to receive holistic guidance on their work. As in their minds the project forms a whole, so it would need to be in the teachers' minds too. This is not always the case, as the traditional role that teachers take seems to be that of an expert in their particular field, not acquainted with their colleagues' fields. Just as the students need to shift from school pupils to working professionals, so the teachers need to shift from teachers to coaches or senior colleagues to the students.

The students mostly agree on the fact that they learn much more than by traditional methods. They also feel that they receive valuable experience being in direct contact with companies and trying to find information that is more or less readily available, not brought to them ready processed. A small minority of students do not feel comfortable about team work, which makes this method difficult for them. However, considering the role of team work in today's business life, many of them see the advantages nevertheless.

A phenomenon frequently noticed by teachers is the commitment of students to their studies. Part of the commitment, according to the students' feedback, seems to result from the meaningfulness of studying matters that are not only theoretical but also immediately applicable to reality. A very important factor in the level of commitment is teamwork. The students are very loyal to their team and do not want to let their team down. A recurring comment received from students is that had they not been part of a team, they would not have put as much effort into their work. Apart from motivation, some students receive help and encouragement from their teammates in subjects that they perceive as difficult, which helps them achieve better results than they would have by themselves.

Students and teachers alike agree that this method of studying creates a feeling of community that makes working more satisfying for all parties. Creating this feeling of community needs some attention. Special emphasis is put during the first week of the semester on the student groups' social atmosphere. While Laurea's learning philosophy and methods are discussed and presented little by little to the students, even more time is used for getting-to-know-each-other games and informal discussions aimed at creating a confidential and secure atmosphere in the group. Older students are also used as facilitators.

The feeling of community applies to the student teams and groups, but also to the teachers working together with colleagues as well as students. The abandoning of the traditional student – teacher relationship in favour of a more egalitarian working relationship results in added motivation for both sides. Students are rewarded by the greater responsibility and freedom that they are given in organising their own work. Teachers are more inspired by active participants than passive listeners.

The switch in power relations may seem new to many teachers, but may be even more challenging to the students, who usually come almost straight from high school or secondary school, and have very little work experience. Getting used to taking an active role in the learning environment requires some time for adjustment.

There are also practical benefits. In comparison with traditional methods, one result of this method is noticed in the everyday life of teachers. As the students take more responsibility for their learning, they also take more responsibility in their study life in general. This is seen in a dramatic drop in requests – usually made through e-mail – to answer trivial questions that students can easily find the answer to themselves, mostly about practical matters. In short, the students act more responsibly and more maturely.

Of the five key ideas behind the Learning by Developing method – authenticity, companionship, experience-based approach, investigative approach and creativity – authenticity seems to be the most difficult to implement, at least in the beginning of the studies. We have decided to let the students seek authenticity in the first semester at their own pace. As they are all exposed to authentic problems at the latest in the second theme, they can use the first theme to familiarise themselves with the working method. As recounted above, some teams find ways to collaborate with their contact companies to solve real-life problems already in this context.

Another challenge is the atmosphere of creativity. The ability of those in charge of the structure to recognise novel ideas is essential in facilitating creativity, in addition to the individual's actions (Csikszentmihalyi, 1997, 31). Coming from more traditional school environments, students are used to a strictly structured learning environment, as well as "right" and "wrong" answers. Teachers must help in building a trusting and secure environment, where everyone feels comfortable expressing their views and is allowed to make mistakes.

The first semester of studies is also the beginning of a longer investigative learning process. Some parts of the method are implemented entirely from the first semester, while others are approached more tangentially as an introduction for themes to come. The change that students undergo during the first semester of their studies is remarkable. The theme is concluded by the completion of the student teams' project reports and the presentation of their results in the two-day event that ends the semester. Seeing the fruits of their work and presenting them to the audience gives the students self confidence and courage to undertake the challenges that await them. They are not only students, but also junior professionals.

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"Put your hands in dirt and dig for the solution" coaching the learning processes in authentic business cases

Minna-Maarit Jaskari

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Theme Teaching, Learning and Guidance

Introduction

Contemporary business life requires professionals that are able to work effectively in often complex decision situations. Also the role of projects is emerging, from small local development projects to large multicultural projects. For example in the context of product development it is essential that marketers, engineers, designers and other professional are working together towards a common goal. (Vogel, Cagan & Boatwright 2005) This also requires skills working in multidisciplinary and maybe multinational teams.

Professionalism means ability in demanding problem solving. The process of growing into professionalism is best supported in social network where the individual is assigned to bit by bit growing challenges and supported in reaching the goals. It is also stressed that intelligent and reasonable activity is basically situation dependent, which means that developing professionalism means working in authentic cases or in challenging projects where the learning is coached. (Hakkarainen, Lonka & Lipponen 1999, Koli 2003)

The business environment, both concrete and virtual, is developing fast and builds on innovation. (Vogel, Cagan & Boatwright 2005) It is not tied in any a -priori models, but can be understood as flexible, innovative, quickly changing phenomena. As such, it can be learned only in some extent in class rooms. For business students it is essential to work in authentic business contexts to gain understanding and skills. Problem based learning in one of the pedagogical approaches that stresses analytic and contextual problem solving (Boud & Feletti 1999) and can be seen as one of the starting points for this kind of teaching.

This all affects also the role of lecturers. It can be seen as shifting form behaviorist class room knowledge transfer to constructive coaching processes in real life situations. The starting point for coaching is the students' learning process, not the teaching process. (Kalli 2003, Koli 2003, Koli & Silander 2003) The pedagogical approach of experiential learning can be seen as stressing the holistic student learning experience. (Kolb 1981) A shift to a more integrated learning environment has been suggested to improve managers' ability to be creative and effective in solving problems and situations in various arenas. (Eickmann, Kolb & Kolb 2002)

The aim of my project has been to develop a coaching model that emphasizes the students learning experiences in development projects. The idea is to help the students to "put their hands in dirt" – working in authentic business contexts as project coordinators. The challenge is to create a learning environment that both gives structure and guidance for working but also leaves freedom for different cases as well as creative and intelligence thinking in projects.

This paper discusses the coaching within the project. First I will discuss the theoretical framework for experiential learning, learning environments and coaching. Then I will present the case and finally discuss the preliminary outcomes of the coaching process.

Experiential learning

Experimental learning theory defines learning as a *"process whereby knowledge is created through the transformation of experience."* (Kolb 1984:38)

There are some basic propositions on which the theory of experiential learning is built. First of all learning is seen to be best conceived as a process, not in terms of outcomes. Thus to improve learning in higher education the primary focus should be on engaging students in a process that best enhances their learning, a process that includes feedback on the effectiveness of their learning efforts. (Kolb &Kolb 2005) This assumption supports the idea of working within projects and cases where learning can be supported throughout the project.

Secondly it is considered that all learning is relearning. Students' previous beliefs, ideas and knowledge about the topic structure the new learning. To enhance learning, the new knowledge should be connected to old beliefs. (Kolb & Kolb 2005) The beliefs are subjective and thus especially in groups the previous knowledge and beliefs may differ from student to student. The challenge is to understand students' way of thinking, to uncover previous knowledge on which the new learning is connected.

Third learning requires the resolution of conflicts between dialectically opposed modes of adaption to the world. Conflict, differences and disagreement are what drive the learning process. In the process of learning one is called upon to move back and fourth between opposing modes of reflection, action, feeling and thinking. (Kolb & Kolb 2005) As form the teacher's point of view the challenge is how to build up tension in projects.

Learning is seen as a holistic process of adaptation to the world. This means that learning involves the integrated functioning of the total person – thinking, feeling, perceiving and behaving. (Kolb & Kolb 2005) According to this, also learning process should be considered to be holistic so that the student can "put herself into it", to experience the learning from different perspectives.

Learning results from synergetic transactions between the person and the environment. Learning occurs through equilibration of the dialectic processes of assimilating new experiences into existing concepts and accommodating existing concepts to new experience. (Kolb & Kolb 2005)

Learning is the process of creating knowledge. Experiential learning proposes a constructivist theory of learning where social knowledge is created and recreated in the personal knowledge of the learner. (Kolb & Kolb 2005) Learning includes not only the substance of what was supposed to learn, but also meta-skills such as learning skills, problem solving skills, analyzing skills. (Hakkarainen, Lonka & Lipponen 1999)

According to the model of experiential learning, the most effective learning requires four learning modes: concrete experience, reflective observation, abstract conceptualization and active experimentation (Figure 1). (Kolb 1981, Petkus 2000)
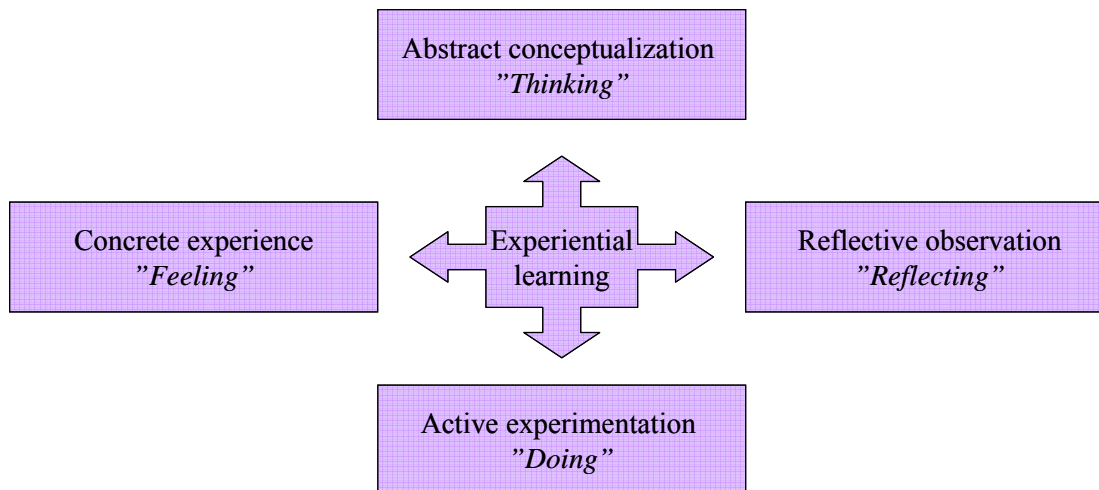
Figure 1. The model of experiential learning (modified from Kolb 1984)

Concrete experience involves sensory and emotional experience in some activity. It evokes feelings. (Petkus 2000) In one project the students were assigned to think product concepts for World Natural Heritage area Kvarken[1]. To sense the atmosphere they participated in a three hours long professionally guided tour around the area. They were able to see, hear, smell and touch the area and get an intuitive touch, feeling of the area.

Reflective observation involves watching, listening, recording, discussing and elaborating on the experience. This phase involves also making connections across experiences without neces- sarily integrating theories and concepts. (Petkus 2000) Students were reflecting their feelings and earlier experiences with the guide, with business contacts, with other students and the coach. Already before the guided tour they had got to know the area via the web pages, mar- keting material, discussions and newspapers. This they wrote into learning diaries or reports that later helped them to structure their ideas.

Abstract conceptualization involves integrating theories and concepts into the overall learning process. This phase involves in-depth thinking. (Petkus 2000) When planning the project, the students needed to think over what they had learnt so far and what kind of ideas they could use from the past. Also later, as their product concepts seemed to be ready, they related them back to theories about concept management and synthesized their thinking.

Active experimentation is the doing phase, in which the student engages in a trial-and-error process in which the accumulation of sensory experience. (Petkus 2000) In the case of Kvarken this included interviews, analyzing the data, creating product concept ideas, developing and testing those ideas.

This learning model portrays two dialectically related modes of grasping experience: concrete experience vs. abstract conceptualization and two dialectically related modes of transforming experience, reflective observation vs. active experimentation. (Kolb 1984) Learning is most effective when student goes through all points, "touches all the bases", experiencing and re- flecting, thinking and acting. Experiential learning is a process of constructing knowledge that involves a creative tension among the four learning modes that is responsive to contextual de- mands. (Petkus, 2000, Kolb & Kolb 2005)

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[1] Kvarken or "Merenkurkku" is the first area in Finland that got UNESCO's approval for Worlds Natural heritage. The area goes from Swedish High Cost to Finnish Low Cost.

Learning differs individually. Individual learning styles are determined by an individual's way of resolving dialectics. This individual learning style can be assessed by ranking preferences for feeling, thinking, acting and reflecting. (Eickmann, Kolb & Kolb 2002, Kolb & Kolb 2005)

For the students experiential learning is motivating but also challenging. It may increase motivation and provide associative structure of events in memory that helps insure that whatever is learnt is not lost. Experimental learning may in this sense lead to self assurance and sense of accomplishment and mastery that successful action provides. (Denise & Harris 1989). However it may also lead to opposite if the student refuses to take the challenge, is rather working part time somewhere, jumps out from the moving train and leaves the problems unsolved.

The interesting question arises, how can the teacher enhance the experience, make it such that the students would learn the most? In what ways can the student be supported in the learning process so that she keeps the motivation, puts herself into learning and takes up the challenge?

Learning environments

Learning takes place in different learning environments. It is not just a particular place, but can be defined to be *the factors affecting learning process*. (Koli 2003, Nissinen 2003) It can be divided into internal and external learning environments. Internal learning environment is the mind of the learner. This includes earlier experiences, habits, beliefs, fears, emotions, skills, knowledge, motivation and other factors that only the learner can change. The coaching can support the change, but the mental change has to be done by individual herself. (Koli 2003) Internal learning environment may be very crucial in learning, especially subjective attitudes, beliefs and emotions may enhance or hinder learning. To affect these factors is a challenge for supervision. (Koli 2003)

It is often assumed that students are motivated in learning new things and will put time and effort into their studies. Often the case may be the opposite – students have other things in mind, they are eager to work in order to get money, at the age on 20-25 they may be looking for partner and sometimes the school maybe more like something that hinders their life more than something where they get the flow-experience. It is a challenge for the coach to build a project, where the students want to put themselves into and challenge themselves. Only then the students can experience all four stages of experiential learning.

External learning environment include physical and social environment that guide the learning. Concrete environment such as class room, computers and social space can be one form of learning environment, but this all can also be virtual space, for example web based environment. Social factors such as coaches, other students, business people and different working groups all affect the learning process. Also support materials, such as text books, references, assignments, time tables, course structures are factors affecting the learning. (Koli 2003, Nissinen 2003)

External factors are such that can be changed and altered by different people. (Koli 2003) For example the coach may ask for different assignments at certain point of the project to check how the student has learnt some things. This can be then used to make new assignments if needed. However, also the external environment can hinder the learning. Social gossip about projects not being worth while, coach unreachable, broken computers and locked doors may be factors that change the motivated attitude towards less motivated.

When talking about learning environments, often the discussion turns into virtual learning environments. These are all the factors that affect the learning in virtual platforms. Koli and Si-

lander (2003) have discussed how to build a virtual learning environment that most supports learning process. (Koli & Silander 2003, see also Mänty & Nissinen 2005)

Different learning environments, internal, external, virtual are connected to each other. Together they form the context, atmosphere and circumstances, where the learning takes place. (Koli 2003) Common factors that are present in a learning environment is the open place (or space), content (information), methods and social factors (other people). (see eg Nissinen 2003) How the learning environment is perceived depends thus not only on the coach, student, university facilities or business contexts but all together. In this way each learning environment is different.

From the aspect of experiential learning, the environment becomes interesting. How well can the environment support feeling and reflection, thinking and doing? In my project the idea is to get a sense of business like working, sense of accomplishment and academic thinking pushed to limits. In the cases this is seen as facilities supporting work, learning environment is built within Western Finland Design Centre (Muova), certain business- like project routines are followed to support the feeling students working as project managers. This all is supported by coaching which aims at motivation, reaching the target, but also to challenging the first ideas developed at "comfortable zone" and pushing thinking onto more abstract level .

Coaching process

Experiential learning is seen as constructive learning process. This means that the student's role in creating, constructing, new knowledge based on earlier knowledge and experiences is emphasized (Ojanen 2003). In this context the role of the teacher is more like a coach, to support, to help reach the goal, to find ways to solve problems. The term coaching as used quite a bit in consulting, so it fits well in business context and thus emphasizes the business experience. (Hirvihuhta 2006) The term includes a connotation of the coach only supporting and the other taking responsibility for their own work. Different terms could have been chosen for this purpose, such as mentor, tutor, supervisor, project coordinator and so on.

Coaching is not just one kind of the process or stable position, but there can be several different coaching roles. In different cases the role of the coach can vary from someone who says how the things should be done to someone who only creates the possibility for others to work. Also the power position or power distance between the coach and the one to be coached varies in different roles. Hirvihuhta identifies seven different coaching roles (2006:41-51). An advisor is a coach with knowledge and skills for some particular theme. He is often in power positions, able to say how things should be done. This may be good in critical situations, but in the long run it is seen problematic as he is then also taking the responsibility. A mediator or conciliator is in problem solving situation, of then in crisis. Teacher, trainer role involves coach to make things to be learnt explicit and helps students to look at the problem form different angles. This can be done by making learning explicit, for example asking, "What did you learn?" or "What kind of skills or knowledge do you need in the future?" The environment for this kind of coaching is considered critical. Demanding, competitive atmosphere is not a good platform. On the other hand, too comfortable situation may lead to not taking thinking into limits. (Hirvihuhta 2006:43-46) The coach can take responsibility in making the environment better for learning and by asking such questions that open students' eyes and motivate them to look for new solutions.

Friend or colleague is seen most as little problematic as the coach should stay neutral and this may be difficult if the coach becomes too good a friend with the student. However, often in the beginning of a coaching relationship it is good if the atmosphere becomes warm and friendly as this is essential for open relationship. (Hirvihuhta 2006:47) Within teaching this can be enhanced with different team building exercises and social activities. However also in

teaching this may become a problem as the coach also needs to grade the student working and needs to be neutral and equal for all students.

The role of a process consultant means that the coach is developing something together with the organization. For example implementing new It-system may need a process consultant to ensure all the important factors are taken into account. Spurrer, motivator or encourager as the role emphasizes the positive feedback given to the students. Making them feel that they are going into the right direction and supporting their ideas. Sometimes students need a little encouragement so that they trust themselves and are not afraid in bringing up their own ideas. Spurrer means also asking for reasoning and developing ideas together, not just saying everything is fine, go on. (Hirvihuhta 2006:49-50)

Enabler or facilitator is the role of weakest power position. The coach enables students to work. (Hirvihuhta 2006:50-51) In team work this may mean discussion with team members, helping them to go on with the project, especially if there is some disagreement on how to proceed. Also working facilities and learning environments enables the working process. The minimum requirement is that the coach can be reached at certain times for discussion.

The propositional shares of coaching and students work are illustrated in figure 2. The letters above the picture illustrate the different roles of the coach. The triangles illustrate the share of power. In the left hand side the coach is an advisor, giving instructions on what to do. This puts the students in a position to follow the rules. In the other end, the coach is an enabler, making it possible for students to work. The power over the work is totally on students', coach's role is minimal.

A   M   T   F   P   S   E

STUDENT's share

COACH's share
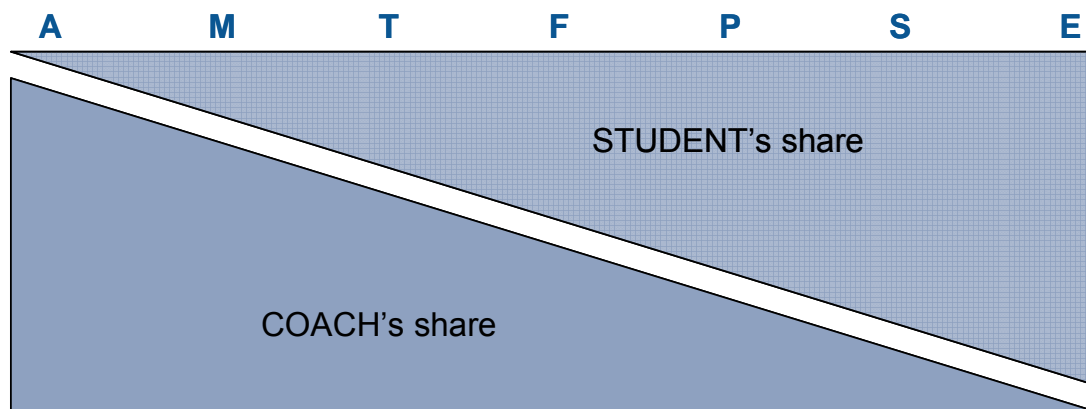
Figure 2. Different coaching roles related to propositional shares of working (Hirvihuhta 2006)

As Hirvihuhta (2006:51) points out himself, the role is not stable and may vary from situation to situation. He stresses that the person on the team to be coached is always the starting point, the main actor in the play. The coach needs to adapt to each situation and find out what kind of the role is needed.

This makes coaching a very sensitive process, coach needs to sense different situations, cases, students and contexts, go behind what is said or written in order to find out what is really needed in each project. The circumstances still get another angle when we take into account that not all the students are motivated and eager to do their work, but some may even try to hide what they have or have not done. Students may also need different types of coaching, some need straightforward confrontation and some very sensitive motivation.

In the context of experiential learning the role of the coach is to support the students' holistic learning experience. In each case the coach should keep in mind the four bases of experiential learning: feeling, reflecting, doing and thinking thus guiding the students to touch all those bases.

Coaching model within the case "Concept Factory"

The specific case for developing a new coaching process is a course Concept factory. It is a Master's level course of marketing in the University of Vaasa, Finland. The course stresses independent and self-directed project work, creativity and design thinking in teams. A close co-partner is Western Finland Design Centre, Muova.

During the course the students attend to lectures, reading seminars, workshops and they have their own business project to run. Lectures and reading seminars familiarize students to theoretical background knowledge and contemporary challenges in customer driven concept management. Half-day workshops give tools to run projects. Projects are negotiated by training manager and students are assigned to them on the basis of interest. As a total the course runs approximately for 16 weeks and students are able to gain 9-15 study points depending on their project. The figure 3 presents the visual outline of the course structure.
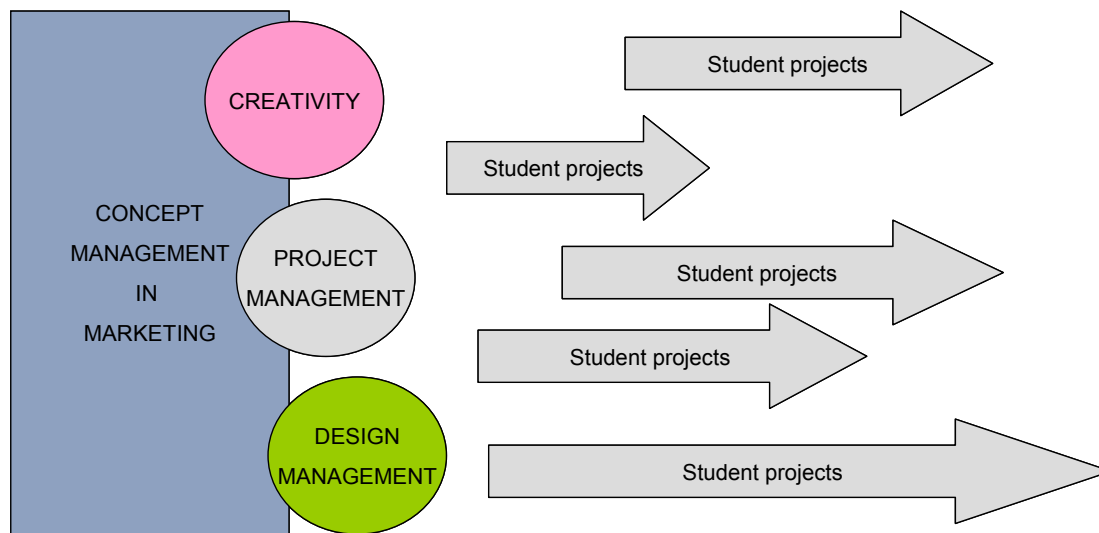
Figure 3. The visual outline of the course structure

The coaching model was developed during summer 2007. A constructive approach gave the guidelines. Multiple methods for data gathering were used: the feedback and experiences from earlier project courses was gathered to pinpoint the key areas for coaching; teachers, partners and students were interviewed; also other national and international multidisciplinary courses were benchmarked. Theoretical background relies on problem-based learning, experiential learning, case –method and other constructive teaching approaches. The process is evaluated by teachers, students and partners during the actual course which runs until mid-February 2008.

Coaching was done in several phases along the course by several people across the disciplines. However the model was developed to give structure and manageability for the process. The structure is given by ready set meeting dates, some are compulsory for all and some are available if needed. There were five coaching sessions, where all students were present. Also twice

a week there were session times if students wanted to discuss. The students were asked to visit at least every fortnight. Coaching was done mainly by training manager, but the idea is that there are several parties that are available for coaching the students in their projects.

All started with a kick-off where all the students were gathered together and the guidelines for the course were introduced. Only after this the students made the decision whether they want to participate in this course or an alternative course.

After this the students were assigned to different projects that were already negotiated by the training manager. Within each project a meeting was set together with student team, company and training manager. At the meeting the background for the project was elaborated, a professional brief was written and signed and the students were ready to start thinking about project plan. After this the students kept the contact with the companies by themselves, however some feedback was asked by the coach during the process.

The second coaching session included discussions about how to start solving the development projects. Ideas were generated in larger groups and these ideas were challenged and discussed. The theoretical concepts for each problem area were discussed so that the students would find it easier to relate the problem to theoretical discussion.

The third coaching session concentrated on evaluating project plans. Some projects were already in their empirical parts as different projects run differently. Basically the coaching stressed the same things, feelings, reflections on those feelings, what is to be done and how that is conceptualized. Especially in this session the emphasis was to share experiences to other students and get feedback from others. This social coaching was very important as it was seen that not only one solution fits the problem but there were many different alternatives. The coach's role here was to motivate other students to be creative and find creative solutions. This was very useful as many ideas were developed further that first were mentioned in the student coaching situation.

The fourth coaching session was a get together after Christmas holidays. It emphasized theoretical aspects as well as business report writing. At this time some of the projects had already been handed in.

The last session was the "Final Event", where all the projects were presented as posters and some students presented their reports. The session was open not only for students but all the partners in business, university and other organizations.

The visual outline of the coaching process is presented in figure 4.
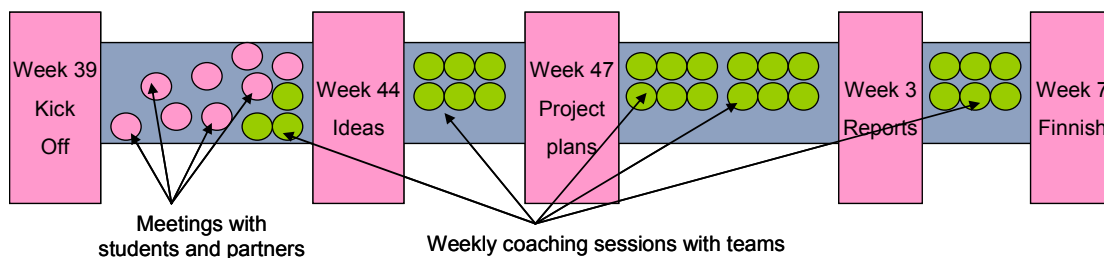
Figure 4. Visual outline of the coaching process

During the course feedback was gathered from all parties involved in order to pinpoint the challenges as well as the best practices.

Preliminary learning outcomes and discussion

During the first term we ended up with twelve different projects. How did the coaching go? What did we learn? How should we proceed?

Altogether students were satisfied with the course structure. The self-directed work in authentic cases was considered challenging but also rewarding. All the projects were finished within given timeframe and all the students passed the course. Some project reports were very creative and had a professional outlook.

From the experiential learning point of view it seemed that some bases where easier to reach than the others. Feelings and reflections were easily reached, doing phase needed mostly motivation, but the abstract conceptualization seemed the most challenging part. Here the coaching was needed the most. The experiential learning theory suggests that the most learning is occurring, when some contradictions are faced and then solved. Coaching may be needed in making contradictions explicit and in giving tools to solve the problems. However, it is important in order to get the sense of self-accomplishment that the coach doesn't solve the problems but gives guidelines and asks questions that lead students to think different options. For the coach, it is important to have the theoretical pedagogic background clear as in every coaching situation it helps in enhancing the experience and it gives framework to help the students to touch all the bases.

Learning always depends on many things and one critical is internal learning environment, the mind of the learner. It is difficult to force someone to learn. This was also the case in my projects. In one case the students were happy with doing by feeling and were not eager to push thinking forward. They seemed to avoid every contradiction as if there were none. In such situation students seemed to put their hands on, but not their minds on. (see also Young 2002) This was also challenging for coaching process as the discussion often was driven to peripheral topics such as "why do we need to read literature anyway", "I can't come as I have my work". This shows that experiential learning is challenging also for students and they need to make an effort. Motivation for learning must come from students, coaching can then motivate and help to make learning deeper and more challenging. So even if the coaching sessions are compulsory the learning process can not be forced.

Another challenge for coaching is that the project aim at students' self direction, the idea is that they run the projects as project coordinators and take responsibility for the whole project. Not all the students need the coaching much as they can ask the questions themselves, they find the contradictions, solve them and go forward. Sometimes it is difficult for the coach to see what the situation is in different projects. Again, coaching process needs to be case sensitive and can be structured only to some extent.

Structuring then again gives guidelines and a sense of professional work. This was done by ready set meeting dates that were team specific but included also group coaching were students worked on each others projects together. Another structuring method was to make specific deadlines for briefs, reports and posters. These worked well. Coaching for making project plans and meeting deadlines was clearly appreciated also by students.

Altogether, the coaching in experiential learning processes is challenging but also inspiring and a lot of fun. When there are motivated student groups that are eager to put their hands into dirt, that are ready to take the challenge, they also challenge the coach. In this way the experiential learning process is such also for the coach and this makes coaching even more interesting.

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Teaching of the subject "PC Basics" at Faculty of Business and Management

Jiří Kříž[2], Jan Luhan[3]

Abstract

With regard to great development in the area of information technologies, the correct use of ICT is a key factor for development in all areas of human activities. This trend is also followed by Faculty of Business and Management, Brno University of Technology. Within the scope of the accredited study programme of System Engineering and Informatics in the field of Management Informatics, the faculty prepares graduates who are an information technology support for company management due to their knowledge in the area of company financing and economics and skills gained in the ICT area.

Within the scope of this field of study, in the first year the students attend the subject PC Basics, which follows the curriculum of secondary schools and tries to extend the knowledge in the area of computers according to the current trends.
Lessons are thus focused on skills and knowledge that can be used in practice. We are trying to perform a transfer from the standard teaching model valid for the Czech Republic. Within the scope of this model, the lecture deals with a particular issue and the subsequent seminar is focused on its practicing. Due to development of knowledge and skills utilisable for company practice, we decided for a way different from this model. The subject should be aimed at several basic objectives.

The first objective is mastering of computer knowledge as regards both hardware and software. It is the most common objective of majority of similar subjects.
The second objective is creation of a certain marketing concept of work with computers.
The third objective is one of the most important skills of this age – it is work with information. Nowadays people have a large amount of information available to them but they are limited by the knowledge of work with it.

The fourth objective is effort for internal motivation of students which is supposed to develop creativity of students and teach them how to use their potential to the maximum extent.
From the practical point of view, students prepare a semester project focused on creation of administration of a concrete company. The students define their own company and on the basis of work with information they specify it in more detail. Then a task is specified for them with the use of MS Office tools and by means of it they try to create a company image interesting for marketing. It is performed mainly by creation of company forms that must also be adjusted for further work with information within the scope of subjects, such as Data and Function Modelling. The range of forms is quite wide, from tools of standard communication, accounting forms to graphic presentation of the company.

Teaching is not aimed only at basic control of the particular tools but at a more complex conception of documentation for practical usage.

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[2] Jiří Kříž, Ing., Ph.D., Brno University of Technology, Faculty of Business and Management, Informatics Department, Kolejní 4, 612 00 Brno, e-mail: kriz@fbm.vutbr.cz

[3] Jan Luhan, Ing., Brno University of Technology, Faculty of Business and Management, Informatics Department, Kolejní 4, 612 00 Brno, e-mail: luhan@fbm.vutbr.cz

The aim of the teaching is thus to use available means for creation of a complex project for a particular defined company to a maximum extent. Students thus have to use a combination of tools for work with documents and graphics and last but not least also to ensure interconnections during work with concrete outputs (forms).

Key Words: Teaching, work with data, computers, documentation, motivation, marketing

Introduction

The development in the field of information technologies is contingent on ICT utilization in all spheres of human activities. This trend also follows education worldwide and thus ICT utilization falls into the content of a wide range of subjects taught. Brno University of Technology makes no exception.

Within the frame of improvement of ICT subjects teaching, the education system of the certain environment is a starting point. That is why a part of this article is dedicated to education system of the Czech Republic. The next specification is the university environment. In this case, it concerns the Faculty of Business and Management of Brno University of Technology. As for concretization and an example, it concerns the field of System engineering and informatics, namely the focus on the Manager informatics. There is a subject called PC basics, which is intended for the first year of the Manager informatics and it represents a cornerstone of further vocational subjects dealing with ICT.

This subject is a continuation of high school curriculum, which it further develops. Therefore, it focused mostly on ICT utilization in fields of financing, economy, marketing and ICT companies. Thus is ensures informatics support needed for company processes.
The article is aimed at the characteristics of the PC basics subject and a specification of an environment, in which it is taught. Subsequently, there are characterized specific processes and mechanism used during the education. Most of all, it deals with a characteristics of subject's goals and further with means of their achievement.

The basis of teaching PC basics subject is the terminal project elaboration which represents the creation of complex documentation for specific company, with the usage of ICT tools. Students are subsequently marked in accordance with the elaboration level of their tasks.

Educational system of the Czech Republic

Characteristics of the state

Official name of the state:	Czech Republic
Area:	78 86 km²
Population:	10,300,000
Number of inhabitants on km²:	131
Economically active part of population:	49.8 %
Composition of nationalities:	Czechs – 94.7 %, others – 5.3 %;
Official language:	Czech
Other languages used:	Slovak, Polish, German, English
Capital:	Prague – 1.126 mil inhabitants
Currency and its division:	Czech Crown (CZK) = 100 halers

The Czech Republic is divided into Bohemia, Moravia and Silesia. At present, it is divided into 14 regions. The basic administrative unit is a municipality.

The Czech Republic is a parliament democracy and its head is the president elected by Parliament each five years. Parliament is formed by two chambers, the Chamber of Deputies and Senate. The Chamber of Deputies has 200 members who are elected for the period of four years according to the principle of a proportional representation. The Senate has 81 senators elected for the period of six years by the majority system. Each two years one third of senators are elected. The Czech Republic is member of NATO and EU.

The industry is focused on mechanical engineering, car, clothing, shoemaking, tanning manufacture. Consumer industry, mining of pit-coal, soft coal, graphite, china-clay and limestone are also significant. The agriculture is aimed at grain, sugar beet, potato and hop growing. [4.]

Characteristics of the education

There are private and state schools. In most cases, there financed by state from the MEYS budget and from the budget of regional and municipal offices. Mostly applied normative method is financing of one student or pupil.

School attendance is obligatory for the period of nine school years, but mostly to the school year, in which the pupil reaches the seventeenth year of age (hereafter "obligatory school attendance" only). Although attraction zones are delimitated, the choice of school is not limited in any way. The education is complimentary, except of private schools which can demand school fee under certain circumstances.

The central authority for the area of education is the Ministry of Education, Youth and Sport (hereafter "MEYS" only), which formulates strategic documents and respective draft laws. Nursery, basic, secondary and vocational schools are administrated by school departments of self-governing regional bodies. Municipalities are also included in nursery and basic schools' administration. The ministry further conducts the state administration function in the education, along with tasks determined by law, to the extent defined by law and it is responsible for the condition, conception and development of the educational system.

The central control authority is Czech School Inspection with the residence in Prague and inspectorates of Czech School Inspection. Its task is to observe results of education, administration quality and the efficient utilization of financial resources, and at the same time ensure keeping of mandatory legal provision on all levels with the exception of universities. The quality of education provided in the area of university education falls under the supervision of the Accreditation commission. It processes conceptual intentions of the inspection activity and also evaluation systems of the educational scheme. [4.]

Characteristics of individual educational grades

Educational system is formed by schools and school facilities. School realizes the education in accordance with educational programs. Types of schools are nursery school, basic school, secondary school (grammar school, secondary vocational school, and secondary training centre), conservatoire, college, basic art school and the language school with the right to perform state exams. Via the executive legal provision ministry determines the type of school for the purpose of its denotation according to its focus.

Nursery, basic and secondary school is organizationally divided into classes, college is divided into study groups, conservatoire and basic art school is divided into departments and the language school with the right to perform state exams is divided into courses. Via the executive legal provision ministry determines the lowest number of children, pupils and students of particular school type, the lowest and highest number of children, pupils and students in class, study group and department [4.]

Pre-school education

The nursery school does not provide the educational grade, it is only a supplement to the family education and fulfils socializing function. The nursery school provides pre-school education for children between three and six years of age. [4.]

Basic education

A pupil will attain basic educational grade by the successful completion of basic educational program at the basic school, lower grade of six- or eight-year secondary school or at relevant part of eight-year conservatoire educational program.
Basic education is realized in a daily form of education. Basic school prepares pupils for further education and practice. It is divided into the first (five years) and the second grade (four years). Pupils are judged on the basis of their written and oral communication and marked according to 1 to 5 classification scale. Continuous classification is summarized in the report at the end of each term. According to the school law, the school will give pupil at the end of a final year of the obligatory school attendance an output evaluation of pupil's educational results attained. Pupil who in the fifth or seventh year enters secondary school will be given output evaluation.
Talented children can attend basic schools with the extended tuition of certain subjects or, after finishing the first grade (if they succeed in entrance exams), proceed in the obligatory school attendance to eight-year (after 5. year) or six-year (after 7. year) secondary study program.
Handicapped children can be either integrated into regular classes or attend special basic schools. [4.]

Secondary education

Pupils who fulfilled nine years of the obligatory school attendance may apply for the study at the secondary school. Pupils of more than four-year secondary study who finish their obligatory school attendance at the secondary school make an exception. The successful ending of the relevant secondary educational program results in following educational grades:
a) secondary education
b) secondary education with the vocational certificate
c) secondary education with the leaving exam.

Grammar schools provide full general secondary education closed by the leaving exam. The study takes either four years (for leavers of ninth years), or six years, or eight years. Grammar schools prepare leavers mainly for the study at university or college.

Secondary vocational schools provide full vocational secondary education closed by the leaving exam in four-year study fields. They prepare their leavers mostly for the performance of technically- economical, economic, health-care, pedagogical and other branches. Nevertheless, they also prepare for the study at the university or college.

Secondary training centres provide mainly secondary three- or four-year long education closed by final apprentice exam. Leavers attain the vocational certificate and they are qualified for the performance of worker or similar employment. A small number of secondary training centres also offer four-year education. Students sit the leaving exam also verifying their practical skills and thus obtain full secondary vocational education. These leavers are prepared for performance of demanding worker employment and operational functions.

Secondary schools which offer secondary education with the leaving exam in the field given might also organize extended study concerning this field, offered to applicants who attained secondary education with the vocational certificate in a related educational field, lasting at least 3 years of daily studies. The education is realized in accordance with the modified general educational program for the relevant field of education. The sequence of educational fields concerning applicants accepted for the extended study is determined by the government provision. Education within the extended study takes 2 years on the basis of a daily attendance. [4.]

College education

College education is intended for secondary school leavers who succeeded at the leaving exam. In comparison with university studies, college fields of education are primarily focused on the practical professional orientation. College educational programs are usually two- or three-year long, at health care take up to 3.5 years. Graduates attain title of certified specialist, Dis. for short, which is used after the name. [4.]

University education

Universities provide university education for secondary school leavers who succeeded in the leaving exam.

Universities organize three types of educational programs: bachelor, master and doctor. Study of bachelor programs takes three to four years and it is finished by closing state exam, whose part is usually the advocacy of a bachelor work. Graduates attain bachelor title, Bc. for short.

Study of master programs usually takes four to five years, eventually six years. It is finished by closing state exam, whose part is usually the advocacy of a dissertation (rigorous exam). Graduates attain the title according to their field of studies: master (Mgr.), engineer (Ing.), doctor of general medicine (MUDr.), doctor of veterinary medicine (MVDr.), doctor of science (RNDr.), doctor of philosophy (PhDr.), doctor of civil law (JUDr.), doctor of pharmacy (PharmDr.), doctor of theology (ThDr.).

Graduates of master study programs can continue at study of doctor programs and prepare to scientific and creative work. The study usually takes three years and it is finished by the advocacy of thesis and state doctor exam, graduates attain Ph.D. academic title. [4.]

Brno University of Technology

Antonínská 548/1
CZ 601 90 Brno, Czech Republic
Phone: +420 54114 1111
Fax: +420 54121 1309
E-mail: vut@vutbr.cz
IČ: 00216305
DIČ: CZ00216305

The Czech Technical University was founded in 1899. Over the than a hundred years of its existence the number of study areas have increased and at present the Brno University of Technology, as the only technical university in the Czech Republic, covers the whole spectrum of technical disciplines:

- mechanical engineering Faculty of Mechanical Engineering
- civil engineering Faculty of Civil Engineering
- electrical engineering Faculty of Electrical Engineering and Communication
- informatics Faculty of Information Technology
- chemistry and chemical engineering Faculty of Chemistry
- economics and management Faculty of Business and Management
- architecture Faculty of Architecture
- design and fine arts Faculty of Fine Arts

With more than 15,000 students, the Brno University of Technology is one of the largest universities in the Czech Republic.

The University has made numerous contacts with universities and other institutions around Europe, United States, Poland, Russia, etc. The Brno University of Technology has supported internationalization of studies through ECTS, participated in EU projects such as Tempus, Leonardo, Socrates/Erasmus, CEEPUS, Aktion, DAAD partnership, studies for two degrees and the Euro-engineer degree, organizing lectures of visiting professors, providing courses for foreign students in English, and organization of international conferences.
The Brno University of Technology has paid great attention to the establishment and equipment of libraries and computing centres. They are all open to students and staff in the university centre, at faculties and at dormitories.

One of the most important aims is to accumulate knowledge and apply it for practical purposes. Research activities are focused on projects by the Ministry of Education, grant agencies, international programmes (COST, COPERNICUS, EUREKA, 5th Framework Programme, Czech-American and Czech-Austrian cooperation) and many Czech as well as foreign industrial orders. Achievements are appreciated by research institutions and industrial companies.

The academic year is divided into two semesters:
- Winter semester from October to January
- Summer semester from February to September

Each semester consists of 10 to 14 weeks of courses and 4 to 7 weeks of examination period. The length of the semester varies in different faculties and different years of study.

In the regular full-time study programmes the basic forms of teaching are lectures, laboratory work, projects, exercises, seminars, consultations (direct and individual), practice and excursions, seminar projects, research study and exams. At some faculties distant or combined forms of study are offered. [1.]

The Brno University of Technology provides university education in the Bachelor's , Master's , and Doctoral (Ph.D.) study programmes. The Faculty of Business and Management offers the world-wide recognized MBA study. The study programmes have been accredited by the Ministry and Education and, at some faculties, by the European Association for Education FEANI. Some faculties offer parallel Bachelor's and Master's study programmes. At other faculties students can start a Master's programme after they have obtained a Bachelor's degree. At the Faculty of Architecture one-year practice is obligatory between the two types of study. The university promotes the development of interdisciplinary branches such as materials science and engineering, mechatronics, mathematical and physical engineering, ecological engineering, biomedical engineering and medical informatics, industrial design, etc. [1.]

Faculty of business and management

Business and Management Faculty is one of the most important providers of higher education in Business and Economics in the Czech Republic. There are about two thousands students in bachelor, master and PhD programmes at the Faculty. Prestigious MBA study programmes and a range of courses in lifelong learning programmes are provided by the faculty as well.
The Faculty has a wide portfolio of cooperating institutions in industry and services all over the country. The educational and research activities are closely linked with these companies in order to promote their business activities and support the development of entrepreneurship.
An important role in the Faculty activities plays international cooperation: this is done through an intensive students´ and academic staff exchange programme and active participation on international projects in pedagogic and research area. [2.]

Full-time study programmes:

Bachelor's full-time study

Economics and Management
Bachelor's full-time study, 3 years, qualification awarded Bc.
        Branch: Tax Advisory
        Branch: Economics and Procedural Management

System Engineering and Informatics
Bachelor's full-time study, 3 years, qualification awarded Bc.
        Branch: Managerial Informatics

Master's full-time study

Economics and Management
Master's full-time study, 2 years, qualification awarded Ing.
        Branch: European Business and Finance

Economics and Management
Master's full-time study, 2 years, qualification awarded Ing.
                Branch: Corporate Finances and Business
        Branch: Company Management and Economics
Doctoral full-time study

Economics and Management
Doctoral full-time study, 3 years, qualification awarded Ph.D.

Branch: Corporate Finances
Branch: Company Management and Economics

Economics and Management
Doctoral full-time study, 3 years, qualification awarded Ph.D.
        Branch: Company Management and Economics
        Branch: Corporate Finances
                            [1.]

<u>System Engineering and Informatics - Managerial Informatics</u>

Triennial bachelor's specialisation Managerial Informatics is organized as a full time study pro-gramme. The specialisation is aimed at the preparation of professionals in a sphere of Informa-tion Systems (IS) and Information Technologies (IT) as supporting systems of the company man-agement and organization. Studies are finished by final state exam, consisting of oral profes-sional exam (on Taxes, Accounting, Law and Economics) and the bachelor thesis defence. Suc-cessful graduates are awarded by the title "Bachelor"(Bc.). [1.]

<u>Subject PC Basics</u>

Level of course unit:	bachelor's
Study form:	full-time study
Language of instruction:	Czech
Number of credits:	4
Completion:	course-unit credit and examination
Year of study:	1
Semester:	winter
Duty:	Compulsory

Aims of the course unit:
The main objective of the course is for students to master the theoretical knowledge of and practical skills in the sphere of computer software. Students will learn how to use individual applications and their mutual cooperation, and how to solve problems resulting from a complex software structure.

Learning outcomes and competences:
Students will acquire basic knowledge of computer hardware and software including up-to-date trends in IT development. They will master the basic principles of and skills in the work with a file system, text and spreadsheet processor, electronic mail processing, Internet access and basic skills necessary for web pages creation. They will learn how to use Microsoft Office appli-cations including more sophisticated techniques, how to eliminate problems, and will be made familiar with the internal mechanism of MS Office.

Prerequisites:
        Basic knowledge of informatics at secondary school level
                [1.]

Teaching of the PC basis subject

The tuition is divided to the lecture part and practical part. One lecture conforms to two practical lessons. Due to the subject content, the tuition is focused mostly on practically usable skills and knowledge.

Individual problems of work with computers are gone through during lectures, whereas the emphasis is put on the practical utilization and clearing of difficulties.

Subsequently, practice serves to practical processing and solution of tasks given, whereas difficulties are overcome on the basis of both problems discussed on lectures and students' own capabilities. Here, students have an opportunity to use information technologies directly at the Faculty of business and Management, but also have a possibility to use their own resources. The choice is up to them utterly.

Thus, the main effort is the switch-over from the standard educational model valid for the Czech Republic, where the concrete topic is discussed in a lecture and the subsequent practice's task is to exercise it.

The way diverging from such model has been determined in order to develop useful knowledge and skills in the company practice. Therefore, there have been determined basic goals which should help to fulfill subject's main goal. [3.]

Knowledge

The first step is to master computer knowledge, concerning both hardware and software. This is the most prevalent goal, to which the most of similar subjects at various schools are directed. Students are familiarized with the usage, construction and manipulation with computers on such goal's basis. At the same time, the emphasis is put on strengthening and deepening knowledge, so far acquired usually during the secondary education.

Marketing conception of the work

The next aim is a change in a computer work conception. Here, emphasis is put on the interpretation of a final work. It is this very part, in which students are conducted not only to the result itself, but also to its effective presentation.

Work with information

The third goal is one of the most vital abilities of this age – the work with information. At present, there considerably high quantity of information at our disposal, however, its usability is often limited by our capability to work with it. That is why students of this subject are led to the efficient work with information in its whole complexity. Beginning with the search for the information necessary, processing it and finally make an interpretation.

Motivation and creativity

The last goal is the effort to students' inner motivation. For reaching it, we resorted to students' creativity support, in order to improve their motivation as well as the development and cognition of potential of an individual student, based on personal interest. This is the very point, at which students get at boundaries of their abilities which they try to exceed. Their motivation leads them forward and deepens their capabilities, as well.

Lectures and practice are accordingly directed towards the fulfillment of these goals. And also requirements for credits and following exam fully correspond with goals set out.

<u>Terminal project</u>

Besides the processing of partial tasks and submissions, students are directed at the terminal project elaboration, whose aim is to link all knowledge and skills acquired during studies of this subject and at the same time, widening to the complex view of practical problems.

Step 1
The first step during the terminal project processing is the creation of a basic background for its elaboration. In this case, it concerns a fictional creation of an actual company according to particular student's focus. In order to complete this task, student must search all the information necessary as well as the crucial information for the realization of such business. Subsequently, he or she must convert this information to a synoptic form and create his company's presentation.
(The establishment is fictional in principle, mostly due to students' inferior knowledge which is widened during following studies.)

Step 2
The second step is the establishment of student's company's record. It is regarding mostly the utilization of all means available from the view of the utilization of office applications. The main task of this part is to create functional forms usually used for business communication.

Asides from the record's function, the overall impression and marketing elaboration are also taken into account. Since the image of the whole company is built on these basic matters. Here, the students' creativity is used to a large extent and it usually forms one of the motivation factors.

Step 3
The last part is then related to the creation of data processing model. Based on the record established, students are conducted to the purposeful usage of data gathered during the time. Various office application analytical tools are used here, as well as their subsequent interpretation. Several further subjects dealing with programming and database systems concur to this part. It is the very complexity of the processing of a task solved, which contributes to the interest of students, who see directly results of their effort.

Summary
The terminal project elaboration leads the connection of knowledge and skills acquired during studies. At the same time, students creates purposeful project focused in accordance with their own choice. They often discover their limits, which they are forced to exceed and thus deepen their abilities.

The result is usually functioning company administration, which also its presentation and a part of the marketing image.

Thus, the tuition is not directed to the basic tool encompassment only, but also to more complex approach to the documentation utilization from practical usage.

Conclusion

The teaching of PC basics subject at the Faculty of Business and Management of Brno University of Technology is heading towards the mastery of a basic work with a computer, regarding advanced working techniques concerning office applications. Using information technologies, students are conducted to the maximum utilization of means available in order to create a complex project for a specified company.

This means that students are made to use combined tools for work with documents and graphics and also ensure work cohesion with actual outputs (forms). In order to perform these projects' successful elaboration, they use a wide range of tools and equipment. They learn about their abilities and by the help of their own creativity and enthusiasm proceed to project's successful completion and by this to the subject successful completion, as well.
Here, the emphasis is put on the independent and creative work which is fully focused on the practical elaboration for purposes of concrete company in the business practice.

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Teaching of the subject "IT/IS Project Management" at Faculty of Business and Management

Lenka Smolíková[4]

Abstract

This contribution will deal with teaching of the subject "IT/IS Project Management" at Faculty of Business and Management, Brno University of Technology. Faculty of Business and Management has many fields of study where it tries to educate specialists for practice. One of the newly opened study programmes is also a programme called "System Engineering and Informatics in the field of Management Informatics. It is a three-year bachelor's degree study programme and it is organised in a form of in-house study. It is focused on preparation of specialists in the area of information systems (IS) and information technologies (IT), as supportive systems of company management and organisation. With regard to the specialisation of Faculty of Business and Management, it is focused on the segment of small and medium-sized companies.

The scope of this study programme includes teaching of the subject "IT/IS Project Management. This subject is included in the sixth semester. It builds on some previous knowledge the students gained during their studies. This subject was introduced due to the fact that project management is gradually becoming a common part of Czech companies. In recent decades projects have become a common part of our lives. Projects are used for implementation of researches, development of new objects for everyday use, performance of large constructions, provisions of services, preparation and implementation of proposals for organisation or process changes in small as well as large companies. Companies also perform a large proportion of one-off work in a form of projects. These projects are often a crucial part of the strategic management of companies. Whether they are or are not the basis of the strategy, they are everywhere. The aim could be a quick commercialisation of a new product or service, installation of new investment equipment, development of new software, modification of a process or procedure, initial testing of a certain business activity, reorganisation of premises and equipment, supply of constructions for another organisation or successful completion of other time restricted work. To put it briefly, a project is an organised effort to reach a certain goal. Organisations use projects for solving of their own needs or implement them for another organisation on the contractual basis.

The main objective of the subject "IT/IS Project Management" is to inform students in a training form about internationally recognised principles, trends and procedures during project planning and management, mainly during implementation of information and communication technologies (ICT).

The second objective is to be able to use the information and communication technologies in the area of project management efficiently.
The third objective is to show that team understanding of problem is important for successful project management.

Students will learn to plan and manage projects in accordance with the international standards of International Project Management Association (IPMA) and the Czech standard ČSN ISO 10 006. The subject will also include explanations of the strategic connections of the use of ICT for support of business goals. The trained methods of project management are fully utilisable also in other areas of management practice, not only during the selection and implementation

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[4] Lenka Smolíková, Ing., Brno University of Technology, Faculty of Business and Management, Informatics Department, Kolejní 4, 612 00 Brno, e-mail: smolikova@fbm.vutbr.cz

of information systems. Specifically, four key areas of project management will be trained: project strategy preparation, efficient planning, principles of project management and project completion. The subject will also clarify the principles of forming and leadership of project teams and issues of coordination of more projects.

Key words: project management, project, teaching.

Czech Education system

The Czech education system is based on a long tradition beginning in 1774, when compulsory school attendance was instituted. Currently, there are all types of education – starting with preschool, through elementary, secondary, university and postgraduate and ongoing education.

1. Preschool education

Children may enter this first level of education before they begin the compulsory school attendance, as a complement to family-based education. This purpose is served by creches and nursery schools.

2. Primary schools

Children usually gain elementary education at primary schools. Compulsory school attendance takes nine years, usually from the age of 6 till the age of 15.

3. Secondary schools

Pupils who have fulfilled the nine-year compulsory school attendance can apply for study at a secondary school.
Secondary schools : at the age of 15 pupils can choose among a variety of secondary schools:
  ➢ Grammar schools: with general and rather academic education which prepare students for university study
  ➢ Special schools: which include technical colleges, specialized in building, chemistry, engineering
  ➢ Vocational schools: training would - be workers for practical jobs
Secondary education usually lasts for 4 years and at grammar and specialised schools. It is finished with a schools leaving examination which is required by all universities and colleges.

4. Tertiary education

Undergraduates can study a variety of subjects such as economics, foreign trade, architecture, law, journalist, foreign languages, medicine, music, art, drama, etc. The university students can enrol at three – year courses for Bachelor's degree of for five – year for a Master's Degree. The university study is finished with a state examination and every undergraduate also has to write thesis to receive a diploma.

Bachelor's: Usually a three-year course of study in which students get an elementary survey of highly specialized areas. Students can either leave their studies after these three years, or they can complete it by means of a leaving exam including the defense of a bachelor's thesis, or may continue into the master's program, where they can achieve a narrower specialization.
Master's: Operates either as five-year (or, more precisely, six-year), or as two-year programs following bachelor's studies. During the course, students gain both a basic survey of highly specialized subjects and a certain grade of specialization. The program culminates with students taking required state leaving exams and defending their diploma thesis.

After students pass these types of university study, some continue in their specialization through doctoral programs. Passing this program is often conditioned with certain publication work and sometimes also by training.

BUT

The Czech Technical University was founded in 1899. Over the than a hundred years of its existence the number of study areas have increased and at present the Brno University of Technology, as the only technical university in the Czech Republic, covers the whole spectrum of technical disciplines:

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- chemistry and chemical engineering: Faculty of Chemistry
- economics and management: Faculty of Business and Management
- architecture: Faculty of Architecture
- design and fine arts: Faculty of Fine Arts

With more than 15,000 students, the Brno University of Technology is one of the largest universities in the Czech Republic.

Academic year

The academic year is divided into two semesters:

- Winter semester from October to January
- Summer semester from February to September

Each semester consists of 10 to 14 weeks of courses and a 4 to 7 weeks of examination period. The length of the semester varies in different faculties and different years of study.

System of study

In the regular full-time study programmes the basic forms of teaching are lectures, laboratory work, projects, exercises, seminars, consultations (direct and individual), practice and excursions, seminar projects, research study and exams. At some faculties distant or combined forms of study are offered.

Faculty of Business and Management

Business and Management Faculty is one of the most important providers of higher education in Business and Economics in the Czech Republic. There are about two thousands students in bachelor, master and PhD programmes at the Faculty. Prestigious MBA study programmes and a range of courses in lifelong learning programmes are provided by the faculty as well. The Faculty has a wide portfolio of cooperating institutions in industry and services all over the country.

The educational and research activities are closely linked with these companies in order to promote their business activities and support the development of entrepreneurship. An important role in the Faculty activities plays international cooperation: this is done through an intensive students´ and academic staff exchange programme and active participation on international projects in pedagogic and research area.

Teaching of the subject "IT/IS Project Management" at Faculty of Business and Management Subject is taught in summer semester in 3 year study in Managerial Informatics. Triennial bachelor's specialisation Managerial Informatics is organized as a full time study programme. The specialisation is aimed at the preparation of professionals in a sphere of Information Systems (IS) and Information Technologies (IT) as supporting systems of the company management

and organization. Studies are finished by final state exam, consisting of oral professional exam (on Taxes, Accounting, Law and Economics) and the bachelor thesis defence. Successful graduates are awarded by the title "Bachelor"(Bc.).

The main goal of the course is to introduce the students in the form of training to internationally recognized principles, trends and methods in project planning and management, especially regarding implementation of information and communication technologies (ICT). The second goal is to teach students to utilize efficiently information and communication technologies in project management. The third goal is to show that team understanding of a problem is essential for successful project management.

Students will learn to plan and manage projects according to international standards of the International Project Management Association (IPMA) and the ČSN ISO 10 006 Czech State Norm. Further, the course will explain strategic connections of utilizing ICT for the support of business goals. The project management methods included in the training are fully exploitable also in other areas of managerial work, not only in selection and implementation of information systems. Particularly, the following four key areas of project management will be trained: creation of a project strategy, efficient project planning, principles of project management and completion of projects. The course will also explain the principles of building and leading project teams and the issue of multiple projects coordination.
Because of its compatibility with international standards, the course will also prepare students for the IPMA D-level certification exam. The students will then be able to achieve an internationally recognized certification in project management.

Course curriculum:

Topic 1: Project strategy

Topic 2: Principles of project planning

Topic 3: Theory of constraints and principles of multiple project management

Topic 4: Risk management and its necessity in project work

Topic 5: How to build an efficient project team

Topic 6: The IPMA international certification and the ČSN ISO 10 006 Czech State Norm

Topic 7: Professional utilization of project controlling and reporting

Topic 8: Completing the project

Each topic will be covered during one or two weeks of the semester.

The seminars will focus on practical training and practicing of the topic explained in lectures. In seminars the students will discuss particular case studies of already implemented projects. Part of the seminars will have the form of moderated discussion, during which the students will be able to practice the methods of process counseling and project team building.

At the beginning of semester students are divided into the groups. Each group chooses a leader. The leader manages the group, assign the work and control it. Each group gets it's own assignment (it means that every assignment is different). The topic is related with it technologies. The project is made for one company that is chosen by students.

Project is divided into following parts:

1. Feasibility study
2. Objectives of the project
3. Hardware and software equipments
4. Economic analysis
5. Project management part
6. Estimation of work

1. Feasibilty study: in this part students should mention:
   - basic information about company (name, address, number of employees, total capital, specialisation, main product or service, organisation structure…)
   - they should use SWOT analysis, SLEPTE analysis and Porter analysis

2. Objectives of the project : student should:
   - give objections of the projects,
   - describe present situation in the company,
   - give reason why there must be something changed,
   - what will the project bring.
3. Hardware and software equipments:
   - the project will be implemented into the company at the end of the project management, therefore students need to find out present hardware and software equipment.

4. Economic analysis: students should calculate
   - Profits and costs of the project,
   - financial analysis - indexes of liquidity, rentability, activity and indebtedness.

5. Project management part: in this part students should focus on:
   - identification document,
   - logical frame,
   - check list,
   - project team (who will be involved in the project),
   - identify risk of the projects,
   - time analysis - using Critical Path Method.

6. Estimation of work: the leader of the team has to:
   - write a report about their work on project,
   - specify, who is responsible for each part of the project,
   - describe, how the team co-operates.

After completing this subject students will be:
   - flexible,
   - responsible,
   - able to work at team,
   - independent.

Conclusion

The mail goal of this article was to describe problematic of teaching of the subject "IT/IS Project Management" at Faculty of Business and Management. Firstly, I tried to describe Czech education system that could be different than in other countries. Than I very briefly mentioned

a few information about Brno University of Technologies and Faculty of Business and Management. Secondaly, I focused on the subject and its characteristics.

Constructing Engagement to Increase Student's Motivation for Professional Development Planning

Simon Peter Cox, MSc; PG Cert HE.
Senior Lecturer,
Leeds Metropolitan University,
UK.
Key words: Engagement, employability, PDP, CPD

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Introduction

The purpose of this paper is to discuss the challenges faced by academics and present the critical factors that influenced student engagement and motivation within the Professional Development Planning (PDP) programme at Leeds Metropolitan University (LeedsMet).

The PDP programme is designed to develop employability skills in students. It is delivered at levels 1 and 2 of the Hospitality and Retailing undergraduate programmes. The level 2 module, called Personal & Professional Skills for Managers (PPSM), was delivered to 140 students and became the project for an 18 month period of action research. Module evaluation, student focus groups and benchmarking from best practice were the main research methods used to evaluate and develop the module and improve its effectiveness in engaging students in the employability skills development process. A number of key changes were made to the modules' assessment approach, indicative teaching content and learning resources. These have in turn led to an increase in student attendance, motivation and engagement, and assessment results.

This paper begins by discussing the primary objectives behind the inclusion of PDP in contemporary HE in the UK. It then discusses some of the challenges faced by universities in integrating employability related skills within the curriculum. The paper goes on to introduce the PPSM module in terms of content, structure and the context within which it is taught. It then states the researchers' original aims and objectives in seeking to improve the PPSM module and student experience. It then presents the four key stages of the research approach. The four key initiatives that contributed to the module's improvement are then presented in detail. The success of these changes is presented in a summary of data from the students' module evaluation and supported with a selection of reflective transcripts that demonstrates improved engagement.

Employability and PDP

Employability, 'the ability of a graduate to gain employment appropriate to their educational standard,' was the focus of the Dearing Report (National Committee for Inquiry into Higher Education, 1997) (Cramer, 2006). The report concluded that the development of key skills should become a central aim of Higher Education (HE).

Although the Dearing Report did not set out the application process of 'employability' within the university curriculum, it did represent a shift in priorities for HE (Cox and King, 2006). The U.K. is not alone in its policy to align HE with work. However, Little (2003) comments that the U.K has a particularly loose match compared with other European countries and employers are still concerned that undergraduate programmes are failing to provide graduates with the necessary career skills (De la Harpe et al., 2000, cited in Cramer, 2006).

The primary motivation for the majority of students in attending University is not to study a particular subject in depth but to enhance their employability prospects (Cox and King, 2006).

Students need to appreciate, however, that employment is not the same as employability, and that

"To be employed is to be at risk, to be employable is to be secure."

(Hawkins, 1999, p.3; cited in Cox and King, 2006).

The majority of employers (70%) are disappointed with young people's lack of business aware-ness and are "dissatisfied with the employability skills of young people" (Hind and Moss, 2005, p.2).

Cox and King (2006) suggest the idea of employability as transferable skills has been reinforced by changes in the employment patterns since 1997. As companies look to downsize they re-quire a more adaptable and flexible workforce, who can attend to a greater range of tasks, in response to changing market needs Bennet (2002). The careers market place has changed from being dominated by the academically bright person, to being the domain of the person with management aptitude, displayed in their employability skills (Hind, 2006).
The Confederation of British Industry (CBI) identifies eight essential transferable skills that school leavers and graduates must acquire for success in business. These are:

- Self management
- Team working
- Problem solving
- Communication
- Business awareness
- Customer Care
- Application of numeracy
- Application of ICT

CBI (2007, p.13)

A review of graduate entry level job advertisements in the national press confirmed that the skills employers look for include those listed above (Hind, 2006).

These considerations have encouraged the development of PDP programmes or similar in order to develop student's employability skills. The primary objective for PDP programmes is to im-prove the capacity of students to understand what and how they are learning, and to review plan and take responsibility for their learning (LTSN, Generic Centre, 2002, P.1). Research confirms that PDP programmes improve student performance and deepens and enriches under-standing of all other subjects (Hind, 2006).

Challenges faced by academics and students

Academics have a challenging task in motivating and engaging students in PDP programmes. According to Hind (2006) students do not necessarily find employability skills development an easy process. They perhaps regard PDP and related employability subjects as unimportant, subjective and unrelated to any specific subject discipline. Furthermore, Brockbank & McGill (1998) found that, often students do not find their intrinsic orientation, which alters in time, until after leaving university. They perhaps have limited life-experiences to call upon when asked to review and develop employability skills through critically evaluating oneself, thinking deeply and applying reflective practice. On the other hand mature students tend to find PDP type modules relevant, fulfilling and less challenging.

Another challenge faced is the lack of collaboration or the common voice amongst academics. Tariq (2004) found that some academics find it hard to accept the 'skills agenda' and this can have a negative impact on the student experience.

Approaches to skills development in the U.K. has been either 'embedded' in the curriculum – where students aren't actually aware they are developing employability skills – to the alternative practice of offering 'stand-alone' modules (Cramer, 2000). The latter practice of 'bolting-on' a module to the curriculum can result in the learning skills being isolated from the main-stream academic subjects (Cramer, 2000). This can have adverse affects on student's motivation and engagement.

The vocational nature of Retail, Hospitality, Tourism and Events courses at Leeds Met reinforces the importance of integrating employability skills and management skills into the undergraduate study programme (Hind, 2006). Hind goes on to say that in order to facilitate the learning a tutor needs to consider a variety of strategies for integrating employability skills development into the curriculum.

The PPSM module structure, content and context
This case study features the development project for the Personal Professional Skills for Managers (PPSM) module delivered to 140 level 2 Hospitality and Retail Management students at Leeds Metropolitan University. The researcher was involved in teaching PPSM for two years and following this took responsibility for module leadership in the 2006/07 academic year.

The PPSM module is a stand-alone, core module, worth 15 UK credits, delivered over two semesters and involves 7 teaching staff. The aim of the module is to:

> *"…provide a vehicle for the enhancement of intellectual ability, personal skills, and career development and to build on the student's personal progress file".*

The module had evolved over several years to include several learning objectives including the development of students' learning skills, employability skills and research skills. The latter objective was introduced to help prepare the student for their dissertation studies in their final year. Students had to develop an industry-based research proposal that would be suitable to carry out in real life. The research project with accompanying poster presentation had a weighting of 60%.

Students were also required to complete a series of six personal evaluation and reflection tasks linked to transferable skills. This formed the personal development progress file or journal to be submitted with supporting evidence at the end of the academic year.

The external examiners reports for 2005/6 indicated that more should be done to encourage reflective practice and to improve the standard of reflective writing. The weaker Progress Files were of a very low standard in terms of content and engagement in the employability process. Folders lacked structure, evidence, referencing and few students actually analysed their personal skills audits. There were also concerns that student achievement was declining and that more should be done to encourage and convince students of the benefits of the module.

Aims and objectives of the project

The aim of this project was to improve the assessment, teaching and 'sense of values' of the module in an effort to improve students' engagement and intrinsic orientation in the employability skills development process. Several objectives were set by the researcher to meet this aim. These were:

- to improve students' understanding of what and how they learn,
- to review, plan and take responsibility for their own learning;
- for students to see the module as central to their professional progress, and
- to introduce a more flexible learning approach to assessments.

Action research approach

This project involved the researcher taking an action research approach over an 18 month period. A view was taken that an 'evolutionary' rather than 'revolutionary' approach to evaluating, developing and improving the module would be less problematic and pose less risk. A qualitative approach was used. There were six key research stages carried out over this period of time. These key stages were:

- 2005/06 conducting student focus groups
- Review of external examiners reports
- Internal benchmarking of content and delivery approaches
- May 2007, post student evaluation

Three focus groups were conducted using open questions relating to the assignments, action plans, employability agenda, module content and delivery. Students were specifically asked how the module could improve student engagement. The discussions were recorded and lasted an average of one hour.

The key findings of these focus groups were:

- The PPSM title is off-putting and does not sound very exciting
- Provide greater clarity about what the purpose of the module.
- Provide a more logical structure to the module content.
- The idea of a Personal Action Plan was good "as it requires some initiative to design and prepare". But it required further development and guidance from the tutor to make it self-explanatory and easier to use.
- The Progress File should account for a greater proportion of marks to reflect the time and effort to prepare.
- Provide a check list of things that could be included in the Progress File.
- Provide staggered, progressive assignments, with continual feedback.
- Have more group interaction with discussions and debates in class over the assignments to engage the student more with the Progress File.
- Have more personal key skills audits to help students understand themselves better.
- Run workshops that are directly related to the key skills
- Provide more sessions on reflective writing practice in class, as several students found reflective writing difficult.
- Involve the employability office to give guidance on careers
- Provide more guest lectures and speakers from industry
- Use the Virtual Learning Environment (VLE) as a resource to include electronic version of an action plan, skills audits, web links and lecture notes.

The results and discussions provided an excellent starting point in influencing the redevelopment of the modules' content and delivery. The researcher believed that by involving the teaching team in the module review then these people would more likely engage in a more dynamic approach to the modules.

The researcher was actively involved in the university PDP working group. In this capacity he had access to many internal and external resources. A series of meetings and consultations with fellow colleagues followed. This enabled a 'cherry picking' approach to taking the best of the best from several other tried and tested module handbooks. This included benchmarking a more suitable Personal Development Action Plan (PDAP) which was further adapted by the researcher.   Also sought was an extensive list of secondary resources which could be added to the module handbook.

Key changes to the PPSM module

There were 24 minor and major changes made to the module content and delivery. But there were four key changes that had the most influence over the success of the revised module. These were:

1. The development of three distinct themes
2. The introduction of a Personal Development Action Plan (PDAP) booklet (See appendix 1)
3. The use of a Virtual Learning Environment
4. Flexible choices in assessment format

The development of three distinct themes

These three themes were:

1. Self analysis
2. Employability and leadership
3. Research skills

The emphasis behind weeks 1 – 3 was on Self analysis or 'getting to know you'. Students had to complete a minimum of 3 skills audits before completing their PDAP. This gave the opportunity for the student to be able to critically analyse their personal traits in relation to key transferable skills. Data taken from the skills audits could be analysed and reflected upon and written into the PDAP. The theme was designed to inform students of the module benefits and its link with their future employability. It was also to create a solid base and positive starting point from which to tackle theme 2 and 3 and of course the continuing progress file. Individual student appraisals were introduced in week 8 designed to discuss and evaluate the PDAP and career aspirations.

Theme 2 (weeks 4 -10) was all about employability and leadership skills development. A series of workshops were designed to explore several leadership and employability skills that students could experience, analyse and reflect upon. These workshops included negotiation skills, managing meetings, career planning, leadership styles, group working, managing meetings and time management. These workshops encouraged student interaction and were well received. The topics were directly linked to the key skills allowing students to collate experiential and reflective evidence, suitable for their progress files, during class time.

The third theme (weeks 11 – 20) was focused around supporting students in understanding and developing their research skills. The main purpose behind the research theme being included was to develop student awareness for their level 3 dissertation. However, the content of the theme also allowed students to develop several employability related skills that could be explored and presented in their Progress files.

The Personal Development Action Plan

The introduction of a Personal Development Action Plan (PDAP) booklet (See appendix 1) had the most significant impact of all initiatives in improving engagement. The PDAP booklet was designed to improve student engagement in the 'Self-Analysis' stage of the personal development process. The booklet was centred on 10 key transferable and academic skills.

The booklet was designed to be self-administered and allowed for flexible use. The booklet included an introduction page explaining how to complete the document. The main body of the document included 10 separate sections and each of these is based around an academic / employability related key skill. The final page of the booklet provides the student the opportunity to summarise key strengths and areas for personal development. The student was asked to provide a personal statement relating to their level of competence against each of the 10 key skills. They were asked to reflect on past experiences and rate their performance/ability in each of these situations. Students then had to provide an action plan to improve this level of competence with a series of SMART objectives and related resource requirements.

The PDAP booklet provided a structured framework that was directly linked to the key employability and academic skills. The booklet, by its very design, encouraged students to describe, analyse and reflect on each of their experiences. The results from student's personal skills audits could also be integrated into the document as an indicator of performance. Students' were able to write up their experiences in the booklet chronologically and in a systematic way. The PDAP allowed each student to develop their own living, working and easy to use journal that could be completed progressively through the year. Examples of good practice could be shared. It allowed each student the flexibility to individually tailor their development needs and focus more on their identified key skills. Fundamentally, the PDAP became the framework for the main body of the Personal Progress File which in turn made the teaching, learning and assessment process a lot simpler. Student's who were committed and wanted to fully engage in the process were able to demonstrate this very easily given the simple framework provided. But, for the weaker students the booklet clearly outlined a 'minimum standard' of effort required to complete the progress file adequately if they wanted to pass.

The PDAP also provided several advantages to the tutors. Clearly, with a well structured, easy to follow booklet it became easier and less time consuming to facilitate the personal development message. The PDAP booklet provided a framework for discussion in terms of the standard of expectation in terms of content and volume of work. In the past students' would ask "how many words do we submit for our progress file?" The new booklet allowed for an easier explanation to ensue.

Marking, moderation and feedback became an easier process. Less time was needed explaining the personal development process and what a progress file might look like. Feedback was provided on line with generic feedback being shared easily between groups and individuals.

The use of a Virtual Learning Environment

There have been recent developments at the university within information technology and the wider availability of computing and on-line library facilities. Experience with a Virtual Learning Environment (VLE) goes back a few years and the university now uses X-stream a version of Blackboard Vista. X-stream meant that all lectures, workshop materials, supporting materials and feedback could be available 24/7. X-stream has allowed for more flexible learning approaches to support a more student-centred learning environment. This blended learning approach, in the sense of combining face-to-face instruction with computer-based learning (Graham, 2004), has been vital to the module development.

Flexible choices in assessment format

Traditionally, the student has had little freedom in the learning process as educational institutions have controlled the basic dimensions of structure, content, duration and pace of learning. This transmissive model of education (Graham, 2004) shows a producer centred focus on training students in the culture of the discipline or vocational area. In recent years we have moved into a period of mass higher education and the university is moving towards being a manager of knowledge, with the focus on industry links, transdisciplinarity and entrepreneurship (Usher, 2002). Several initiatives were introduced to increase flexibility in choices of assessment format. For example, students were asked to present a research proposal on a one-to-one with the tutor. Students had the choice not just of the topic but also the design format (e.g. by poster) of the research proposal.

Results from PPSM module evaluation (May 2007)

This section presents the findings from the module evaluation which was carried out at the end of the academic year. It's an excellent indication of the success of many of the objectives that the researcher and his team instigated.

Students were asked to write about their opinions of the module in relation to the following:

- Strengths with reasons
- Weaknesses with reasons
- Suggestions for improving the module

A total of 34 students (population 140) from 4 different tutor groups responded. This represented a good source of reliable and very valid information. This has been presented in the table below:

Open question posed	Tutor analysis, reflection and action proposed
Strengths with reasons: **Personal development** A well structured module which benefits "me" as a student and has actually encouraged me to look at and work on improving my skills. Helped me realise my own strengths and weaknesses and organise them in order to help me with my work (skills audit). Planning my CV. This module is relevant in managing our work and study. It's a good tool. Knowing more about our skills which will be useful in the future. Good skills for the future however, I did not realise the importance until late on in the module. **Skills audits** I found the skills audits and PDAP gave me an insight	The influence of the action plan (PDAP) can not be understated. Also the structure of the teaching content supported students in their personal analysis and influenced these positive comments. Action: To continue in the same vein but improving the action plan layout will be a priority for 2007/08. Some of these comments will form part of the introduction to next year's module. The availability of several skills au-

into my strengths and weaknesses and therefore, has allowed me to know myself better. I have gained an understanding of my managerial skills which will benefit my future. Learning about myself and finding out my good points. We got the opportunity to think about our next move like career development and develop your own personal skills. Self-improvement through recognition of my strengths and weaknesses. The action plan was much better than last year (repeater).

Teaching style

Tutor's helpfulness.

The teaching was informal and informative.

I like the discussion techniques used for teaching as it gets everyone involved and helps me understand difficult issues. Very interesting. Very informative. Very helpful Everything is clearly explained with lots of examples. Quality of teaching. Feedback through one to one meetings.

Special seminars

The guest speakers.

The education psychology seminar.

Module content

The exercises. I scored strongly agree and agree for all statements because of the general quality of the module.

Research skills

Helped me with my research project.

The research proposals as this helped towards my dissertation. I really feel I benefited from my research proposal as it gave me an idea of a professional level of work.

Managerial techniques and skills

dits, e.g. Belbins, in hard copy format and on X Stream has influenced these comments.

Also the new and bespoke action plans (PDAP) was a major influence in providing a structured framework to this module.

The objectives included making the workshops more students led. I found this difficult because we had a lot of material to cover and I was not always happy that student led workshops work that well – particularly when they are asked to prepare the week before then fail to attend or fail to prepare. However, with a bit of creativity I would adapt the session. Clearly they liked these sessions more than I ever imagined.

Clearly popular. I will repeat the two guest slots I used. I will also look at introducing industry representatives for the group work assessment I am planning. This will further increase the viability of the module.

These comments give me a great sense of achievement after taking on a complex and what some students used to describe as a 'Micky Mouse module'. Not any more!

This –again- was a good solid element of the module. I don't think all the benefits students gain are necessarily realised until afterwards. This assignment will stay and need few changes. I will put more emphasis on industry related projects rather than academic research projects.

I included 6 new sessions this year

I found the different managerial techniques at the beginning of the module very interesting.

Effective use of management skills helped the approach of career opportunities. Good focus on personal awareness. To focus on management styles and the impact it makes on me.

Structure of module

Good continuous structured learning throughout the year with deadlines spread over the year. It helped concentrate deeper on each area in comparison to one big hand in at the end.

Hand outs were on regular basis – good to go back to.

Employability

Talking about future, career etc on workshops.

The employability officer was very helpful and his lectures were the highlight of this module.

and clearly they proved popular and useful.

Thanks to Peter Cullen's advice the confusion we had in 2006/07 over the module content was overcome with a more structured and clear approach. i.e. The three themes see SOW.

The employability officer Paul Dowson proved bug success. I plan to extend this provision next time which may have to involve EXTRA timetabled sessions.

Weaknesses with reasons:

Assignment on reflective practice

The 200 word refection journal was too short and didn't really understand the point. Reflective journal from trip to Barcelona seemed a bit pointless.

I will remove this assignment. It was generally poorly attempted. For 2007/08 I plan to include a reflective practice workshop which will be formatively assessed.

The Action Plan (PDAP)

I found the action plan (PDAP) quite difficult in that I didn't really know what I was writing about clearly. I found some of the topics e.g. operational quite difficult to comment on as I didn't really know what they meant.

I found it hard to follow the layout of the action plan and was not sure what to write as there was no teaching session on how to do this.

I am slightly confused over the progress file some of it seems pointless and repetitive.

For a start its hard to understand how it fits in.

I plan to update the skills audit to make it more users friendly. I am considering reducing the Key employability skills down from 10 to 7 to fit in with the CBI research. This will give more credibility and less work, less repetition and more depth. I am also planning to get the students to decide on the criterion that is required for each Key skills area. This could be done in groups on formative basis.

Lecture/workshop contact time

Felt quite complex for two hours would suggest 1 hour workshop.

Two hours with no break is tough.

Module content

2nd part of assessment seems to focus on development for level 3. What about those finishing at level 2 HND - maybe something to suit their needs.

PPSM lacks specific focus

Suggestions for next session: Module Handbook

A clear overview of what work needs to be done for the certain hand in dates. Explain assessments in more depth To not have so much work to be marked too much stress for this module. Maybe just have a progress file only. Not giving 2 hour lectures – give one hour lecture and 1 hour interaction.

More managerial teaching. A guest lecture every week followed by tutorial hour More guest lectures x 2. Don't make it complicated. It's a good module but its seems overly complicated and SOW has too much info. (Sales)

Employability

Introduce interviews – apply for a job. Build a career debate workshop to help generate and openly speak out about opportunities.

Chatting, more on workshops about student's thoughts and ideas of their future job and career (Sales). To allocate a workshop session specifically for career options helping influence CV building and so opening doors for future.

Personal appraisals

Don't break up the term with personal appraisals as I thought the teaching had finished.

More one to one sessions.

Specify exact linkage to other modules.

For 2007/08 - Unfortunately a change in policy and reduction in resources has meant I will have only 1 x 50 minute workshops each week for both semesters – a reduction in 33% teaching time. Even more emphasis on self-learning!

This has been said many times before. Students need to realise they have more choices than they think. They can propose a research project on anything. I will plan to put even more emphasis on Industry Consultancy type research.

Some of these comments contradict other student comments. I need to be careful I do not apply the knee jerk reaction and change everything based on one or two comments. The clearest message here is to improve clarity of the module in its aims and its learning outcomes. I will be simplifying the wording and layout of the SOW reducing the assignments by 1 (from 6 to 5) and improving the action plan (key skills statement).

Introducing interviews was definitely on the agenda for 2007/08. Unfortunately now this will be impossible what with the reducing in contact time.

I plan to involve the employability office more this year by extending the employability seminars to a full afternoon session. Also investigate the possibility of student careers open day- internally or externally.

The problem with appraisals is that most students do not recognise the opportunity they have for a one to one. They do not prepare for the meeting and because they do not get marked often do not attend.

Include field trips relevant to module.

Appraisals form an important element of this module so I am planning to keep them in (on one semester only) but I am developing an appraisal template which must be completed as part of the progress file assignment.

The action plan (Key skills statement)

A session on how to complete the action plan successfully. Making the skills audit clearer and concise. More structure to the progress file and not such vague concept. Structure the portfolio (12 weeks) weekly reading topic and reflection.

Good points and accepted feedback. As described before.

I plan to: Simplify action plan. Provide examples Involve students in the development of the criteria Provide a list of the 'must have' contents of a progress file.

Breakdown assessment on employability skills

The layout of the module should be around the 10 key skills and we should look at and analyse one each week – with homework.

This is an excellent suggestion and will go further in providing a clearer framework to the module. The seven (CBI) key employability skills will be covered systematically in the first semester. They have GOT to be student led though!

Extracts from student's progress files and reflective journals

Presented below is a number of selected extracts from students studying CPD at both at level 1 and 2. It can clearly be seen from these journals that the initiatives put in place have helped increase motivation and engagement in the personal development process of these young people.

HND Hospitality Business Management Level 2
"This portfolio has been a great way for me to establish the weakest areas of my learning experience; enabling me to improve for the future. I feel more confident about my strengths and character. I feel that I am capable of a career in this industry and feel my approach has changed. I have become more positive and also believe that each day in industry is a learning experience and will help me grow as a person and become a better manager."

HND Hospitality Business Management Level 2
*"Through the process of compiling this portfolio I have discovered that through reflection I can not only ascertain my strengths and weaknesses but also work toward improving them. Overall this module has been the **most beneficial** of all those I have studied as through its efforts it has enabled me to develop many neglected and unused skills that I most certainly hold on to throughout my life beyond university."*

BA (Hons) Resort Management Level 1
"I like the way it makes you learn more about yourself and who you are, how you learn and what you are going to do. Before doing the progress file I must admit that I haven't analysed my own skills and future in so much detail, it gives you so much to think about… I think the reason I enjoyed doing the progress file was because it was a bit different, learning about, me for a change instead of learning about something else."

HND Hospitality Business Management Level 2
 "Now that I have come to the end of this course, I realised that 'being well organised' is an important quality that a manager needs. This module helped me to develop my own methods for helping me keep on top of all works and jobs through time planning which wasn't one of my strong points."

Summary and Conclusions

This paper discussed the challenges faced by academics and presented the critical factors that influenced student engagement and motivation within the employability skills development programme. Module evaluation, student focus groups and benchmarking from best practice were the main research methods used to evaluate and develop the module and improve its effectiveness in engaging students in the employability skills development process.

Since the Dearing Report in 1997 the integration of employability into the university curriculum is now at the very core of contemporary higher education in the U.K.
The primary objective for PDP is to improve the capacity of students to understand what and how they are learning, and to review plan and take responsibility for their learning. This will in turn enable the student to be better equipped with the necessary key skills required for future employment. However, there is still concern from employers that undergraduate programmes are failing to provide graduates with the necessary career skills they require. As companies look to downsize they require, a more adaptable and flexible workforce, who can attend to a greater range of tasks, in response to changing market needs.

The vocational nature of Retail and Hospitality Management type courses reinforces the importance of integrating employability skills into the undergraduate study programme. Furthermore, research suggests PDP, without doubt, improves student's performance and deepens and enriches the understanding of other subjects.

The primary motivation for the majority of students in attending University is to enhance their employability prospects (Cox & King, 2006). However, students do not necessarily find employability skills development an easy process. This is compounded by the fact that often students do not find their intrinsic orientation until after leaving university. Hind (2006) suggests that in order to facilitate the learning a tutor needs to consider a variety of strategies for integrating employability skills development into the curriculum. The combination of these strategies will support the student in enhancing their employability prospects.

This case study featured the development project for a Personal Development Planning (PDP) module delivered to 140, level 2, Hospitality and Retail Management students. The aims of the module are linked to the strategic vision of the university to:

"Promote student employability throughout the curriculum and engage the students in work-related learning"

The aim of the project was to improve the assessment, teaching and 'sense of values' of the module in an effort to improve students' engagement and in turn intrinsic orientation in the employability skills development process. The project involved the researcher taking an action research approach over an 18 month period. Four key research techniques were used: student focus groups; a review of external examiners reports; internal benchmarking; and post student evaluation. The most beneficial research method was, without doubt, that of student module evaluation carried at pre and post module development. Student's experiences, views, opinions and suggestions proved a valuable source of evidence.

Four key changes had the most influence over the success of the revised module and these were:

- Three distinct themes
- The introduction of a Personal Development Action Plan
- The use of a Virtual Learning Environment
- Flexible choices in assessment format

The introduction of a systematic themed approach was invaluable. This provided the module with an easy to follow, orderly sense of purpose for both student and tutors alike. The indicative teaching content could be seen to be clearly linked to the progressive nature of the assessments. The employability focus, in particular, gave valuable takeaways.

The introduction of a Personal Development Action Plan (PDAP) booklet (See appendix 1) had the most significant impact of all the initiatives in improving engagement. The PDAP booklet provided a structured framework that was directly linked to the key employability and academic skills. Students' were able to write up their experiences in the booklet chronologically and in a systematic way. It also provided several advantages to the tutors as it became easier and less time consuming to facilitate the personal development message.

X-stream (VLE) meant that all supporting materials and feedback could be available 24/7. X-stream has allowed for more flexible learning approaches to support a more student-centred learning environment. Several initiatives were introduced to increase flexibility in choices of assessment format.

The findings from the post module delivery gave some satisfying results that demonstrated clearly that engagement had improved dramatically. Students found the module well structured, beneficial and encouraged them to look at and work on improving their skills. The PDAP was a major vehicle in influencing a structured framework to this module.

"I found the skills audits and PDAP gave me an insight into my strengths and weaknesses and therefore, has allowed me to know myself better"

The informal but informative teaching style was also favoured:

"I like the discussion techniques used for teaching as it gets everyone involved and helps me understand difficult issues."

The speakers from industry and the employability officer were singled out as important sessions.

"The employability officer was very helpful and his lectures were the highlight of this module"

Module content faired very well also:

"I scored strongly agree and agree for all statements because of the general quality of the module."

And:

"I really feel I benefited from my research proposal as it gave me an idea of a professional level of work."

Students also liked the themed systematic structure of the module:

"Good continuous structured learning throughout the year with deadlines spread over the year"

There were several useful suggestions for improving the module in the future. These included reducing the timetabling from 1 to 2 hours per week, revising the PDAP to make it more user friendly and provide a list of the 'must have' contents for the progress file.

The improvements made to the module handbook in the summer of 2006 module have largely spawned positive results for both students and teachers alike. Therefore, the key objectives, to improve student engagement and increase the emphasis on employability were well met. Critical to meeting the needs of industry and preparing graduates for their future careers is in supporting the development of employability skills and work related learning. This case study has demonstrated that a stand-alone PDP module, if specifically designed, can support the aims of integrating employability skills into the curriculum.

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Teaching of the subject "E-business" at Faculty of Business and Management

Viktor Ondrák[5], Pavel Weirich[6]

Abstract

The contribution deals with teaching of the subject "E-business" at Faculty of Business and Management, Brno University of Technology. This subject is taught within a three-year bachelor's degree study programme called System Engineering and Informatics in the field of Management Informatics.

Nowadays the importance of information is growing and information is also becoming a trade commodity. Development of electronic forms of business is also connected with the needs of education in this area. Thus it is very important to pay attention to new trends in these areas and new education methods.

The subject "E-business" used to be more focused on gaining of theoretical knowledge. Students prepared a semester work on the topics assigned in advance. However, this year it was decided that teaching of the subject of E-business will also be performed on programme equipment from Zoner company for creation of e-shops. It is an application called inShop where students can design and manage their own e-shop. They can use knowledge gained from the subjects taught in previous semesters, such as marketing, webpage creation, basics of computer graphics, data warehouses, IS/IT project development management etc. The knowledge from the area of economics and accounting will be used during the preparation of the final work which will assess the created e-shop from the point of view of economics.

The objective of the subject is to enable students to learn basic terminology in the new area of e-business and methodological procedures when designing selected information and communication systems of internet business and to be able to create simple economically balanced selected models of e-business for companies in the Czech Republic.

At the seminars, students will learn the basic methodical procedures of designing of simple e-shop models, modelling of structures and behaviour of selected component parts of these shops. They will learn the basic terminology of the system conception of e-business and possibilities of modelling of the individual parts of various types of e-shops.

Key Words: Teaching, e-commerce, e-business, e-business designing

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[5] Viktor Ondrák, Ing., Ph.D., Brno University of Technology, Faculty of Business and Management, Informatics Department, Kolejní 4, 612 00 Brno, e-mail: ondrak@fbm.vutbr.cz

[6] Pavel Weirich, Ing., Brno University of Technology, Faculty of Business and Management, Informatics Department, Kolejní 4, 612 00 Brno, e-mail: weirich@fbm.vutbr.cz

Introduction

Concept for creating e-commerce supposes in our country the same progress as in the world. Internationally realized e-commerce project compatibility is primary task for creating optimal and economic profitable virtual trade network.

Many companies and organizations would like to enter into the electronic world. But usually there are missing business and information strategies, proper preparation and environmental knowledge.

Creating methodical instruments and training of e-shop realization is support for acquiring practical skills in the area of e-commerce business development.

The Czech system of education

- school attendance in the Czech republic is compulsory from the age from 6 to 15
- most children attend state school, but there are also newly established private and church school
- education in state school is free of charge, but students at secondary schools must pay for their textbooks
- private and church schools charge school fees
- all schools are coeducational
- children do not wear uniforms
- handicapped children are educated separately
- the school year starts on 1st September and ends on 30th June of the following year
- the school year is divided into 2 terms
- the school day is different at different types of schools
- the average number of lessons at the secondary school is around 30 a week, primary school have fewer lessons, specialized schools often have more
- classes begin between 7.50 and 8.15, breaks between the lessons last from 5 to 15 min.
- pupils and students are evaluated by marks from 1 to 5
- each term students get their school report with marks from compulsory and elective subjects
- education in our school includes these stages: pre-school, primary, secondary and tertiary

Pre-school
- preschool education is provided by crèches for children up to 3 years of age; for children of employed mothers
- not many children attend crèches but quite a lot of them attend kindergartens – for children aged 5 to 6
- Nursery school - for children aged 3 to 6

Primary school
- At 6 children start to go to primary schools and they stay there until 15, at the age of 15 pupils transfer from primary to secondary school
- some pupils can transfer to grammar school at the age of 11 after they have passed en entrance examination

Secondary school

The students can choose a variety of secondary schools:

- grammar schools - with general and rather academic education which prepare students for university study
- special schools which include technical colleges, specialized in building, engineering, chemistry etc.; business academies, agricultural schools, nursing schools, music and art schools - which offer professional education
- vocational schools training would-be workers for practical jobs
- it usually lasts for 4 years and at grammar and specialized schools it is finished with a school-leaving examination , which is required by all universities and colleges
- the examination is taken in 4 subjects at grammar schools and in 5 or more subjects at specialized schools
- the examination is held in May, it is mostly oral expect Czech in which an essay is written about a month before
- In the oral part a student chooses one of 25 to 30 topics and after 15 min. preparation he speaks on the topic and solves given tasks
- after the graduates have passed their school-leaving exam they receive the School-Leaving Certificate and they can apply for study at universities and colleges

Universities and colleges

- universities and colleges provide tertiary education which lasts from 4 to 6 years
- it is necessary to pass an entrance examination in the subjects in which the university specializes, the examination consists of a written test and sometimes of an interview too
- our oldest university is Charles University in Prague, founded by Charles IV. in 1348
- undergraduates can study a variety of subjects such as economics, foreign trade, architecture, law, journalism, the humanities, foreign languages, medicine, science, music, art, drama, engineering or computer science at various schools. For example School of Economic, Law, Medical or Science faculty
- the university or college students can enroll at three-year courses for a Bachelor's Degree or 4 and 5 year courses for a Master's Degree
- it is finished with a state examination and every undergraduate has to write a thesis in order to receive a diploma; the diploma is handed over at a graduation ceremony
- Doctoral Degrees are awarded after another few years of study
- full-time university students are expected to bear the expense of their tuition and they must also pay for their accommodation and board
- the students from distant places usually lodge at a hall of residence (dorm)
- only a limited number of students get a grant or a scholarship
- for those who do not want to enter the university there are various types of 2-year training courses such as for manager, businessmen, social workers, specialized nurses or language experts

Teaching of the Electronic Business subject

The subject is enlisted in the three-year bachelor study program of the System engineering and informatics at the department of the Manager informatics. Specifically, it is taught in third year's winter semester (from September to January). The subject is compulsory. It consists of two parts – practice and lectures. Practical part ends with a credit test and then the whole subject is ended by an exam.

The means of teaching has changed in the academic year 2007/2008. The practical part was included and students can try and practically utilize the knowledge gained during lectures. Practice is conducted on computers. Previously, the subject was focused on gaining and deep-

ening of theoretical knowledge in the field of the electronic trade. Now, with the aid of the practical exercise, this subject's content is accepted better at the part students and it also means a better asset for them. Students form functional training electronic business.

Lectures are still focused on the presentation and explanation of theoretical basis necessary for subsequent practical training. Lectures' content remained the same. Lectures are focused on areas of:

- basic conception machinery,
- electronic trade simulation,
- electronic trade designing,
- electronic trade strategic management and security,
- internet marketing and SEO optimization.

The aim of the subject is to enable students to adopt the basic terminology in the new area of the electronic business, methodical procedures during designing chosen information and communication systems of the internet trade. The next goal is the practical exercise of creation, administration and management of training electronic businesses.

The study's output is the theoretical knowledge of problems given and further practical knowledge of the electronic trade, different from the customer's point of view. That is, students will learn basic methodical procedures of designing of simple electronic business models. They are familiar with various models of electronic business, with the problem of customers' personal data security, with the e-shop management and internet marketing. Furthermore, students are informed of the indispensable and vital part – professional appearance of the e-shop and easy orientation in existing environment.

Let us mention the statement that a webpage visitor decides during the first 30 seconds whether to stay on the site or leave it and never return. Webpage might contain interesting information, however, if it does not reach out graphically, the customer will not be willing to stay there. Therefore, it is essential to attract the customer on the first glance and make him read and study the presentation page, eventually the electronic business.

Electronic business teaching in the past

Students, as already mentioned, were taught only theoretical pieces of knowledge in this subject. Such theoretical knowledge was used to terminal project elaboration which made part of the exam.

The terminal project's topic was "Establishment of new electronic business". Students' task was to design an electronic business for an imaginary company. The terminal study consisted mostly of these parts:

- analysis of a company and market that the company intended to enter,
- analysis of a choice of the electronic business (whether to use already completed solutions or create the electronic business according to actual requirements)
- determination of e-business position and means of position (whether to use web hosting or rent the whole server, etc.)
- economical evaluation of the electronic business given.

Electronic business teaching now

The practical part with exercises has been introduced. A "Methodical aid for company's modern electronic business creation" was formed in order to fulfill such task.

The methodical aid is elaborated in an electronic form, due to its fast and easy actualization or eventual further chapter expansion. The access to these materials is limited only to students of daily or combined form of studies of the Faculty business via login data used by students to common login to school computers and applications.

This methodical aid is designated for students and it is meant to help them to elaborate quality terminal work and study the problems of the Electronic business. Lecture notes of the Electronic business in the methodical aid are extended by modern trends in the field set.

The very methodical aid is divided into two basic parts:
- theoretical
- and the practical learning handbook

The theoretical part contains a summary of knowledge of the electronic business in a tool form which leads the user through basic theoretical areas relating to electronic business routes utilization. On the basis of terms definition connected to the trade, it is possible to approach the characteristics of electronic business specificities and areas crucial for or relating to the electronic business given. The information source for the theoretical knowledge elaboration consisted mostly of professional articles and books.

The second part of methodology is focused on the practical realization of the electronic business. Thus, on the one hand, the aid will enable the practical training on the side of an electronic business effecter and on the other hand, on the side of user.

It was necessary to choose an appropriate electronic business solution for the practical training. After the survey of the market of electronic business creation software providers, one of subjects was contacted by the Faculty of business and the cooperation was established. The chosen company was ZONER software Ltd. This company provides electronic business solutions via Zone InShop application.

This complete solution is one of the often used on the Czech market and it represents user-oriented application which creates the environment of the electronic business. This tool can be used for the practical internet trading exercise and therefore it can be used also within the frame of the electronic business learning (practice).

The opening ZONER InShop program installation is described in the practical part. Further, there are described individual modules (e.g. customers, marketing, orders, etc.) and last but not least, there is highlighted part concerning salesroom's web part configuration. There are figures, ensuring better plasticity, attached to particular sections. The elaboration form was chosen regarding students and the possibility to print this practical handbook and thus to simplify the training of practical electronic trade within the frame of the application exercise. If students wanted to get deeper into the program mentioned, they could make use of a detailed help of the InShop program.

Methodical aid realization

The methodical aid realization consisted in the creation of webpage, where the text is placed. PHP script language and MySQL database were used to webpage construction. The link between dynamic page generation and the database enables Methodical aid webpage administrators to actualize placed texts easily or, eventually, to add new articles (chapters). As mentioned be-

fore, administration interface is created for webpage administrators, enabling them to perform required changes in study texts.

Web interface creation should also simplify students' accessibility to study materials of the Electronic business subject. Pages are also divided into two basic parts – theoretical and practical. The theoretical part is elaborated on the basis of lecture notes designated for the Electronic business subject and individual chapter contain links to further study materials placed on the internet. Questions and eventual conclusions serving to consolidation and clarification of the knowledge gained within the set topic make also part of chapters.

Practice

Students' task in order to attain credits is to elaborate the terminal work concerning a topic set in advance. Topics are divided into various areas related to the electronic commerce (e.g. marketing, strategy and e-shop management, electronic signature, legal modification of the e-commerce, etc.) Furthermore, students process a report regarding the work with program which taught in practical lessons.

During semester, students will try the role of:
- administrator – the person who can, if necessary, alter source codes and request of e-shop's owner, create new functions, new design and can further administrate all activities,
- owner of the electronic shop – person who administrates e-shop via dedicated interface and can choose from pre-defined appearances in various colour implementation,
- customer.

During the creation of training electronic shops, students can utilize the knowledge from previous years' subjects. That is, they can make use of knowledge of marketing, management, websites' creation, basics of computer work, basics of computer graphics, IS/IT project management, etc.

Conclusion

This academic year is the first year of teaching the subject "E-business" at Faculty of Business and Management with the help of application InShop. After this year we will see the effect of this new way. Meanwhile it seems as a good way how to prepare students on practice.

Flexible Learning – a new way to learn

Sue Curland
Leeds Metropolitan University

Learning by Development Conference, Laurea University of Applied Science, 7th February 2008

Abstract

This research looks at the use of flexible learning with first year undergraduates. Ongoing evaluation has been carried out with these students and their views will be incorporated into the research findings.   .

Findings so far indicate that the students prefer this way of learning as they have choices over when they carry out their studies with all the information they need available on-line.   They have also found the support material very beneficial. Further evaluation and findings have been incorporated into this final version of the paper.

Introduction

Education requirements have changed over the past few years and "classrooms are becoming increasingly diverse in terms of age, race, ethnicity, and lifestyle" according to Bernard, de Rubalcava and St Pierre as cited by Christy (2005) This means that methods of delivery and how students learn needs to be catered for.

Christy (2005) also refers to Bridges who states that the "educational shift is occurring in the traditional sense of place, time, and student-community resulting in the development of flexible learning environments"

This has meant that educational establishments, especially Higher Education, have had to respond to this need and provide a learning environment that suits the new style of learner.

Linked to this is that it would appear that the new national curriculum introduced in the UK has not always met the standards in subjects such as mathematics.   Roger Porkess, Mathematics in Education and Industry project leader, reports in the Times Higher (2002) that "Curriculum 2000 has been a disaster for mathematics". The new syllabus and style of learning was not developing the skills required by Higher Education.   This was also commented on by Harriet Swain in the Times Higher (2007). She questions "how to deal with numeracy problems before they get out of hand and lead to students, particularly first years, switching courses or dropping out altogether".

This problem had been identified at Leeds through several years' investigation into the problem that some students have with a lack of numerical ability or understanding of how to use this skill for problem solving.   So this had created another hurdle for students to overcome when they enter University to further their studies.   It is therefore imperative that different methods of support need to be introduced to engage this new type of student body. Hutchings (2001) promotes the use of effective flexible learning materials, which enable learners to have some control over where, when and how they learn and he also suggests that how their learning achievements are recognised and accredited, become of paramount importance to the student and in some way they want to take an active part in how the assessment is organised and suggest how their needs can be better met.

Therefore Hutchings (2001) advocates "lecturers to identify which learning outcomes they deliver are suitable for support through the use of flexible learning materials, and to transform their existing materials and references into more

This is also commented on by Ul-Haq (2003) who compares this with distance learning where students using this form of learning are used to having a set of workbooks, one per module, which mirrors the syllabus and guides the distant student through the learning points, often introducing self-tests to assess progress and case studies to help build understanding. This is not dissimilar to what has been developed in Leeds to cater for the diverse range of undergraduates that has become the norm as entrants into Higher Education.

It is also hoped that through this "ultimately, they may begin to accept responsibility for their learning" (Bernard et al cited in Hutchings (2001). This viewpoint is collaborated by Sweeney (2001) who suggests that "students would want to take some degree of control and responsibility on themselves".

Flexible Learning Environment

Many facets go towards creating a flexible learning environment and the increased use of technology through blended learning is an integral part of this. Clarke (2007) advocates "flexible learning on demand by providing access to digital learning resources for individual use, blending traditional and innovative methods to meet the needs of learners". He further purports that "e-learning offers many opportunities to provide learners with more choice, learning experiences related to their personal needs, access to support, information, advice and guidance".

All this has been recommended by several authors who all seem to agree that flexible or blended learning is a move forward in the right direction. This can be summed up by Clarke (2007) who firmly believes that e-learning can offer flexible learning on demand, anytime or anywhere.

The positive aspects coming through from educationalists about flexible learning is what has directed the way developments have gone with some of the modules offered to first year undergraduates at Leeds Metropolitan University. The above mentioned changes in the student body and their preferred way of learning has encouraged tutors to develop new ways of engaging students in learning and also accommodating the student needs both academically and their demanding lifes outside the University.

Ul-Haq (2003) emphasises this when he explains that flexible approaches to teaching and learning have two essential features. First, they provide students with the opportunity to take greater responsibility for their own learning. Second, they enable students to be engaged in learning activities and opportunities that meet their own needs. If this can be achieved, it goes a long way towards both providing the right learning environment within the University and also enable students to plan their learning around other demands such as family and work.

Another aspect which has not been explored as much as others is that certain cultures prefer the flexible style of learning as suggested by Sweeney (2001) "Asian students in particular, as well as female students, viewed face-to-face tutorials as potentially intimidating, mentioning the fear of not being right and possibly put-downs by other students as barriers to participation"

To conclude this section Clarke (2007) summarises this in that "e-learning can offer flexible learning on demand, anytime or anywhere"

Developments at Leeds Metropolitan University

It is important at this stage to comment on the developments that have taken place over the past three years towards developing a module for first year students which was perceived to be a difficult area to learn.

First year finance studies obviously need to use basic mathematics, use of formulae and understanding the theoretical concepts involved. The traditional classroom style of paper based exercises can often deter students from learning as they should.

As explored earlier, not all of our students have an aptitude for numerical work in any shape or form and the argument has been put forward that some of this lack of ability emanates from previous schooling. That is not the main area to be investigated in this research, it is a contributory factor and one that has meant coping devices have had to be developed so as not to form a barrier to the students' learning.

What has been the main focus is creating an encouraging environment that is not intimidating in any way. That students can engage, take charge of their learning and to some extent control the outcome.

It has taken approximately three years of development work to achieve the standard of what can be provided by way of support and on line learning but within the context of a classroom.

Christy (2005) cites Ellis to indicate what devices can be used to further different delivery modes and support material. He comments that "Instructors can deliver Web-based course content through a variety of instructional tools including media presentations and notes, computerized tutorials, links to outside resources, discussion forums, and e-mail for communication amongst students and the instructor" All these factors have been incorporated into the module being accessed by the students at Leeds. Previously a campus edition of Web CT was used as uniform across the University but this academic year a move was towards implementing x-stream (a version of Blackboard) which has many more facilities and once set up it practically runs itself. Hutchings (2001) confirms this by saying that Blackboard as its standard virtual learning environment (VLE). The Blackboard system is the means by which modules are delivered. A student only sees the modules for which they are registered, so Blackboard functions as the tool for creating external views.

The module at Leeds has a two hour session each which in the computer labs with a one hour back up tutorial. There are no mass lectures or a need for all the students to be working on the same exercises in the workshops. A range of exercise work which allows for the mixed ability of the students is uploaded onto x-stream together with lecture notes, guidance material and support packs. Initially students are asked to complete a self assessment questionnaire as to their mathematical ability and assess themselves. They select which areas they need to work on from the six packs in the numerical skills area and use this as and when required. This does not form part of their assessment but supports their development for the finance work.

They are then required to work through exercises to meet the requirements for the learning outcomes of the module but the students can select which exercises they complete, in which order, and when. As all the material is available on line they can carry out the practical work between classes and then use the workshop to check their answers, discuss the underlying theory used or work on the written element which uses referenced material to demonstrate their understanding of the concepts and principles used.

They submit their coursework in three stages online and receive written feedback online within five working days as a norm. The feedback identifies where they have achieved good marks and also indicates why they have not achieved in certain areas. This gives direction as to what

to improve on for the next stage in three weeks time. As a rule, marks have improved from stage 1 through to stage 3 and students are keen to achieve as many marks as they can.

Christy (2005) cites Eastman and Swift in that "the provision of class notes, copies of presentation slides, course syllabi, and project guidelines via the Internet extended communication beyond the classroom and increased student learning"

All the student work and feedback is stored on line and can be assessed at any time by the student, tutors and external examiners. It encourages students to be aware of the benefit of the feedback that is available and not just to receive a mark.

The development stage for this mode of study began with the transfer of the sessions from a classroom without technology to a computer lab with between 24 and 30 computers. It is important that each student has a computer to work on individually in class, so students were not allowed to share computers.

The largest part of the work for the module leader was the transferring of all the teaching and support material into a format that could be loaded onto the VLE (virtual learning environment). Blackboard seems to be the system that is universally used for this and x-stream that has been introduced is just one form of this.

Christy (2005) commented on the advantages to students of this mode of study in that "Web-based instruction to help them balance the multiple demands of their busy schedules, and they valued the convenience offered through this delivery mode". Sweeney (2001) confirms "an increasing demand for more flexible forms of delivery from students"

As first year students, they have no preconceived ideas as to what to expect and accept that this module uses a blended learning approach. Many will not have come across this approach before and so some introduction into how flexible learning operates and the anticipated advantages are. It is also acknowledged that some students will find it difficult coping with the technology.

Eaton (2003) describes this as an "innovative methods of incorporating technology to benefit pedagogy". It is important that the benefits outweigh any difficulty the student may encounter and also the amount of front loaded preparation the module leader has to input.

Module Development

The assessment design for the Principles of Business Finance module at Leeds consists of a portfolio of learning and a summative exam. It was up to the students how they wanted to use all the resources which were on line but the norm seemed to be that the students used the workshops to either work on exercises and check their answers or concentrate on the literature needed to construct the theory underpinning section of the portfolio. All material had to be fully referenced and this seemed to be an area that students found new to them and difficult to understand.

They completed a self assessment questionnaire to begin with on line to inform previous study achievements and the mixed ability of the class. This ranged from students who had the minimum requirements for the Higher National Diploma up to those who had studied Advanced level Business Studies and already had the basics o business finance.

The traditional method of delivery would mean it would be difficult for the tutor to pitch the learning at a level to appeal to all capabilities. With the flexible learning approach, students were able to find their own level and attempt the exercises they felt they could cope with before moving on to the more difficult ones. Those that were confident in this area would

start on the more complex examples from the beginning. The aim is to see progress from the level they started at and all students who attended and completed the work could see their progress very clearly as they moved through the semester.

Students also set their own pattern of how they would utilise the support packs, lecture notes and guidance material.   There seemed to be something for everyone and over the semester most of the resources were accessed many times. One of the features of x-stream is that a tracking advice allows the tutor to monitor how often and for what length of time individual students are on line accessing the module.
It also shows which of the resources gets their attention.   This was very useful prior to the exam as it showed which students had put in the time to revise.

For the examination, revision took the form of a past paper posted on the VLE together with the marking scheme so that the student could attempt the questions, a mixture of multiple choice and short answer questions, time themselves as to progress and also mark their results to see what level of grade they were working at.

After a few years of developing, monitoring and evaluating the success of how the module op-erated it became important to give this work the focus and motivation it needed. A pedagogic research project was undertaken during 2007 culminating with the final evaluation completed by the sample cohort of students.

During the year, the University changed from using Web CT as its VLE over to x-stream and the module leader was part of a steering group piloting and monitoring the changeover.

The project focused in the September semester on the cohort of students, total 50 first year undergraduates enrolled either on the Higher National Diploma or the degree in Club and Ca-sino Management.

Evaluation with the students

Reviewing the literature for this research identified that wherever similar work had been un-dertaken, some form of survey or evaluation was carried out with the students.   This was the methodology that was identified as a major part of the project and the final evaluation was distributed to the cohort at the end of their summative exam whilst still under exam condi-tions.   47 replies were received out of the total 52 who undertook the module (the other 5 were absent from the exam).

The results of this evaluation has been analysed under the main areas that were questioned and the results are now presented in this paper and will a major part of the final report for the project lead body.

Christy (2005) also comments on this form of primary research in that "at the end of the se-mester, students completed a survey that provided descriptive information regarding their Web-based experiences".   He went on to say that "the course evaluation also contained an open-ended question that asked students to provide additional evaluative comments regarding Web-based instruction". Sweeney (2001) used a questionnaire for his research and states that "of the 78 students enrolled in the unit, 42 completed a questionnaire in the last class of the semester. The sample was evenly divided in terms of gender and ethnicity. Almost all were full time students younger than age 25".

By using one cohort for the sample at Leeds, (other courses undertake the same module and flexbile learning but were not in the sample group), that was a natural mix of students of dif-fering backgrounds, ability, gender, ethnic origin, and age.

All the students were under 30 years of age with the majority have coming direct from school or college.

Six main areas were questioned and the analysis follows:

1. Has the flexible learning approach encouraged you to attend each week and complete work for your portfolio?

All the students responded in a positive way except for the following three comments:

"Made me not really want to go as can't concentrate with others as easily"

"The flexible learning approach was a different style of learning for me and for that reason   took me a while to get into"

"I have had illness problems which have affected me from attending the lectures"

The positive comments ranged from just "yes" to the following:

"Yes as I have been able to do the work at my own speed"

"Having time to complete work in lesson time has been beneficial to me. It is also useful to have a teacher's help available if needed"

"Yes it was very easy to learn in this way"

"Yes, I could do what work I wanted to in an order that suited me"

"It has because it motivates you to work harder, to gain higher marks"

"Yes, it made me more organised"

"It's a better system than usual and there is always help"

"Yes it has helped me to have plenty of time to complete my work in and out of uni"

"Yes and I have also been able to spend time on the work at home, especially on the parts where I needed to spend more time looking at the theory and how to interpret the information"

This would indicate that the majority of the students appreciated this mode of learning even though flexible learning and its facilities meant differing things to different students.

2. Are you pleased with your progress? What further help do you feel should be incorporated?

This question enlisted a wider range of answers. The more negative responses were:

 "No"

"Was not prepared for exam"
"More one on one with teacher and student"

"More flexible, we had a fixed time to have the lesson"

"Maybe a longer workshop or more of them"

The last response listed above was unusual for undergraduates as they often cannot wait to dash out of classes to work or socialise. It was felt that the students would have liked to have remained in the computer labs for however long they and the tutor were available.

The positive comments covered aspects such as:

"Yes, I am pleased with my progress Yes very pleased with my last stage 3 hand in"

"I certainly feel more confident and happier when dealing with financial information, this module was good progression from BTEC level"

"Yes, could get on with the work I already knew and ask for help when needed"

"Yes marks have increased steadily"

"Yes I am, found I am improving each time around"

"I am happy with my progress and I feel more confident about the subject"

Most of the students were pleased with their progress and could see the better results they were getting from one stage of the work to the next.

3. Has it helped by having the feedback before you have handed in the next stage of work with information on what you have done well and where further improvements will help achieve more marks?

There was only one comment which could be seen as less positive and that was:

"Yes, it has although I think I ended up concentrating on the things I did wrong and neglecting the good things"

and this can be seen as an issue and alerts the tutor to ensure in the future this advice is built into the feedback process.

Students commented on the advantages the timely feedback gave them:

"Yes I think that having the feedback was helpful as it made me more determined to get the next stage that little bit better to get the extra marks"

"Yes, it helps show how to improve on the next stage"

"Yes as I know where I went wrong and can look to improve"

"As I know where I went wrong and can look to improve"
"Yes, helps you to achieve more marks and to improve. You learn from this too".

It is important that any feedback students receive needs to timely as if it comes at the end of the module it is too late for the student to put any of it into practice.

4. Is there anything new you have learned about IT and what else do you feel could be included?

One of the integral aspects of flexible learning is the use of blended learning to give that flexibility. This then relies on technology as a vehicle to deliver the information and support ma-

terial, certain packages such as Excel for carrying out the exercise work and aspects of the VLE for online assessment.

Here the comments are more varied as some of the students already have competency in the use of technology from their previous studies and computer literacy.   Others do still find the use of technology a frightening experience and this is an extra area to be addressed in the flexible learning process.

Here is a selection of comments from the research:

"I have learned loads of new stuff"

"I was a bit out of touch but soon got back into it"

"No I feel I was already capable"

"I am more confident in using x-stream"

"Working with excel (some new features)"

"Working out formulae on the computer. Easier and much quicker than a calculator"

"Haven't really learned anything about IT, already knew it before"

"No, more time should be spent on showing us how to use excel and do formulae"

This demonstrates the diverse nature of the students' previous ability and why the use of flexible learning can appeal to the mixed ability classes.

5. Have you used any of the numeracy workbooks?

The literature reviewed earlier in this paper produces evidence that standards of numerical ability are a cause for concern.   This has been evident in the application of the students to problem solving where numerical calculations are required.

Those students who struggled with this skill area welcomed the support material developed to help them.   A few of the comments were:

"Yes, they were very useful"

"Yes as a revision aid"

Whereas the fact that 21 out the 47 students questioned did not find a need for these workbooks, it demonstrated that the material available served a purpose to help those that wanted them but did not take up any of the learning time for those students who were fairly competent.   They were just a section on the home page of the VLE that could be ignored if needs be.

6. Of the staged handins, which took the larger amount of time – the exercises, the written comments, theory based on referenced reading, presentation of work? Which are would you have liked more help with, if any?

This last question elicited a mixed bag of responses as students prefer different areas of the work. Some are better at the numerical and technical parts of the exercises whilst others prefer to focus on the theory and the written elements.

The work for this module is designed to give this variety of study and to ensure students build on their weaker areas.

Several comments suggest this:

> "I think that the exercises took the most amount of time, especially on stages 2 and 3 as these were areas which I was not particularly confident in. Once I had understood how to go about completing the exercises however, I found the write-up relatively easy"

> "The written comments and the theory took longest, I needed more help on presentation"

> "The exercises, I found the maths very complicated"

> "I found the exercises more challenging, but enjoy the theory aspect of the work"

> "The theory as it involved a lot of reading"

Overall the students seemed to benefit from this mixed mode of study and with the mixed ability present in the classes, it would have been impractical to try to work within the confines of the traditional mode.

Conclusions

Several conclusions emerge from this research:

- ❖ The changes in students' needs has led to a change in the provision required by students to accommodate these needs

- ❖ Changes in the National Curriculum especially in relation to mathematics has led to different levels in ability in students entering higher education

- ❖ Different levels of support especially for first year students has become an issue over recent years

- ❖ Technology has become an integral part in the provision of blended or flexible learning

- ❖ The student's external constraints on the amount of time and mobility for learning has become an issue recently

- ❖ The learning environment is important in the provision for students

- ❖ Any new programme or style of delivery needs to be developed over a period of time and each stage needs to be evaluated on an ongoing basis

And from the resulting successful results at Exam Board:

- ❖ The marks attained by the cohort studying the module with the use of flexible learning were greatly improved both in the coursework and the exam

- ❖ Students used the material on line via x-stream to both complete their work and to revise for the examination

- ❖ Some of the learning took place after the scheduled semester teaching over the holiday recess as students accessed the material off site for revision and went over the notes and support material

- ❖ There were very few non submissions of coursework or non attendance for the exam – students had worked consistently towards this end

- ❖ What had one time been perceived as a difficult subject to learn took on a new perspective as students were pleased with their success

- ❖ The old paper based system did not allow for the flexibility in the delivery or indeed for the students to work at their own pace

- ❖ Students were able to take control and responsibility for their learning

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IMPROVEMENT OF EDUCATION QUALITY AT ALYTUS COLLEGE BY ANALYSING STUDENTS' OPINIONS OF EDUCATIONAL TOOLS IN THE AREA OF SOCIAL SCIENCES

Daiva Žvinakevičienė and Rozalija Radlinskaitė, Alytus College, 2007/2008

Educational tools have always been of great importance in the process of studies and study quality enhancement. Although nowadays a lot of different information is available on the Internet the use of it is quite complicated as it is either not structured or not reliable or not exact. For example students' well-liked the free encyclopedia Wikipedia website at http:/lt.wikipedia.org is a very attractive knowledge resource but for study purposes it is not reliable. Today, however, the choice of subject – educational tolls in the Lithuanian language under some of the topics is either very limited or there is a lack of them.

To fill the lack of the required subject information, electronic educational information tools such as e-handbooks, e- workbooks, etc. could be created. Moreover, by designing virtual companies or specialized subject computer programmes such products can be provided on the Internet and thus reduce the lack of different educational tools. Commonly, information tools for education in the area of information technologies is rather easily available, their choice has been growing recently, but the lack of electronic tools in the area of social sciences is considerable.

Striving to solve this problem Alytus College together with Social Sciences College, Utena College, Panevėžys College, Kolping College and Baltic Education Technology Institute are implementing the European Social Fund project "3 D teaching: creation of multimedia training materials in the area of social sciences" No BPD2004-ESF-2.4.20-03-05/0177. The goals of the project are to solve the problems of specialist education in higher education institutions, to improve the process of education and to design attractive study environment tools.

During the period from September to November 2006 the student questioning was carried out at Alytus College. The students expressed their opinions of the importance and necessity of educational tools and materials in the area of social sciences. They have also expressed their attitudes towards attractiveness and sufficiency of educational tools. The students' opinions were generalised, conclusions were made and the possibilities for creating necessary tools were determined.

Research methods

200 students of Alytus College were questioned using experimental questionnaire designed by education experts. Analogous research was done in all project partner colleges.

The research was aiming at finding out the following:
- current situation in usage of information technologies in the study process;
- students' needs (what kinds of educational tools would help then to study and in what subjects they need them most).

200 full-time and pat-time 2nd, 3rd and 4th year students from the Faculty of Management participated in the questioning. The students studying Marketing Management, Accounting, Enterprise and Office Administration, Business Management and Enterprise Finance Management were questioned. Figure 1 presents distribution of the questioned Alytus College students by the study year.

Distribution of the questioned students by the study year
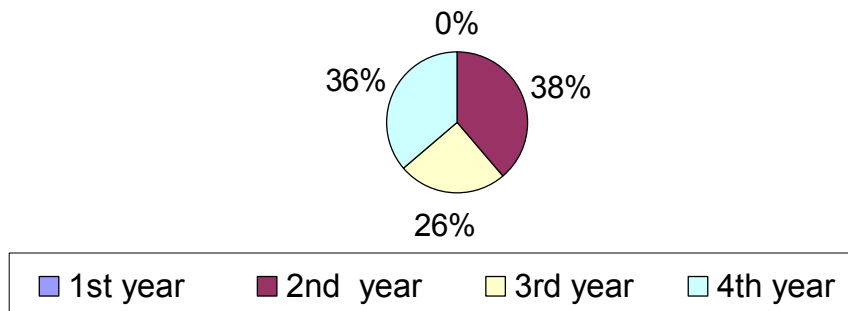
Figure 1. Distribution of the questioned Alytus College students by the study year

The questionnaire included 12 questions, the respondents were asked to answer the questions anonymously though they were asked to indicate their study programme and the year of studies. The most important summaries of the questioning are presented here to demonstrate the need and lack for educational tools and what modules they are mostly needed for. The above mentioned is presented in the figures 2 – 8.
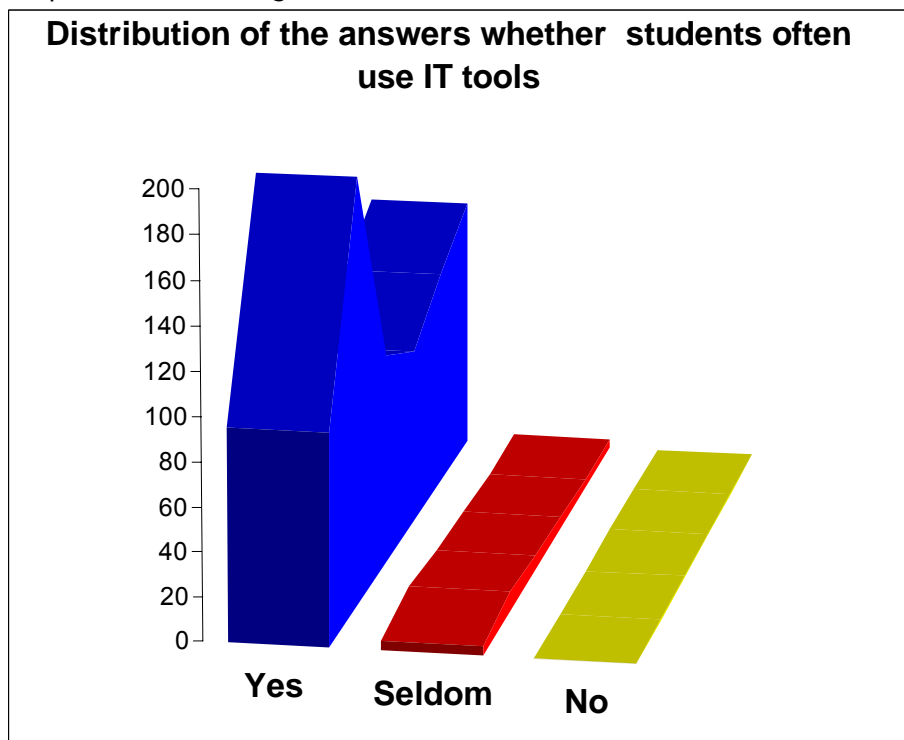
Figure 2. "Do you often use IT tools?"

Distribution of the answers on what electronic resources the students use

*Distribution of the number of full-time (1)
and
part-time (2) students and the total (3)
number of students*

- guidance by e-mail
- computer educational programmes
- data bases
- Internet
- materials prepared by teachers on a particular subject
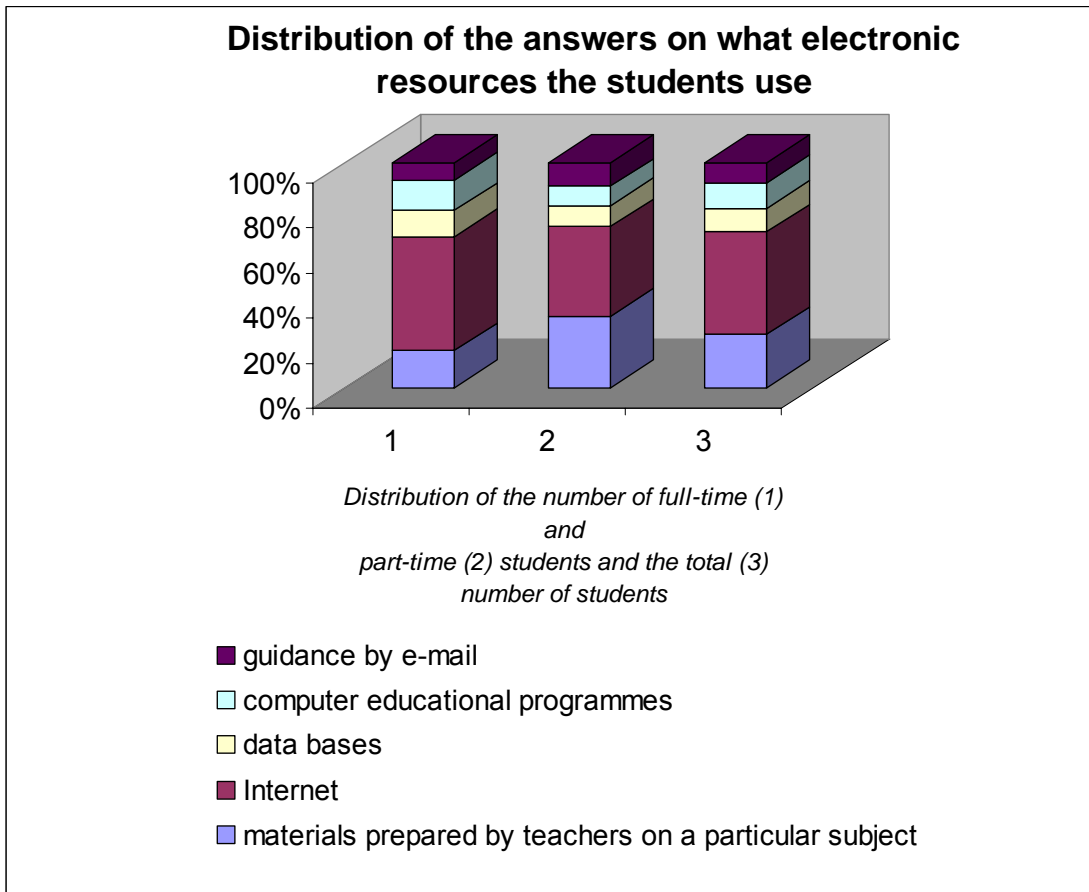
Figure 3. "What electronic resources do you use?"

The data in the figure 3 shows that usage of electronic resources is quite versatile, though the major part is taken by the Internet and learning materials prepared by teachers.
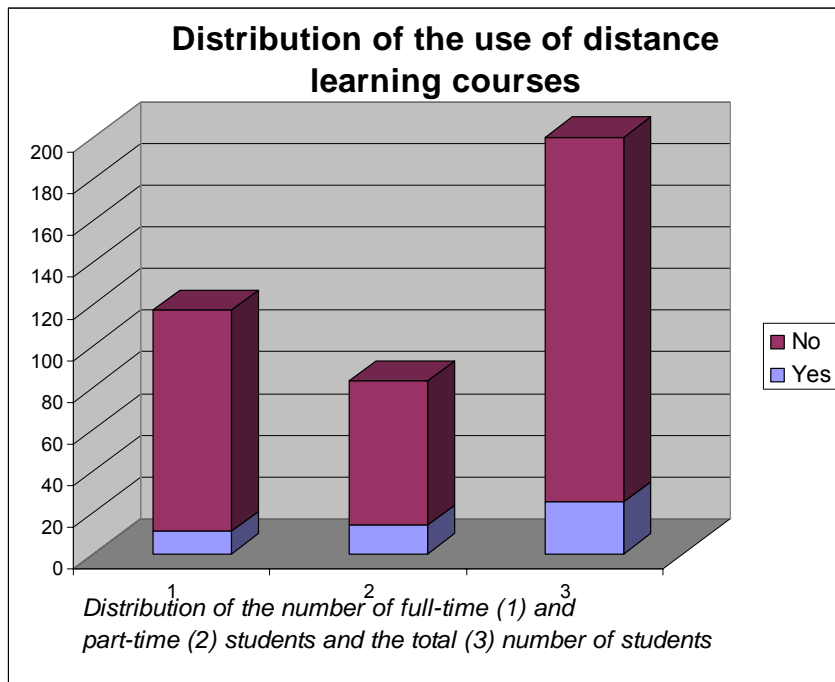
Figure 4. Distribution of the use of distance learning courses

The results of the questioning presented in figure 4 demonstrate that the materials of distance learning courses are not sufficient or students are not encouraged to use them though recently preparation of distance learning materials is very popular and advisable for all study modules at Alytus College.
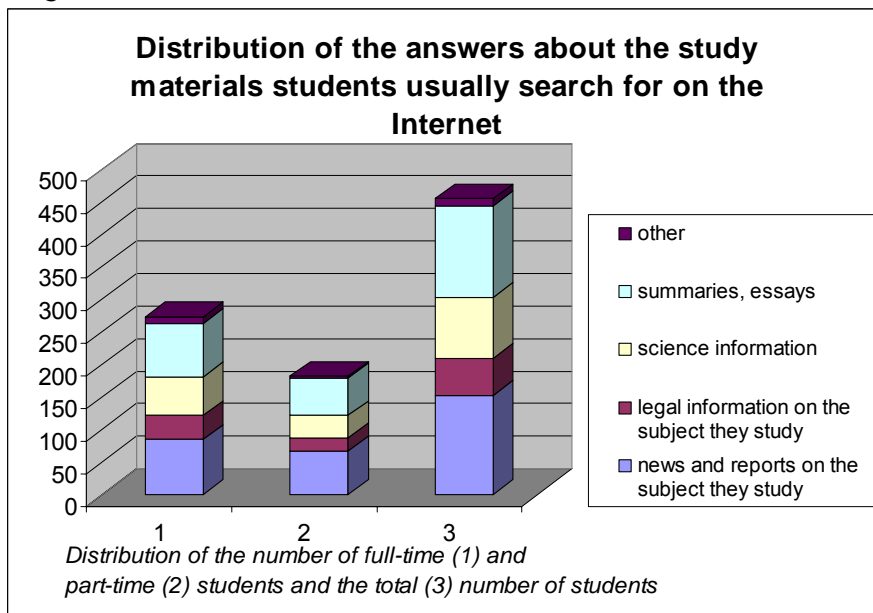
Figure 5. "What study materials do you usually search for on the Internet?"
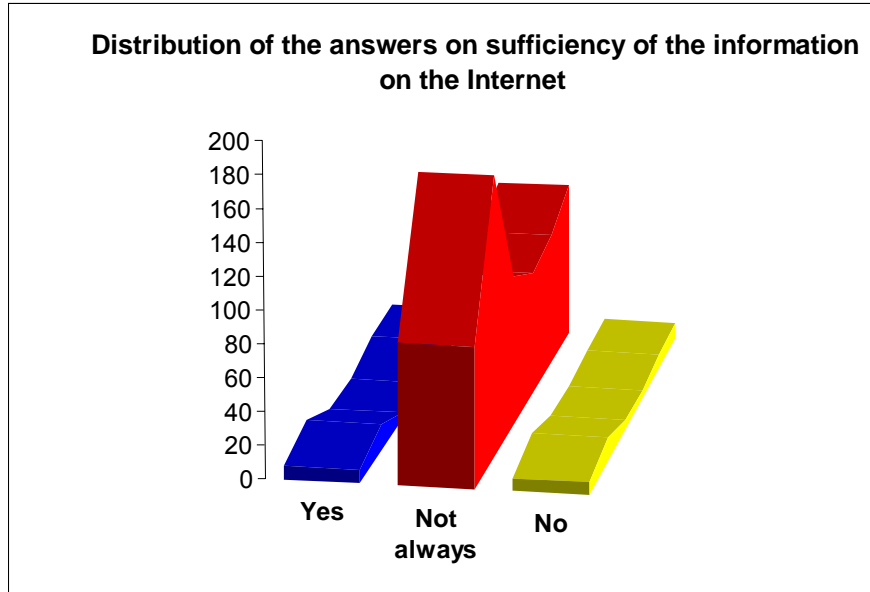
Figure 6. "Is the required information on the Internet sufficient?"

The results in figure 6 show that students can hardly find the required material on the Internet. It must be noted that the material was analysed on the websites in the Lithuanian language.
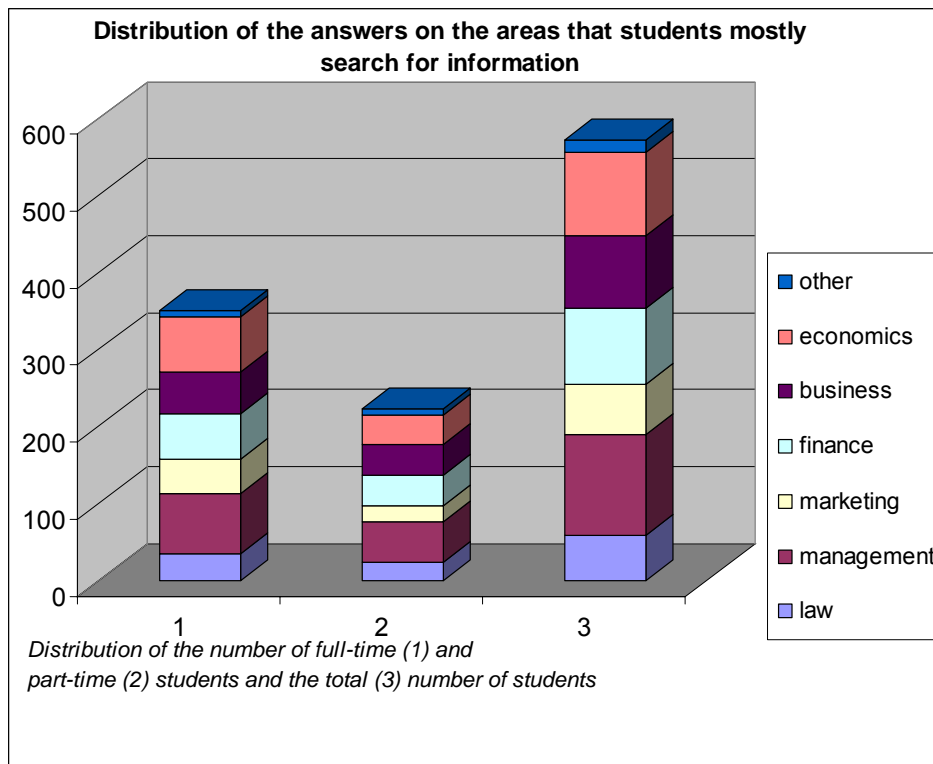
Figure 7. "What areas do you mostly search for information on the Internet?"
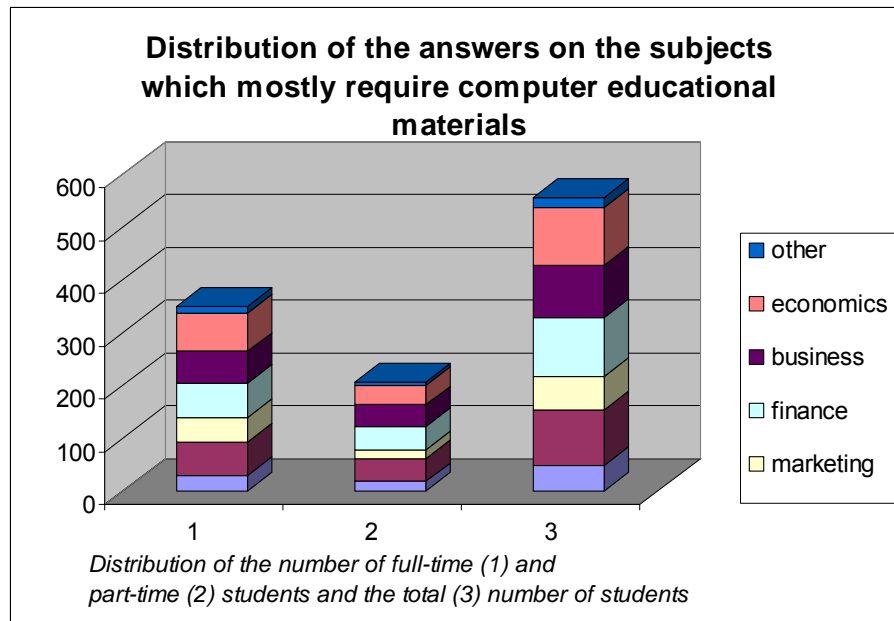
Figure 8. "What subjects are computer educational materials mostly required for?"

Results.

The summary of the questioning results and statistically processed and graphically presented data indicated what kinds of educational tools are lacking and would be attractive for students at Alytus College in the area of social sciences. The results of the analysis at Alytus College were compared to those of the other project partner colleges which showed similar tendencies to those of Alytus College.

The summarised results from all project participants proved that educational tools created in cooperation and placed on a single website would definitely serve for quality enhancement in the area of social sciences. It is necessary to create interactive educational tools providing students with text and visual information and creating favourable conditions for learning independently, performing different activities, solving problems in virtual models of reality, participating in the activities of on-line training simulating companies, communicating on interactive Internet website.

Conclusions.

The results of the research testify that college students in Lithuania lack educational tools in the area of social sciences. To reduce this lack, teachers should cooperate in preparation of theoretic and reference materials, handbooks, workbooks and interactive learning tools. Hence we may conclude that cooperation of teachers would facilitate their work, improve the quality of educational tools and provide students with the newest modern materials for studies.
The generalised results from all participating partners show that students mostly lack computer educational materials in economics, business, management and finance. There is also a lack of efficient computer educational materials in marketing, law and other major subjects in the area of social sciences.

The project "3D Teaching" website based on the results of the research was established at www.emokymas.lt .
Prospective innovative products to be designed and provided on the website are as follows:
- 30 electronic educational tools in the area of social sciences;
- 5 on-line training simulating companies.

The website www.emokymas.lt will be available in the English and Russian languages in future.

Key words. Educational tools, social sciences, college, students, project.

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Different paths, same journey: developing flexible approaches to flexible learning

Peter F. Cullen
Leeds Metropolitan University

Abstract

This paper reflects on the development of some flexible learning models specifically within the Centre for Hospitality and Retailing at Leeds Metropolitan University. Flexible learning has various definitions and the selection of an appropriate concept is required to guide module [unit of instruction] development. The aim in these models is to improve students' academic performance and develop their employability skills with the aid of information technology. Engagement is a key factor in successful learning and the models aim to construct engagement at various stages of the module. The increasing emphasis on employability has also affected the design of modules in order to develop specific skills. This leads to a review of two basic models that have been developed and implemented for exam-based and coursework based assessments.

Introduction

Flexible learning is one of several terms that are currently used to describe teaching and learning strategies that provide information technology-based alternatives to the traditional lecture-tutorial/workshop format of higher education. Several definitions of flexible learning are available and the selection of an appropriate concept is required to guide module development through more student-centred approaches to improve academic achievement and employability.

Engagement is a key factor in successful learning. Consequently one strand of development has been to construct engagement at stages in the module. The increasing emphasis on graduate employability has also affected the design of modules in order to develop specific skills. This paper considers the development of specific flexible learning models to meet these requirements within the Centre for Hospitality and Retailing at Leeds Metropolitan University. The centre's undergraduate courses use the university standard eight 15-credit module (or unit) programme per year, with occasional double modules. The lecture-tutorial or lecture-workshop format provides the mainstay of teaching and affects resource allocation, but there is an established culture of project activity in the centre, consistent with a largely vocationally-oriented academic grouping.

The realistic development of new approaches has to recognise and work within organisational and resource constraints and opportunities. With these considerations in mind, the practical way forward has been to develop flexible delivery models within the existing module frameworks, but to build on existing initiatives towards flexible learning. This approach allows more student-centred methods of delivery to be explored within an apparently familiar framework. These models of flexible learning have been developing over a period of time, but their development has been stimulated recently by two factors. The first was a specific project to develop flexible learning models within the centre (as reported in Cullen, 2007) and the second has been the developments within information technology and the wider availability of computing and on-line library facilities within the university. Most classrooms had been equipped with internet-linked computing and audio-visual facilities by September 2006. Experience with a Virtual Learning Environment (VLE) goes back a few years and the university now uses its version of Blackboard Vista (under the name X-stream).

Flexible learning

Flexible learning approaches use modern information technology to develop more student-centred learning. As Minasian-Batmanian (2002) points out, however, flexible learning requires a fundamental change in outlook on the part of teachers and students. This means that full development needs to take place over a period of time so that students and tutors can adjust to the new discipline required. Blended learning, in the sense of combining computer-based with face-to-face instruction (Graham, 2004), has been vital to these developments. Blended learning in other senses (Graham, 2004) of combining modes of delivery or of combining methods of instruction has also been used.

Greenway, Herat, and Narayanaswamy (2000) note flexible learning developments have been designed to increase student control over one or more aspects of learning, such as location, forms of teaching, learning goals, content, style of learning, delivery methods and assessment. Several definitions of flexible learning are either currently or recently in use and these may overlap with other terms such as distance learning and open learning. Flexible learning, according to other definition used, may also encompass, or be encompassed by, these terms. As a result of this, a clear understanding of and rationale for the term is required to provide a consistent approach to teaching developments. Flexible learning should also be seen as a means towards the educational ends of academic achievement and employability.

Academic Achievement

According to Knight (2002), student academic achievement depends primarily on engagement with the course. He identifies several aspects of this student engagement that contribute to success:

- consistency, coherence and progression of the curriculum, including assessment;
- the quantity and quality of time the student spends on tasks;
- the extent to which tasks match student development requirements;
- cognitive engagement and socialisation with associated communities of practice.

As Knight (2002) observes, some students withdraw from courses for personal or financial reasons outside the educational institution's control. Other students leave because that they no longer consider the expected benefits worth the time and money cost. These include students who believe they have made the wrong choice of course. The students have disengaged from the course because of a failure of marketing, in that the institution has not communicated effectively the relevance of the course to student aspirations. A third group leaves because of academic failure, usually because the students have disengaged from the course. This is a failure of delivery as course managers have failed to actively engage students with the course and the wider academic and vocational community.

Universities and colleges should adopt more student-centred practices to develop students' abilities to become actively involved in the direction of their own learning. According to Nicol and Macfarlane-Dick (2006), this will help students internalise meaning and make connections with what they already know. Traditionally, however, the student has little freedom in the learning process as educational institutions have controlled the basic dimensions of structure (duration and intensity), content, place, pace of learning and method of instruction; delivery and media of instruction.

The traditional lecture based format is based on a transmissive model of education, which implicitly assumes that educational institutions (universities in particular) are the major generators of knowledge and transmit that knowledge to the student (Graham, 2004). This form of education shows a producer-centred focus on training students in the culture of the discipline or vocational area.

In reality, universities are no longer the main producers and transmitters of knowledge (Usher, 2002). Furthermore, in an era of mass higher education, the university is moving towards being a manager of knowledge services, with the focus on industry links, social accountability, trans-disciplinarity and entrepreneurship (Usher, 2002). In this new world, the university or college manage educational services for a wide range of students with varying requirements, rather than simply a provider of education. This perspective reinforces the need for educational institutes to develop learner-centred practices.

Learner-centred education

As institutions come to accept their role as managers of educational services, they should apply service management principles. These require the service providers to become customer-focused, a situation that corresponds to learner-centred education. This approach recognises that the learning environment, its social interactions and processes may continuously affect students' perceptions about their own abilities and about the tasks to be achieved. King (2003) points out that positive interpersonal relationships and a sense of belonging to a community, achieved through dialogue with the students, are important in achieving positive student outcomes.

Another important element of service provision is that clients or consumers become co-producers of the service (Bowen and Ford, 2004). So we should expect students to become active producers with course providers of their own learning. This is reflected in the literature that views learning as an active process by students to internalise meaning and make connections with what they already know (Nicol and Macfarlane-Dick, 2006), rather than a transmissive process of knowledge acquisition. This justifies the movement towards enabling students to have more control over their learning and become co-creators, rather than passive recipients, of knowledge. For this to be successful, the university through flexible learning should develop students' abilities to be actively involved in the direction of their own learning, within practical limits.

Another aspect requires tutors to match their practices to learner expectations and needs. In this context, student learning is best achieved through scaffolding (Wood and Wood, 1996), where tutors structure appropriate challenges for students according to the nature of the tasks and the existing level of the learner. This approach takes account of student comments in setting tasks and directly teaches higher order thinking skills so that students can organise and plan their learning effectively (King, 2003). Implementing these approaches enables students to experience support for their learning and different learning preferences. These true learner-centred environments have been shown to improve student retention (Zepke, Leach and Prebble, 2006).

Developing Employability Skills

According to Fallows and Steven (2000), graduates are moving into increasingly diverse jobs because of the fierce competition for established positions in traditional "graduate employment" and the professions. The world of employment is also changing rapidly and traditional career paths have disappeared, with a shift in the relationship between employer and employee away from employment security to employability, expressed as being able to move different jobs with a similar degree of productivity and adapt to changing relevant labour markets (Clarke and Patrickson, 2008).

Employability reflects an appropriate mix of skills, experience and individual characteristics. From an individual's supply side perspective, there is the expectation that greater employability should lead to more or better-rewarded employment. Clarke and Patrickson (2008) point

out, however, that demand factors affect the relationship between employability and employment. They also point out that employers regard employability in terms of meeting current functional needs, while employees require a more general transitional employability that enabled them to move within and across organisations as appropriate (Clarke and Patrickson, 2008).

Despite these complications, it is clear that employers require greater employability skills from graduates and they expect institutions to provide them (Cassidy, 2006). There is a need then to build employability into courses and their specific modules those key employability traits identified by employers. Employability requires the graduate to offer a potential employer appropriate subject skills relevant to a particular career and transferable skills applicable throughout a working life (Cox and King, 2006). Raybould and Sheedy (2005), citing Knight (2005), identify the following transferable skills valued by employers in recruiting graduates:

- coping with uncertainty;
- ability to work under pressure;
- action-planning skills;
- communication skills;
- IT skills;
- proficiency in networking and team working;
- readiness to explore and create opportunities;
- self-confidence;
- self-management skills; and
- willingness to learn.

There are a number of these sets of desirable skills, but in themselves they provide only boundary posts in marking out paths of study for students. The Pedagogy for Employability Group (2006) suggested that a course of study could improve employability by:

- requiring students to work on learning tasks, where possible, in authentic and/or richly resourced contexts;
- involving collaborative work where appropriate;
- providing cognitive 'scaffolding' that help students to achieve targets and which is progressively removed as students develop capability; and
- encouraging the development of metacognition such as reflection and self-regulation.

An employability-rich curriculum is based on an employability-rich set of modules. In practice, however, an individual module has to provide subject relevance as well as the strategic development of specific employability skills. Time and other constraints limit the number of suitable instruments and consequently limit the appropriate number of objectives. In the context of this study, cognitive scaffolding was normal within the teaching system used. Cassidy, S. (2006) identified the usefulness of peer assessment in developing evaluative skills, an important employability skill. Peer assessment was also seen as part of the scaffolding process to be introduced where possible within coursework based assessment. So the teaching was reoriented to concentrate on three employability areas: team-working; communication (including IT skills) and self-management. These skill objectives also linked well with flexible learning and the increasing availability of technology to widen student choice.

Developing the concept of flexible learning

This interpretation of flexible learning makes the direction of change clearer and more focused. In support of this approach, a model was adopted that was adapted from that set out by the Arizona Faculties Council, to indicate the way flexible learning could change the direc-

tion of teaching. This model identified the six areas that were suitable for structuring module developments.

- *Collaborative group learning, research or discovery*

    - *by students;*
    - *students and teachers together;*

- *Individual student research and discovery;*
- *Problem-based learning;*
- *Distance learning*

    - *Asynchronous distance learning;*
    - *Synchronous interactive distance learning;*

- *Experiential learning activities;*
- *Self-paced tutorials.*

Source: adapted from Arizona Faculties Council: Definition of Learner-Centered Education: <http://www.abor.asu.edu/4_special_programs/lce/afc-defined_lce.htm> (01/04/06)

This model indicates ways in which some form of flexibility could be introduced, by replacing or supplementing the traditional lecture-tutorial/workshop approach, with learning packages or student-led activities that encourage active and deeper learning experiences by the student (Murray, Donohoe and Goodhew, 2004). So the radical core of the project aims to develop active student involvement. One method of doing this is to take a more inductive approach to student learning where the module lends itself to it. This means putting more emphasis on student experience and make greater use of peer evaluation and co-learning in developing good practices in enquiry and concept formation. Students benefit as they become more active participants in their own learning, in what and how they learn, and this helps the tutor communicate more effectively with students.

Benefits and challenges of change

This approach to flexible learning has major benefits and challenges to tutors as well as students. In practice, staff time was spent more efficiently and teaching became less stressful. As learning becomes more student-centred, students must take more responsibility. There is less emphasis on presenting a complete body of knowledge to students like ready meals in supermarket and more on providing a range of ingredients (knowledge, concepts and methods) for students to complete their own dishes. There is less emphasis on presenting information and ideas to students and more on communicating them. Tutors switch the emphasis from demonstrating their own knowledge and skills to helping students to understand, know and be clever.

This simple switch in perception may seem to slow the pace of progress initially, as more time is spent on basics; but experience has shown that the time is recovered later. There are three reasons for this. In the first place, the quality management dictum 'right first time' (Oakland, 1993) really does work and tutors save time later on by less reworking of student material (retracing material covered earlier on) as much. Secondly, linking the material to a Virtual Learning Environment makes the tutor think more carefully from the student aspect and so improves communication. It also allows the tutors to direct students, where appropriate, to other supplementary material. Thirdly, it re-orients students towards taking responsibility and they

respond to this more positive climate that expects students to achieve. For tutors, also, the linking of knowledge with technology allows them to update material more easily and to link subject development more closely with teaching development.

Developing the self-regulating student

In order to benefit from flexible learning approaches fully, students need to become self-regulating, that is, take responsibility for their learning and monitor the cognitive and meta-cognitive strategy they are using and change it as the task requires (Heikkilää and Lonkab, 2006). Thus, self-regulating students display the following characteristics:

- They set their own learning goals using external reference points such as specific targets and criteria.
- They plan the achievement of their learning goals to make effective use of resources at their disposal.
- They monitor their own progress against the required targets in learning and performance and actively use external feedback from tutors, peers and others

(Nicol and Macfarlane-Dick, 2006).

This does, of course, require a more appreciative attitude towards students, seeing them as proactive rather than reactive in generating and using feedback. This, in turn, links with the scaffolding approach as the basis for the organisation of assessments and the support of learning, as this puts the emphasis on feed-forward.

Developing and implementing the flexible learning models

The development and implementation of flexible learning models must be contextualised to the students and the resource constraints involved. The learning strategy developed has three salient features: flexibility centred about the student; an evolutionary approach to module development within existing constraints; and the development of blended learning formats.

Research discussed above has shown that retention and success depends on student engagement, both quantitatively in terms of time and qualitatively in terms of the experience. Content, outcomes, teaching methods and assessment should appear consistent, coherent and provide structured progression (Knight, 2002). In order to achieve this, the Centre for Hospitality and Retailing's own community of practice focussed on three aspects of the student experience: constructed engagement, self-responsibility and co-learning so that students would become actively involved in the direction of their own learning and become co-creators rather than passive recipients of knowledge.

This approach has developed flexible delivery models within the existing module framework. It has also taken account of the university requirement that students experience a variety of assessments, including exams and different types of coursework assessment. Two basic models are considered here. One of these models is designed for modules assessed through coursework. The other model is designed for modules assessed by examination.

Development 1. Interactive distance format for campus-based students.

The first model developed from the Level 2 European Business Culture and Practice module, originally developed in conjunction with staff from Laurea and Gothenburg Universities. The module has been running since 1998 and was designed as a student-oriented, cross-country

module to get students from different institutions working together. Given its purpose, the module naturally had three central features: group work; structured active learning through the use of workbooks; and the use of available technology.

Group work is always a contentious issue with students and the module presented its own challenges. This has been largely resolved using a clear mix of individual and group activities, with technology now being used to monitor individual contribution to group work.
The workbooks form the basis of instruction and contain a range of activities for the students. The workbooks were prepared in a distance learning format adapted from a paper-based one developed by a former colleague.

The module has evolved with the technology. From using email, First Class and Yahoo groups to develop links, the latest run-through in semester 2, 2006-7 made full use of the VLE facilities, including online submission and presentation. Similarly, the module has moved from large scale videoconferencing facilities to the use of epop software to enable small group conferencing

The module has evolved to focus culture difference and may be accessed independently now runs independently, though sometimes with another institution.
This workbook approach has been adapted to different cohorts at level 1, 2 and M (Master's). Each module may fulfil more than one purpose and so various assessment instruments have been chosen to support the different purposes of the module.

For instance a level 1 Retail Operations module seeks to develop an empirically-based approach to subject matter and for students to use their peers to discuss and develop ideas. The subject matter requires students to develop awareness of a number of aspects and lends itself to a range of activities rather than highly focussed but narrow pieces of work. The workbooks include a mixture of individual and group work and require students to investigate empirically as well as read material. The workbooks can be structured to introduce the students to a broader range of material and ideas using online library facilities and other web-based material from sites such as bettermanagement.com. Where possible, students are encouraged to take a more inductive approach, utilising their own experiences as a way or building their ability to respond more critically to ideas they may encounter in their reading.

The distance learning based format does pose various risks that have to be controlled. An important challenge is to maintain the cohesion of the class group. The best method for this is to maintain personal contact within the class group. In some modules, this is done by having each group leading a seminar presentation on a topic of their choosing within the broad boundaries of the syllabus. Other students have to critically evaluate the presentation, using guide sheets to help then fulfil the role of the critical friend, so helping them develop critical skills. The students are then able to revise their presentation for submission through X-stream.

All submissions are made through the VLE. There are target dates for submission, but in some cases these were flexibly applied, in order to assist students in planning work.

Development 2: Developing approaches for exam-based modules

The university requires students to experience a range of assessment types. So, to work within the existing framework, it was necessary to develop approaches that fit with exam-based module assessments. One approach that is being developed at different levels is the assisted selection of exam-oriented seminar topics or of the exam topics themselves. Variants of this approach are used according to the module level and subject matter. The purpose of this, according to the variant used, may be to develop student conceptualisation and seminar skills, or to encourage greater responsibility for the students' own direction of learning, where collective decision making on exam content and assessment requirements is required. The various

discussion board facilities in the VLE provide extra support for the student groups discussions that influence the selection of examination topics.

Evaluation

The models discussed can be evaluated against specific objectives relating to achievement and employability. It is important to be realistic about student achievement. While some studies report student grade improvement with flexible learning, this cannot be a continuing expectation (Guest, 2005). In a system of external moderated standards as practised within UK universities, assessment is criteria based, rather than relativistic. However, a culture that is already focussed on student success will have developed teaching and assessment in terms of what students can be normally expected to achieve within a given time. Not unexpectedly, the progressive introduction of flexible learning approaches has not significantly affected the average mark attained by student cohorts. The introduction of flexible learning was more to do with the type of learning and skills achieved through these models.

In order to investigate the impact on coursework models, students were required to complete questionnaires relating to the advantages and disadvantages of the different tasks and methods employed. This reflective process also required them to take account of the knowledge gained during the module.

Most students were accepting or enthusiastic about flexibility of learning provided. The workbook process was well received, although, as expected, some problems with the group process occurred and it was clear that the level of work required was about right. Students appreciated the primary or other empirical research required and asked for more to be incorporated. The usefulness of the presentation and the critiques in keeping the class in contact with other was acknowledged, even though several students did feel uncomfortable about critiquing and being critiqued.

The preceding is not to say that more does not have to be done. As was observed, students may resist the move towards flexible learning, as it more clearly puts the onus for learning on them. As one complaint ran, some students felt that they were teaching themselves rather than being taught. In these cases, the nature of flexibility and the implications for the methods of study do need to be communicated more clearly.

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Elements for co-operation between learners, teachers and information specialists in learning tasks including information seeking

Juha Kämäräinen

The concept "Information Environments" is introduced as library's response to the requirements caused by the emphasis on information seeking and management in the Learning by Developing approach adopted at the Laurea University of Applied Sciences. The views on logistics, culture-related expertise and the library's research and development activities are brought in as basis of the Information Environments concept. Mindmapping the library customer's information needs and a contribution to Master's degree education in supporting group writing assigments are discussed as examples of Information Environments' efforts. The application of Action Research is discussed as possible means to develop the concept further.

Introduction

One of the practical consequences from the basic characteristics of the Learning by Development (LbD) view is the emphasis on the learners' independent information seeking activities. "Expertise is formed out of the integration of knowledge, understanding and skills in doing, such that solutions can be found independently to various situations in the workplace", as Raij emphasizes (Raij 2007, 8). Among other ways to develop one's knowledge, like creativity, observation and reflection, the process of familiarizing oneself with explicit, codified, knowledge about the subject at hand is a fundamental factor in creating new practically applicable knowledge which is frequently underlined in the context of the university of applied sciences.

In despite of and partially because of the learners' abilities to do information seeking independently through World Wide Web, new common working practices are needed between learners, teachers and library staff. Since 2004 the Laurea Library has been purposefully developing new forms of co-operation between library staff and other actors in the Laurea community under the label of Information Environments (Tietoympäristöt in Finnish). Here the contributions of Information environments are described as ways to support the learners and teachers in learning-related information seeking. Relevant development efforts for this co-operation are discussed in terms of action research interventions.

LbD and library functions

Developing expertise can be conceptualized through three dimensions: 1. expertise grows through developing one's cognitive structures through gathering information and learning 2. it advances when one acts as member of relevant expert communities and 3. expertise manifests itself in creative actions. (Hakkarainen, Palonen & Paavola 2002.)
From traditional points of view one probably associates library most easily with the first dimension and especially its first aspect, namely information collection. However, an analogy can be found between the dimensions mentioned above and the orientations that appear in running a modern, active library (see table 1 and figure 1).

Expertise development	Orientation in the library
Gathering information	Logistic orientation
Communities	Cultural-semiotic orientation
Creative actions	Research and development orientation

Table 1. Ways to develop expertise and library orientations compared.

Figure 1 introduces views on different orientations that can be found when analyzing different contributions and types of expertise the library can offer and hold.

The logistic orientation clearly appears to the customers as fluent service in giving loans and in handling returns in despite of whether the collections are in paper or in digital form. The delivery chains from acquisitions to cataloging and shelving are necessary parts of the logistic function. This orientation also includes customers management. In educational institutions' context it contains the ways to handle the changes in customer's status e.g. from student to the member of staff.

To reveal another orientation that is necessary in modern library one can ask what is the basis of collections development in a library. Evidently it is related to expertise that understands and interprets the library's positions in the society and in the world: besides direct contacts and related information in customer service, acquisition and collections development functions are the feelers that communicate what is going on the relationships between library customers and the networks they live and work in.

The interpretative or cultural-semiotic orientation maintains and develops complex relationships between the library and the community it is aimed to serve. However, the service point of view doesn't cover the whole spectrum of relationships between the library and its organizational environment. The cultural-semiotic orientation is also at least partially responsible for the library's ability to regenerate and its empowerment. This, in turn, is necessary in the library's aims to accompany and support the organization(s) it serves.

Library as partner offers information seeking and management expertise and works for related aspects in its organizational environment e.g through information Environments services.

Library as expert in culture interprets its environment and supports its customers in information seeking.

Library as logistic organization acquires documents, organizes and offers them to customers as loans and reading room copies on paper and digital form.

R&D
Information environments

Views on cultural and intellectual in society

Logistics:
handling materials and customers and related information

Figure 5. Library orientations: logistics, expertise in culture, R&D partnership.

Research and development (R&D) orientation is probably seen most relevant and acceptable in developing the library's internal functions especially in order to improve its services. On the other hand, the idea concerning a library offering R&D related services to the organization may appear extraordinary. However, in the LbD approach, it is quite natural to think that also the library maintains R&D type attitudes and applies them in relevant contexts. In the following

sections I will describe some Laurea library's R&D type activities under the label Information environments.

Information Environments

Since 2004 the Laurea Library has been purposefully developing new forms of co-operation between library staff and other actors of the Laurea community under the label of Information Environments (Tietoympäristöt in Finnish). The aim of Information Environments is that the library identifies patrons' new requirements, which probably overstep the ones which have been satisfied through conventional library services, and develops new practices, methods and tools to serve the patrons in the context of the LbD setting.

Information Environments concept can be positioned by considering different relationships between organization, library and other contexts of the library. First, one can consider the library as part of its parent organization. Second, the library stands for a member of a certain type or class of libaries. The library thus evidently "inherits" part of its identity, features and behavior from each line: it defines its practices and policies as part of organization but also as representative of certain library type and as holder of related traditions and structures.

Information Environments concept lacks this kind of clear references. Information Environments are required to dynamically define themselves in terms of identified or anticipated requirements and related competencies. The relationships between requirements and competencies are dialectical and iterative: Certain initial requirements are set and certain competencies expected on the basis of the assumption that an Information Environment is a part of the library. This line alone would not lead to anything fundamentally new. Thus one needs dynamics and energy that actively differentiate the concept from its assumed essence. This kind of dynamics is inherently related to R&D functions. It is difficult to imagine a successful R&D function which would be content with its own status quo.

Certain tensions will evidently appear between the Information Environment and the library as its organizational "home". These anticipations may be associated to the division of labor or legitimacy of functions and services that are not typical in conventional library. On the other hand some competencies like information skills and functions like teaching can serve as bridges that confirm that the essence of Information Environment is not totally new and in this way too odd or extraordinary. At best a win-win situation holds sway and produces better service to the clients in multiple ways; it may also mean that organizational learning appears.

Besides the library, Information Environments are associated with other R&D actors in the organization. In this case Information Environments' origins in the library can be a certain encumberance. It may be quite a task for other R&D actors to interpret Information Enviroments' role otherwise than as part of the library.

Case A: Mindmapping information needs - a short intervention

Successful information searches require the actor(s) to define a focused topic and points of view to it. This applies regardless of whether the search is done independently or assisted by an information professional. In this section a short intervention is described in which a library customer and an information specialist co-operate to define and focus the customer's information needs by using a graphic mindmapping method. The combination of process and tools described can be seen as example of Information Environments' innovation.

One can consider the information seeker and the information specialist as participants of the topic definition and focusing dialog. A way to describe this setting refers to a "conversation over the table" which emphasizes the temporary and short nature of the session: The customer enters with an information need; it is expressed by her and understood by the information spe-

cialist. Then the explified needs are formulated as information search strategies and implemented with certain relevant information retrieval systems. The search results are given to the customer and possibly reviewed. The session ends, when a consensus is achieved concerning the nature, quantity and quality of the results. The session may thus appear as behaviorist stimulus-organization-response setting. The setting also emphasizes the mutual independence of the actors as well as the one-time nature of each session.

For the Information environment at the Laurea Hyvinkää Library I have been trying to conceptualize the sessions differently. The background assumptions of this alternative approach adopted emphasize the following aspects:

* A relatively broad view to information management tasks and related skills. "Information seeking" forms a certain part of tasks, but doesn't cover all relevant aspects required here. The label "information skills" evidently stands for broader view (see e.g. Gross & Latham 2007). I especially emphasize the connections between information management and writing.

* A holistic (systemic) thinking considering the customer, the information specialist ("intermediary" in traditional terms) and technical tools required basically as whole that exists and functions purposefully to solve the problem expressed by the customer. (Background of this assumption in systemic psychology, see Järvilehto 1998.)

* One can think the customer-information specialist -relationship as strictly unidirectional one, as bureaucratic service work. Service work in this sense basically doesn't influence to the actor at all, instead the whole influence is targeted to the customer and her needs. This point will be strongly questioned below.

In the approach described here the customer-information specialist -relationships are developed as dialogs offering possibilities to win-win-situations allowing both participants ways to grow and advance by sharing views to the topics at hand. In other words the emphasis is not in maintaining two juxtaposed views to the topic, namely subject matter specialist's and information specialist's views. Obviously these would include the same incredients but with different emphasis. Instead we aim to share both of these aspects and learn from each other. These experiences in turn should lead to increased trust.

In the educational institutions' context, the library can be seen both as service and as (part of a) learning environment. In Laurea library, the concept of "information environment" is aimed to cover both roles. This causes that information specialist's work includes articulation which determines the balance between direct service and more indirect support for learner's independent information seeking and management. The mindmapping approach described here basically suits for both orientation. However, the co-operation between teachers and information specialists becomes critical in identifying the orientation correctly as early as possible: the scaffolding offered by library staff "as service" differs clearly from the one given when library is a part of learning apparatus.

Step 1: Mapping customer's information needs

Mindmaps are often built around single "central topic" as a star-like network of topics and subtopics (with e.g. Mindjet's Mindmanager software). This basic structure can be completed by adding more relationships and labeling them thus approaching semantic network type representation. When the aim is to find out the current, practical information needs of the customer, relatively simple structure is sufficient.

The session usually begins with an orientation dialog. As part of it I introduce Mindmanager as tool to share the structure of information needs and the information search strategies to come.

The central topic basically names either the context of the user's need or a certain significant issue in it. The dialog often begins by tentatively identifying the central topic. In some cases the discussion concerning the central topic as "name of the task at hand" can reveal anxiety. In this case, I may emphasize that we can change and tune the name later, but a tentative one is useful to start the process and for technical reasons to give a file name for saving the map.

The dialog towards more elaborated topics may contain questions that aim either revealing relevant aspects in the topic, finding alternative terms, or narrowing the topic's scope. The Idea Catcher (in Finnish Ideatakiainen) tool mostly serves for the former purpose.
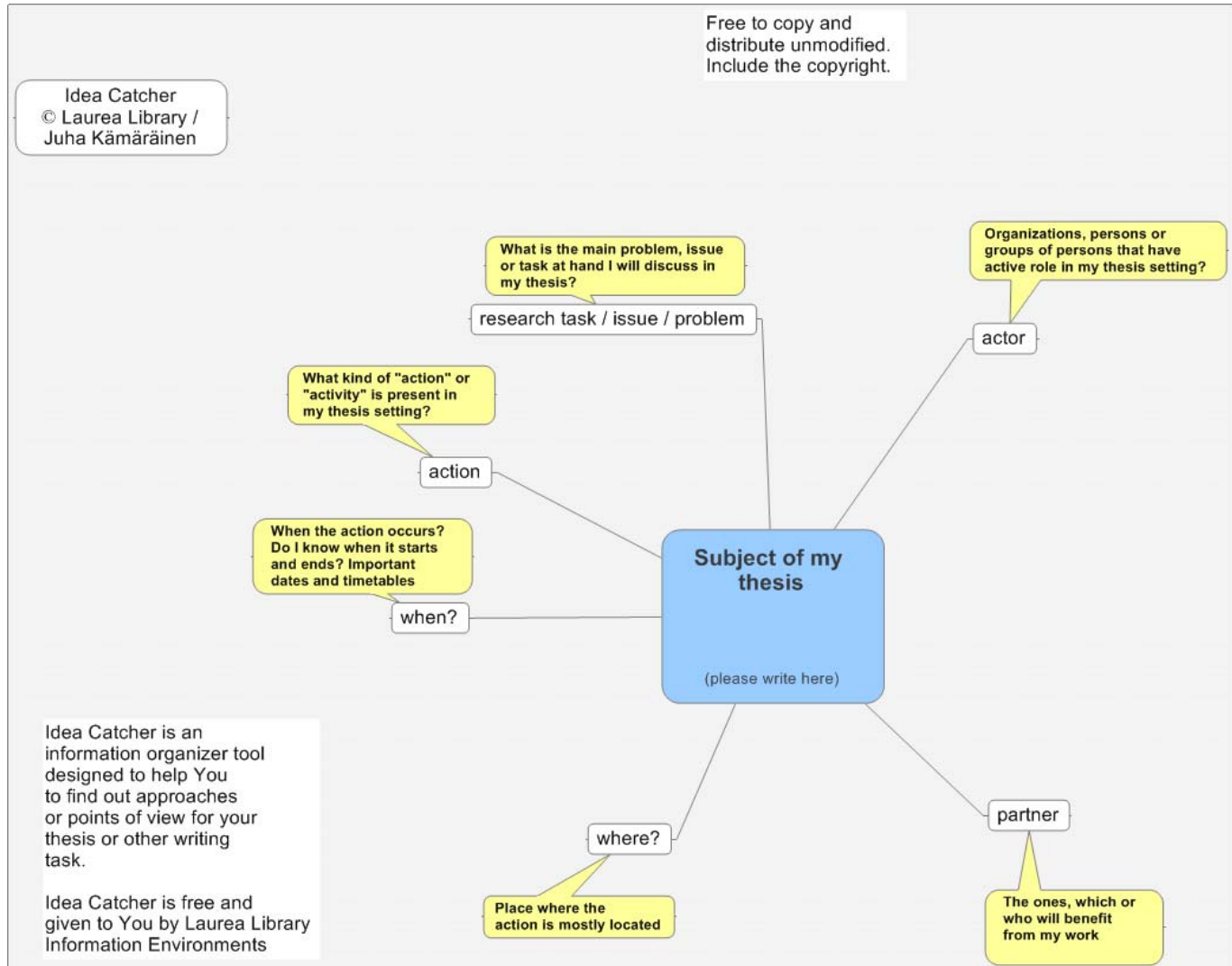
Figure 6. The Idea Catcher tool: an advance organizer built with Mindmanager mind mapping software.

The Idea Catcher presents useful categories to be discussed in the dialog between library customers and the information specialist to invoke point of views present in customer's information needs. These categories are loosely based on the idea of semantic or "deep" case structures or "facets" like those introduced by Fillmore, Hutchins and Greimas as well as on practical experiences in facilitating students' information seeking at Laurea. (For semantic case sys-

tems, see e.g. Fillmore 1968, Greimas 1983. For faceted structures in library classification systems see e.g. Vickery 1970).

The current categories in the English version of Idea catcher are: subject of thesis, research task, action, actor, when, where and partner. I have found that the central idea of the map, i.e. subject of the thesis is not enough to cover the research task, because it seems to become focused on the candidate name of the thesis, not actually the subject. The categories actor and partner are designed to find organizations, persons or roles relevant in the subject. For me, these categories as well as when and where may help to find out the practice case(s) the student is going to follow in the applied part of her thesis.

Step 2: From concepts to search terms and strategies

Mapped, thus "opened", concepts stand for articulated expressions for some of the users' information needs. Developing a search strategy requires that concepts and relationships between them lead to formulated search terms and logical operators between them i.e. Boolean expressions. In this phase I often see a suitable moment to encourage the customer to express concepts as controlled terms (subject headings) instead of simply using words of professional jargon. To turn to controlled vocabulary during information seeking tasks when required is seen as part of information literate behaviour (Eckel 2007).

Step 3: Building and performing searches

Although we have tentative search logic available when the database search actually begins, it is common that we apply the feedback of searches to adjust the search terms and/or logic. The analysis of search results may even call for entirely new points of view. The process can end either with a consensus that this session has offered enough or with findings that the search topics needs further formulation and/or translation to other languages. It is common that the customer begins her to work with information tasks by using only her native language. To extend searches requires translation, which seems pedagogically useful to be considered a part of learning task. In this case the translation can be done as separated process or as part of information searching session.

The search strategies used will be copied to the mind map to document our process. The resulted references can also be copied to the same map as "notes" but it may be more useful to store them either in the results manager of the database system or to a reference management application like EndNote or RefWorks. On the other hand to use (and to learn) another application to store results instead of just printing them out adds more steps to the information searching procedure. Thus using a chain of applications may help the management of references, but can also make the client to feel uncertainty and inconvenience. Through a conversion procedure the mind map with notes included can be stored as Microsoft Word document the user can easily open with her own computer.

Step 4: Searches done and results stored: the end of the session

When the end of my "mini-intervention" to customer's information needs seems approaching I often emphasize the continuing of the process and the relationships between learning, information seeking and writing tasks. I encourage my customers to make iterative information searching cycles a part of writing process and to focus additional searches to few points of view at a time. (See Wilder 2005.) One of my messages for library customers frequently is that the support of the Information Environment also cover the tasks related to writing processes as whole and the conceptualization, language and technical issues related to them.

The mind mapping approach can be documented in terms of the steps and iterations found in the process as well as in terms of the search strategies used and the resulted references. However, to describe as social interaction evidently would require outsider observations as well as

interviews. Today, a journal is produced as brief notes about the purpose and content of each task. It may be possible to extend it to cover more reflective elements.

Case B: Group writing, information seeking & methodology

In autumn 2007 Laurea Hyvinkää started the Master's degree in Health Promotion, with the Mental Health Care specialisation option. Students were recruited with different educational backgrounds, namely Bachelor of Health Care and Bachelor of Social Services. The relevant issue here was how to associate these two groups with the Mental Health Care orientation. I had offered the Information Environment's support to the program's development team in information modelling and thus had become member of the team. In a session I suggested that it may be fruitful to use group writing approach to familiarize the students with each other's backgrounds and the subject.

By group writing I mean here assignments, in which students in small groups work together to produce topical texts based on professional and scientific literature to handle problems or concept definition tasks given to them. The aim of the group writing approach was to combine information seeking, writing and related discussion processes concerning themes that would reveal different background assumptions present in professional orientations of Health Care and Social Services. A Wiki built on Confluence platform (Atlassian Software Systems Pty Ltd) was selected as tool to implement the services required.

We originally designed a referential structure model consisting of linked texts ("articles"), shorter supporting texts ("concepts") and literary references. The task for students was to work out the themes given to them or found relevant by themselves and produce a set of linked "articles" that were supported by concepts and references. The staff team containing principal lecturers and information specialist in turn commented the students' writings and supported them in formulating their argument and in finding relevant information.

The text model for this application was partially adopted from the one used in Wikipedia. In Wikipedia the content is structured as encyclopaedic articles linked to each other. They can and should be written based on references. The articles' contents should be classified by associating descriptive tags to them. References are in use also in our application, but the use of description of contents through tags or labels seems to be an additional burden to students and has not been introduced this time.

The application of Wiki has been extended from the original group writing approaching the functions of learning environment applications. Later it has also been used to support the students' thesis processes and a reference management application (RefWorks) has been linked to it. This is done through RSS feeds offering up-to-date bibliographies that the students maintain and can share with each other. The aim is to help the students in handling the process from developing the thesis idea to the parallel activities of information seeking and writing by making the process more visible and "open" for discussion. It may influence so that thesis processes become more collective ones than usually.

The group writing approach, application of Wiki and the support services related to information seeking and writing processes have been creating new requirements and roles for teachers but also for the information specialist. There have been technology-related ("how to use database X over remote connection through the proxy?"), writing-related ("how to refer to an article in compiled work?") as well as contents-related and emotional issues to be solved. The personnel have been using a wiki space to share some of these issues as well as in formulating practices and structures required. These tools have been found useful in enabling shared processes but they also cause situations that create additional needs for instruction and other support.

Further developments through Action Research

The Information Environments concept and related services have been under development at Hyvinkää since autumn 2005. Today, in Laurea Hyvinkää Library a certain stable state has been achieved in terms of the division of labour. Local acceptance and certain level of expectations against the services of the Information Environment have also been found among library customers. Giving library introductions and information seeking lessons seems to serve also as bridge for students when asking advice in the library. However, the information environments' roles and functions are probably not clearly identified by students.

On the organizational level, when Laurea as whole is concerned, the concept is not yet well known and the position and future of Information Environments has been remaining unclear. It is still an experiment or project rather than an established service.

Now there seem to be certain contexts opening, that offer possibilities to evaluate and develop the idea of Information Environments further:

1. Laurea has started its second professional development (PD) program for teachers. I am participating to it and using the program as forum to introduce and discuss issues relevant for the development of Information Environments as well as to tell the staff in the other units of Laurea about the additional possibilities that library can offer in LbD settings.

2. A presentation was accepted to introduce the concept in a national educational conference (Interactive Technology in Education).

3. I am writing a research proposal for my postgraduate studies in Information Studies concerning the concept, its reflection and its further development conditions.

The current (winter 2007-2008) situation of the Information Environment at Hyvinkää can be seen analogous to the settings of teachers developing their work through action research approach ("classroom action research", see e.g. Kemmis & McTaggart 2000 and "insider action research", see e.g. Coghlan & Holian 2007).

There have been fraternal cries by colleagues for standardizing the service, for "writing a manual" concerning the activities and methods related to work in information environments. This kind of documentation would obviously be useful in adopting the concept elsewhere. On the other hand, the role of tacit knowledge is evidently significant in this work. This in turn, doesn't permit the practices remain opaque. This tension has been encouraging the author to adopt the idea of action research in developing the concept further.

Action Research process is usually conceptualized as iterative one, containing several cycles having planning, action, observation and reflection phases. On the other hand, it is emphasized, that in practice interventions are to be made following the requirements and dynamics of the current situation. (Reason 2006.)

Discussion

Since its first steps at the library of Laurea Hyvinkää the Information environments approach has been aimed at co-operation between learners, teachers and library staff. Simultaneously a strong emphasis has been given to harness the potential of different types of relevant information seeking and management tools, be they technical or conceptual in nature. Elements of traditional library work, especially reference desk services, IT support as well as general knowledge, have been applied in "interventions" made.

One can find several possibilities for interventions like those found in the Case A: "Mind mapping information needs" presented above. From practitioner's perspective a relatively estab-

lished, but still flexible process model as well as tools supporting it are useful. In researcher's role the information specialist may find, that in many cases the interventions are relatively short in time, which makes the space for research data collection scanty. On the other hand, the mind mapping approach to information seeking produces data in the form of concept maps and stored information searching strategies.

Case B "Group writing, information seeking & methodology" in turn reveals that learning contexts based on writing require interventions that integrate information seeking facilitation to learners' process during their learning tasks. Guidance given only in advance lacks possibilities to confirm the learners in the relevance of advice offered. Thus carefully designed scaffolding is required. Information management tools like Wiki or reference manager as well as even word processing package in some cases seem to appear at the same time as powerful means and as sources of cognitive overload or "technostress" (Brod 1984, Ennis 2005, Fox 2007).

The current state of the research orientation to Information Environments encounters for example challenges related to the analysis of current activities and process models that can be seen as preliminary versions of interventions to come.

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Comparative Study of Efficacy of Teaching-Learning Patterns inBehavioristic and Cognitive Approaches

Jamal Sadeghi; *danesh_6@yahoo.com*

Islamic Azad University - Babol Branch

Abstract

The study deals with the comparison of the effectiveness of teaching–learning patterns in the behavioristic-cognitive approach. The main goal is to analyze the adaptability of teaching method with students' achievements and to describe briefly the present teaching-learning patterns; therefore, the hypotheses are: behavioristic teaching patterns and behavioristic learning patterns also cognitive teaching patterns and cognitive learning patterns are highly adaptable in the faculty of obstetrics and nursing at I.A.U – Babol branch. Also, the efficacy of teaching-learning patterns is different in cognitive and behavioristic approaches. Of all students in the faculty of obstetrics and nursing 120 subjects were selected. To collect data a cognitive and behaviorist checklist comprising of 20 indices of which 10 were concerned with behavioristic pattern and the other 10 with the cognitive pattern. To determine the teaching scale 20 indices were applied of which 10 were of behavioristic pattern and 10 of cognitive pattern One-sample T-test were applied to test hypotheses. The results showed that dominant teaching patterns in universities were behavioristic and that lecturers less frequently used cognitive teaching patterns, however, learning patterns among students were cognitive and behavioristic patterns were less used. The finding was confirmed by independent-samples t-test.
Keywords: cognitive teaching, behavioristic teaching, cognitive learning, behavioristic learning

Introduction

Psychologists believe that learning includes behavior change that results from experience. This change in behavior may be in fields of mental skills, physical skills, attitude or their combination altogether. (Askariyan, 1991).

Therefore, when it is said learning means change in behavior thorough experience, it means that by student's experience and activity, fundamental changes in habits, inclinations, interests, attitudes, interaction and individual knowledge are obtained. (Shariatmadari, 1995).
In active teaching process, the basis for learning in any student depends on his highest capacity for talents and abilities. In process, the student is completely active and his/her participation in active learning is met. Instructors play a guide or supervisor role. (Askariyan, 1991).

Brunner has recognized the significance of active methods and their role in teaching learning process. Most of his assumptions in this respect have been brought in the book "toward a theory of instruction". He believes that knowledge should not be directly available to students, but they should be made to face the problem so that they could discover the relationships among the affairs and their solutions (Noddings, 1995).

Rousseau of persons who emphasized using active methods in teaching and most of his assumptions in this respect has been brought in his book Emile in which, he points out activity of Emil in teaching process and says: let the learner solve problems himself, let them be available for him, but let him solve them himself. He should not accept anything based on your saying (Shariatmadari, 1995).

Active teaching-learning process makes an increase in the development of thought independence, critical thought, comprehensive development in the learners' intelligence emotion, and social dimensions it also makes creative thought in individuals; therefore, conducting the re-

search, that is, comparative study of efficacy of teaching-learning patterns in behavioristic and cognitive approaches is of particular importance.

Teaching-learning patterns assume an effective role in the university and behaviorists always seek to find procedures for educational system optimization. Teaching-learning patterns assume an effective role in description of academic curriculum and can provide a useful beginning for educational goals.

In the modern world; investment for teaching has been recognized as a key factor in cultural, economic and social development processes. On one hand, universities in societies transfer cultural heritage and dominant values in the society and on the other, they are responsible for social needs of people to acquire and disseminate and develop knowledge and technology. In fact, university is one of the most critical and the most valuable institutions available for the society to survive (Mehr-Mohammadi, 2000).

In the course of education, teaching methods are regarded as work-tools and the extent to which we are familiar with different methods, we will have access to different tools. By these tools desired concepts and contents will be available to learners regarding time and place. (Askariyan, 1991).

By assuming that many faculty members of universities possess necessary knowledge, now it should be seen whether they are familiar with teaching-learning patterns, and whether they use behavioral-cognitive procedures; therefore, main questions that are asked by emphasis on educational evaluation are:

- Do teaching-learning models in different procedures adapt with cognitive and behavioral dimensions?
- Do cognitive teaching- learning patterns create a different efficacy in learning of students?

Finally, three main questions are asked:

- Do behavioral teaching patterns highly adapt with in behavioral learning patterns in the faculty of obstetrics and nursing in the Islamic Azad University of Babol?
- Do cognitive teaching patterns highly adapt with cognitive learning patterns in the faculty of obstetrics and nursing Islamic Azad University of Babol?
- Is the efficacy of teaching-learning in behavioral approaches different from cognitive ones?

This research also considers three goals as fundamental and two goals as secondary or functional.

Main goals:

- Adaptability of instructor's teaching pattern with students' learning pattern

- Comparison of behavioral-cognitive patterns efficacy in students' achievement

- Brief description of the present teaching- learning patterns

Secondary goals:

Using behavioral techniques to promote educational by emphasis on teaching-learning patterns
Using cognitive techniques to promote education by emphasis on teaching-learning patterns
Research hypotheses:

- Behavioral teaching patterns highly adapt with behavioral learning patterns in the faculty of obstetrics and nursing at the Islamic Azad University.

- Cognitive teaching patterns highly adapt with cognitive learning patterns in the faculty of obstetrics and nursing at Islamic Azad University.
- Teaching-learning patterns efficacy in behavioral approach is different from cognitive one.

Methods

By manipulating research variables, we can classify them into experimental and non-experimental. If independent variable is manipulated, we will deal with a spectrum of experimental, semi-experimental, half-experimental and pre-experimental researches, but if we do not have the ability of manipulating the independent variable, we use descriptive research methods. In causal comparative research which is located in the domain of descriptive research, we try to recognize possible factors of two groups, and by doing so, it is attempted to determine dependent variable. Thus, one group with behavioral teaching pattern and another with cognitive teaching pattern are selected and after that, learning pattern is considered by its adaptability and learning level with emphasis on educational efficacy; therefore, researcher's goal by descriptive research is always objective description of a situation or a subject. In other words, the researcher tries to report what exists, without any assumption and receive objective results from the situation (Naderi and Seyf Naraghi, 2002).

In the above-mentioned research, the instructor has enforced his own teaching pattern and the researcher only compares the efficacy of the two methods and has considered a specific adaptability through which to attain a comparative study of teaching-learning patterns efficacy in behavioral-cognitive procedures; therefore, in the research, the researcher has not embarked to manipulate the independent variable.

Statistical population of the present research includes all university students studying at the faculty of obstetrics and nursing. It should be mentioned due to access to all members of population, a list of individuals is available. The present research population is of limited populations. In descriptive research, sample size comprising 120 subjects is adequate (Ahadiyan, 1993); therefore, first, random sampling has been conducted by emphasis on demographic layers and among which, two 60-subject were selected based on paralleling methods and after research samples were selected, research questionnaires were used to collect data and achieve external validity. Behavioral and cognitive check-lists including 20 parameters were used of which 10 parameters were behavioral and 10 were cognitive. Also, in order to determine teaching level of instructors, 20 parameters were related to behavioral pattern and 10 parameters to cognitive pattern. This research deals with a comparative study of teaching-learning patterns efficacy in behavioral-cognitive approaches to determine the efficacy of teaching-learning patterns in the two behavioral and cognitive approaches.

Research Findings

Table 1. Descriptive statistics of cognitive teaching patterns in research samples

Variable	Parameters of central tendency			Parameters of variability			Distribution		
	Mean	Median	Mode	Standard deviation	Variance	Range	Kurtosis coefficient	Skewness coefficient	Standard error
Cognitive teaching patterns	23.98	24	25	4.25	18.08	23	0.10	0.03	0.38
Behavioral teaching patterns	37.85	38	38	6.53	42.72	22	-0.99	0.13	0.59
Cognitive learning patterns	38.08	37	37	4.56	20.88	14	-0.27	0.29	0.41
Behavioral learning patterns	25.55	25	25	4.33	18.82	24	0.16	-0.14	0.39

According to the table, there is a small difference between mode, median and mean and since the amount of skewness and kurtosis coefficient is lower than one, the distribution is normal and the mean can be used as the most appropriate in descriptive statistics in the domain of parametric statistics.

Table 2. One-sample t
Existing situation of cognitive teaching patterns in terms of research samples

questions	Item	Theoretical Mean	Mean	T	Degree of Freedom	Level of significance
1	Logical analysis	3	2.03	10.05	119	0.01
2	́searching concepts and finding efficient solution	3	2.65	-2.75	119	0.01
3	Conclusion from different views	3	2.03	-9.56	119	0.01
4	Understanding theories and expanding them	3	2.75	-1.95	119	0.01
5	Judgment about matters	3	2.15	-7.94	119	0.05
6	Scrutiny on matters and understanding them	3	2.10	-8.81	119	0.01
7	Organizing subjects	3	1.95	-11.05	119	0.01
8	Judgment on matters by considering their values	3	2.69	-2.39	119	0.01
9	Judgment on matters regarding their potentialities	3	2.65	-3.57	119	0.01
10	Thinking about matters from different angles	3	2.95	-0.37	119	-
Sum	Cognitive teaching patterns	3	2.39	15.49	119	0.01

Regarding the table and by emphasis on the amount of the obtained t levels, there is a significant difference between the obtained experimental mean and the theoretical mean at level of α=0.01 and since in all cases, the experimental mean is lower than theoretical mean; therefore, cognitive teaching patterns do not enjoy a high adaptability; it means the instructors use

lower cognitive patterns and just in "thinking about matters from different angles" item, in-structors' adaptability is at the average level, because it is not observed a significant differ-ence between experimental mean and theoretical mean for the item.

Table 3. One-sample t
Existing situation of behavioral teaching patterns in terms of research samples

questions	Item	Theoretical Mean	Experimental Mean	Amount of T	Degree of Freedom	Level of significance
11	Applying knowledge and designing principles	3	3.44	5.70	119	0.01
12	using imagination	3	3.58	6.86	119	0.01
13	Conformity of initial experiences with new ones	3	3.68	8.08	119	0.01
14	Using intellectual prin-ciples in learning	3	3.95	10.83	119	0.01
15	Providing instruments for learning	3	3.77	10.17	119	0.01
16	Experimenting new information	3	3.41	24.14	119	0.01
17	Combining different parts of a problem	3	4.01	18.82	119	0.01
18	Applying findings in scientific affairs	3	4.25	19.20	119	0.01
19	Relying on direct per-ception and observa-tion rather than logic	3	3.45	3.81	119	0.01
20	Using objective experi-ences (seeing, hearing etc)	3	3.29	2.44	119	0.01
Sum	Behavioral teaching patterns	3	3.78	13.16	119	0.01

Regarding the table and by emphasis on the amount of the abtained t levels, there is a signifi-cant difference between the obtained experimental practical means and theoretical means at the level of α = o.o1 and since in all cases, experimental means are higher than theoretical means, therefore; behavioral teaching patterns enjoy a high adaptability; it means the instruc-tors use more behavioral patterns.

Table 4. One-sample t

Existing situation of cognitive learning patterns in terms of research samples

questions	Item	experimental Mean	Practical Mean	Amount of T	Degree of Freedom	Level of sig-nificance
1	Logical analysis	3	3.64	6.39	119	0.01
2	Searching the concepts and finding efficient solution	3	3.06	1.15	119	–
3	Conclusion from different views	3	2.99	0.15	119	-
4	Understanding theories and ex-panding them	3	3.75	13.98	119	0.01
5	Judgment about the subjects	3	3.90	15.72	119	0.01
6	Scrutiny on mat-ters and under-standing them	3	4.15	18.17	119	0.01
7	Organizing mat-ters	3	4.20	15.77	119	0.01
8	Judgment on matters by con-sidering their values	3	4.21	18.12	119	0.01
9	Judgment on matters regard-ing their capabili-ties	3	3.08	15.56	119	0.01
10	Thinking about matters from different angles	3	4.05	16.24	119	0.01
Sum	Cognitive learn-ing patterns	3	3.80	19.37	119	0.01

Regarding the table and by emphasis on the amount of the obtained t levels, there is a signifi-cant difference between the obtained experimental means and theoretical means at in level of a=o.o1 and since in all cases, experimental means are higher than theoretical means, there-fore; cognitive teaching patterns enjoy a high adaptability; it means that university students use more cognitive patterns and just in "searching the concepts and finding an efficient solu-tion" and " conclusion from different views" items, university students' adaptabilities are at the average level because it is not observed a significant difference between experimental mean and the theoretical mean for the items.

Table 5. One-sample t
Existing situation of behavioral learning patterns in terms of research samples

questions	Item	Theoretical Mean	Practical Mean	Amount of T	Degree of Freedom	Level of sig- nificance
11	Applying knowl- edge and design- ing principles	3	2.27	-6.58	119	0.01
12	using imagination	3	2.52	-3.91	119	0.01
13	Conformity of initial experi- ences and new ones	3	2.65	-2.69	119	0.01
14	Using intellectual principles in learning	3	257	-3.21	119	0.01
15	Providing instru- ments for learning	3	2.58	-3.19	119	0.01
16	Testing new in- formation	3	2.71	-2.74	119	0.01
17	Combining differ- ent components of a problem	3	2.71	-2.38	119	0.01
18	Applying findings in scientific af- fairs	3	3.03	0.26	119	–
19	Relying on direct perception and observation through logic	3	1.95	-11.05	119	0.01
20	Using objective experiences (see- ing, hearing etc)	3	2.51	-4.33	119	0.01
Sum	Behavioral teach- ing patterns	3	2.55	-11.23	119	0.01

Regarding the table and by emphasis on the amount of the obtained t levels, there is a signifi-cant difference between the obtained experimental means and theoretical means at the level of α = o.o1 and since in all cases, experimental means are lower than theoretical means; there-fore, behavioral learning patterns do not enjoy a high adaptability; it means that university students use lower behavioral patterns and just in "applying finings in scientific affairs" item, their adaptability is at the average level because it is not observed a significant difference between experimental mean and theoretical mean for the item.

Table 6. - t of two independent groups
Comparative study of cognitive learning- teaching patterns in research samples

patterns	Mean	Standard deviation	Amount of T	Degree of freedom	Level of significant
Teaching	23.98	4.25	-24.74	Extreme	0.01
Learning patterns	38.08	4.56			

Regarding the table and by emphasis on the obtained t amount (tob -24.74) which is higher than the t in the table (tcr=1.96), there is a significant difference (α = 0.01) between cognitive teaching patterns and cognitive learning patterns in terms of students studying at the faculty of nursing and obstetrics. Also, cognitive learning patterns mean is higher than cognitive teaching patterns mean; therefore, by considering students, their cognitive learning patterns is more than cognitive teaching patterns. Finally, by focusing to the students' viewpoints, instructors' teaching method was not cognitive; while university students learning method was cognitive.

Table 7. - t of two independent groups
Comparative study of behavioral learning- teaching patterns in research samples

Levels	Mean	Standard deviation	T Amount	Degree of freedom	Level of significant
Teaching patterns	37.85	6.53	17.18	Extreme	0.01
Learning patterns	25.55	4.33			

Regarding table and by emphasis on the obtained t amount (tob-17.18), which is higher than t amount in the table (tcr= 1.96) therefore, there is a significant difference (α = 0.01) between behavioral teaching patterns mean and behavioral learning patterns mean considering university students at the faculty of nursing and obstetrics. Since behavioral teaching patterns mean is higher than behavioral learning patterns mean, behavioral teaching patterns of instructors is more than behavioral learning patterns among them. Finally, it can be said that they viewed instructors' teaching pattern was behavioral, while their learning pattern was not behavioral.

Conclusion

In respect of teaching and learning relationship, there are two different views. First view claims that there is no relationship between teaching and learning. Fenster Macher, one of contemporary philosophers in education, supports the view. He claims that activities which are performed by teacher in teaching process cannot be regarded as an absolute reason for learning. He considers teaching as a purposeful process and believes that there is a relationship between teaching and learning. But that does not mean that if learning did not occur, teaching had not necessarily been conducted, in other words, Fenster Macher believes as long as there is no teaching there will be no learning, however, teaching cannot be necessary and enough condition for learning. This means different factors are involved in learning which are not under teacher's control. For example, if leaner has no inclination for learning, although teacher attempts, learning will not occur. In general, teacher applies his/her teaching to achieve learning, but if learning does not occur, teacher will not be responsible for it (Kamkari, 2006). Paul Hirst, another proponent of the approach says in addition to intention which was mentioned by Fenster Macher, teacher should possess psychological knowledge and methods which help better know the learner; because without regarding learners' characteristics, teacher will

not be successful in teaching process. Israel Shefler poses three criteria for distinguishing teaching from other activities. They are: intention logical learning, and teacher's attitude (Mehr-Mohammadi, 2000). Second view claims that there is a necessary and close relationship between teaching and leaning. Dewey is of first persons who establish a necessary relationship between the two processes. He uses a sale example to express the case. He declares that if no purchase is done, hence no sale happens; therefore, as long as learning does not occur, teaching has not been done. The proponents of this view emphasize on teaching achievements. Dewey in this respect says teacher is a guide and a leader. He steers a boat, but its power which drives forward, should be given by persons who are learning. By comparing these two views, it will be clear that the first view assumes main responsibility for the teacher and considers secondary role for the student.

It should be mentioned that the role of teacher in teaching process is to facilitate learning. A statement that if learner has not leaned anything, it means that teacher has not taught is impertinent to some extent. Because understanding is an arbitrary matter and as long as no attention is paid by the learner, learning will not occur. Attention is influenced by various factors, which some are under teachers control and some others are beyond his control; therefore, teacher's task is not similar to salesperson task, because purchase is done and as long as there is no sale, no purchase will be done.

Regarding the importance of teaching-learning patterns, in this research, by relying on teaching-learning patterns and regarding cognitive and behavioral teaching-learning patterns, it was attempted by using university students' view at the faculty of nursing and obstetrics to determine to what extent cognitive and behavioral leaning-teaching patterns possess a high adaptability; therefore, by using a researcher-made questionnaire, university students were evaluated. Finally, by using of one-sample T, we studied adaptation value of teaching-learning patterns in the two cognitive and behavioral dimensions and it was attempted to determine adaptation level. It should be mentioned that after final analyses, research findings showed, by emphasis on the existing capacity and situation of universities, teaching patterns in universities were behavioral and instructors used teaching patterns by a little emphasis on cognitive domain; while research samples showed that learning patterns in university students were cognitive and they less used behavioral patterns. In order to confirm this matter, one-sample t-test and two independent samples t-test were used to compare cognitive and behavioral domains in the two teaching and learning patterns; then research findings showed that the existing situation of teaching patterns was based on behavioral domains while in study of leaning patterns it was determined that cognitivel learning patterns was dominant among students.

Research suggestions

It is suggested that instructors should emphasize cognitive domains rather than behavioral domains. Policy design needs evaluation, clear planning and up-to-date information. To be so it is necessary to:

- hold courses in order to help instructors apply cognitive teaching patterns
- teach cognitive learning methods to university students
- study information technology in educational levels.

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IMPROVING ORAL COMMUNICATION: A PROCESS PERSPECTIVE

Dra. María Iborra
Universitat de València
Dra. Angels Dasi
Universitat de València

E-mail: miborra@uv.es ; angels.dasi@uv.es

Address contact:
Facultad de Economía
Avda.Tarongers s/n
46022 Valencia

Theme: Teaching, Learning and Guidance

Abstract

Nowadays, oral communication is a key competence for students. However, teaching and learning it, is a goal difficult to achieve. From a teaching perspective the focus is to measure the final outcome. As a consequence oral presentations are not understood as tools that allow continuous improvement and benchmarking methodology. So a good and interesting communication is not achieved.
With this aim we propose a learning approach for improving oral communication. We focus in three areas: adapting to the context; defining the guidance process, and including a co-evaluation focused on improvement and on formative evaluation.

Maria Iborra is a doctor in strategic management at the University of Valencia (Spain); she works as an Associate professor at this University. Her current research interest focuses on behavioural integration in TMT and students teams, acquisition's integration processes, exploration and exploitation of knowledge and acculturation processes.

Àngels Dasí is PhD in international management at the University of Valencia in Spain. She's the coordinator of the European Convergence Process in the Faculty of Economy. She is Associate professor at the University of Valencia and has participated as a teacher in the innovative education project at the Double Degree in Business and Law. In addition to her research in international business, her current research focuses on learning in university context, especially in managerial studies.

Oral Communication is a key competence for university students and more specifically for business students. Presenting oral reports to clients, transmitting firm information both internally and externally, expounding arguments in a precise way, managing various communication styles, etc. are core competences for the development of directives roles (Mintzberg, 1983) However, teaching and learning to improve oral communication is not an easy goal. As Pfeffer and Fong (2002) maintain, communication ability –like other skills as leadership or creativeness- is less easily taught or transferred to others in business schools but paradoxically, at the same time, both practitioners and business schools consider it as one of the most important personal skills for managers. Usually, from a teaching perspective the objective has been oriented to measure the final outcome by assessing oral presentations, oral reports or debates. This outcome perspective, without a feedback process, implies that oral presentations are not understood as tools that allow continuous improvement or benchmarking. In fact, as teachers, we ask students to realize and expound a report about a question, individually or in team, without any formative stage between the moment when the student is informed and the mo-

ment when the student is evaluated. As a result we could go into a situation in which, as teachers, we don't believe that teaching the communication ability should be one of our objectives, but actually we evaluate how students expose their reports orally. So, this view implies that teaching, learning and evaluation go by different paths, without connection, harming student final training.

Introduction

In Spain, after the signature of the Bologna Declaration in 1999, there were some interesting changes at several levels. The legal framework changed, but also Universities made an important effort for innovating in teaching and evaluation systems and for growing up in the use of new technologies applied to education. The new legal framework (Real Decreto 1393/2007) for higher education in Spain emphasizes goals such the employability, the long life learning, and the mobility. In this context, professional competences are the core of the teaching process, and as Lasnier (2000) appoints learning competences imply a more complex view for teaching system. The roles have changed: students have to be more active, responsible for their learning, and they should participate in the process; but also teachers have to change. Teachers should not be the main actor of the learning process; teachers should accompany the student learning process. The teacher's roles are more complex now. A teacher, at the university level, needs to know which are the most suitable methods for competences, how to evaluate this competences, how to coordinate his or her work with his or her colleagues work, how to manage the new technologies applied to teaching, and not only to transmit his or her knowledge to the students.

At the University of Valencia (Spain), the Educational Innovation Projects are initiatives to achieve the goals agreed in Bologna Declaration (1999) in order to establish the European Higher Education Area by 2010. Those Educational Innovation Projects have stressed the importance of competence learning and active learning methods, in which the student takes part in their own learning process, committing and assuming responsibilities in order to learn. In this sense, competences are the guide of the learning process, so the selection of the teaching methods and the evaluation system depends on the competences aimed in a specific subject or course.

Increasing competence learning implies taking into account the learning context before selecting competences. Some competences as information analysis and synthesis capability, oral communication, work in team capability or leadership are enhanced in Social Degrees, like Business Management or Law (Gonzalez and Wagenaar, 2003). Competences in social degrees are professional linked, related to the world of work, and in consequence, it implies a praxis-based learning approach. As Raij (2007) summarizes, there are different learning theories and approaches with a pragmatic view. Probably, the most suitable for social degrees are those in which learning has its starting point in working life events and the solutions have to be proposed and discussed like problem-based learning. Problem-based learning is a good method because students work in a real context –so, it is professional related-, and they participate in the learning process –identifying the problem and its causes, establishing the questions requiring research, searching for the new knowledge that they needed, and building an in depth solution- .

By other hand, teaching with cases is an extended method in business schools. Very close to problem-based learning, the case method includes some of its bases as the emphasis on skill development in addition to knowledge, or the sharing of learning responsibility (Erskine et al., 1998). But problem-based learning goes beyond because it can take a longer perspective (one academic year, for instance) and promotes a progressive inquiry learning.

A step further has been done by LbD. Learning by Developing (LbD) is a very attractive perspective for teaching in applied science, and specifically in social science. As Raij (2007) describes, there are some bases that sustain and are related to the generic competences that managers,

lawyers or other social professions need. The stages of LbD (Raij, 2007) are based on authenticity –learning process based on a genuine development project carried out for the working world: partnership -collaboration, commitment, competence-sharing and learning together-; experiencing –shared reflection on experiences-; investigative approach –a research based and critical way of working- and creativity –the search for new solutions-. As we explain in the next section, in our development project we share similar bases, and the bases are the foundations for learning competences.

In the same way, there are others characteristics of LbD that support the new learning perspective adopted by the European Higher Education Area. The Development Projects are rooted in the world of work (authenticity), and involve lecturers, students and experts from the sector or firms (partnership). Students are seen as developers who manage and participate in the progress of the development project. The investigative approach and creativity allow students to acquire and deploy new professional skills.

According to these starting points, there are four stages in the development project. First of all, students, lecturers and professionals need to collect knowledge. This is an analysis stage that allows the second phase. Secondly, the development project is delimited and defined. This second phase implies an individual learning. Thirdly, there is a participation phase in which students, teachers and professionals work together developing the project. This phase is really important because generates new skills and new knowledge. In this phase, learning is a progressive cycle where continuous evaluation generates new questions and promotes looking for new solutions. Cooperative learning is possible because both, questions and answers are shared and they look for them together. The last stage includes an evaluation and sharing results. The reflection over the development project gives a possibility to evaluate their own learning and competence level, and to identify new challenges.

In the next sections we explain the development project that we carried out in the first year of the double degree in Business and Law. As we appoint, the characteristics of our development projects fit quite well with the LbD characteristics.

In this sense, in our subject –Business Management-, in order to define the project, we take into account three main issues: first of all we adapt the process to the learning context; secondly we define the guidance or tutorial process to the learning context; and finally we include a co-evaluation process with a benchmarking aim.

Developing the Project: our learning context

Our learning context is a double degree in business and law. It is developed inside a innovative project which attempts to obtain the following goals: to focus the learning process in the student, to increase the role of teams of teachers that work in a coordinated way in the degree, to improve the level of individual tutorials for the students and to increase the level of use of Information and Knowledge Techonologies.

The initial group that takes part in the project was made up with 80 students in 2003-2004 academic year. These students must obtain a total of 451.5 ECTS in 6 academic years for obtaining their double degree. Those Spanish degrees are similar to a postgraduate degree in most of the European countries. Due to the level of effort that the student must do in this degree, success demands a high level of coordination between different module's workload and an accurate calculation of time and intensity of work and activities for students. It also demands a good and coordinated work of tutorials with individual students that help them not feeling alone with those demands.

The second key contextual factor in which we develop our Project of Learning by Developing are the general competences that each student must achieve along this double degree. Those competences are: a) the capability of analyzing and synthesis of information as well as its critical valuation, b) the capability of communicating ideas in a written format and in an oral for-

mat, c) team working, d) capability of autonomy learning and adaptability to new situations and e) the capability of decision making7.

The third element of context in our Project of Learning by developing is that it takes place in a first-year annual module of 9 ECTS in which we work mainly around three competences:

a) The capability of analyzing and synthesis of information as well as its critical valuation: the level that we try to achieve in this case is to know the sources of business information, to use them in a correct way and to analyze the data to bring out accurate information.

b) The capability of communicating ideas in a written format and in an oral for mat: the level that we expect to be achieved is the capability to write a short

c) Team working: in this case the aim is to achieve an effective team work. Specifically we expect that team work is used mainly for analyzing the data for bringing out accurate information and for increasing the creativity and interest of the project.

Developing our Project: from a learning perspective centered on performance to a learning perspective centered on processes

We develop our Learning Project with emphasis on the learning process instead of focusing it, mainly and exclusively, in the classical learning approach of outcomes. The classical perspective on teaching and learning focuses on final outcomes instead of analyzing how, when and by which processes will the learning process allow students to achieve goals. The following graphic tries to illustrate this process perspective of learning by developing. The project is developed in seven main steps that are described first and then the feedback process of improvement is detailed for each step.

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7 Those competences were defined after a long and in-depth work of the module leaders, the discussion of the Tuning project and suggestions, the feedback of faculty members, professionals and students. Then, those competences were developed trying to establish the level of accomplishment in different courses, modules and levels along the degree.

Looking for Information and analyzing. Planning effort

Increasing Information diversity

Report focus on content. Controlling team work efficiency. Re-plannig

Oral presentation: time control and team image

Oral presentation: developing supports in oral presentations

Step 1. First meeting: students-teacher and students-managers, teacher

Step 2. Working information overload

Step 3. Working creativity

Step 4. First report: information synthesis Focus on content. Changes for improving team work.

Step 5. Short oral presentations. Focusing on format

Step 6. Short oral presentations. Working supports

Step 7. Achieving an interesting presentation

The Project wants to achieve at the end of its year of life the goals that we have shown up. For doing that a detail ongoing planning is made and it is developed in seven main steps that are described as follows.

Step 1. The project begins with some initial meetings in which three groups take part. Students meet with students. They made their initial proposal in which they design a project and look for alternative firm's in which they can develop it. They choose a firm and try to contact with it. They also use these initial stage meetings for planning about their work for achieving two deadlines: one for the written report and one for the oral presentation. They plan their individual work, their personal achievements as well as their team work and meetings. The second side is represented by students meeting with their lecturers where they present their main initial ideas about their project and their initial planning. The third side is represented by students meetings with the managers of the firm where they will develop their project.

Step 2 and 3. After their initial planning we work around two main elements of team work, the role of teams for working with information diversity and information overload (step 2) and the role of teams for increasing creativity and innovation (step 3). Some experiences are run for doing it. Those experiences demand short written reports and some times oral team presentations.

Step 4. The first key deadline implies the presentation of a written report in which the team presents their initial contribution. This first report allows evaluating three goals: the level of

information analysis and synthesis, the written communication and the team efficacy and efficiency. In respect to this last goal each member evaluates their own team and changes in planning and in their individual compromise are proposed if necessary. They have formal and extensive feedback about their level of achievement in all three goals. Adjustments and new planning are made when necessary.

Step 5 and 6. At this time of the project their level of social relationships increases. Their intra-team relations but also their inter-teams relations break some of their initial fears about oral presentations. In this second part of the project they work specifically in the communication format trying to improve the level of interest of their presentations instead of focusing on contents.

Step 7. The project ends with an oral team presentation. A 15 minutes oral presentation is made to the other teams and a turn of open question is developed in each of the cases. They use visual supports as video, music, and try to make their colleagues to get interested in their projects.

Feedback and the learning process

Step 1 implies that the initial planning is reviewed by the lecturer and the different alternatives for doing the project are co-evaluated by the team and their lecturer in order to choose one of them.

Step 2 and 3 are provided with feedback about the quality of information analysis and synthesis, the diversity and richness of sources that have been used by the team.

 Step 4 brings content feedback about the capability of the team for developing a report and for achieving the deadline. An individual meeting with their lecturer is focused on the team efficiency. Re-planning of the project is done when necessary and improvement of the team work is analyzed as a goal.

Step 5 and 6 allows looking for better ways of doing oral presentations as well as for looking and proving support methods and tools.

Step 7 is characterized by a high level of feedback. Oral presentations are co-evaluated by lecturers and students and we use it for giving qualitative as well as quantitative feedback from both sides. We use this way of achieving information for evaluation with another goal it allows teams two know which indicators we and their peers will use for evaluating their work. Table 1 to 3 illustrate this main information:

Table 1. Co-evaluation 1. Qualitative evaluation by peers

STRONG POINTS	AREAS FOR IMPROVEMENT
About presentation: style, speed, support tool	About presentation: style, speed, support tool
About content	About content
About creativity and innovativeness	About creativity and innovativeness

Table 2. Co-evaluation 2. Quantitative evaluation by peers

In a10 point scale which evaluation does this presentation has for you:
- ■ My global evaluation of the work is _____
- ■ My evaluation of the content of the work is _____
- ■ My evaluation about the innovation and creativity of the presentation is: _____

Table 3. Co-evaluation 3. Quantitative evaluation by peers

Please mark your level of agreement with the following statements					
All team members did an interesting presentation	1	2	3	4	5
I remember the key ideas communicated in their Project presentation	1	2	3	4	5
All team members did a clear presentation of their ideas	1	2	3	4	5
Time-schedule was balanced	1	2	3	4	5
I feel that they are a team	1	2	3	4	5
Each member did a presentation with his/her own style and own dynamic	1	2	3	4	5
The support tools were useful for understanding and following the presentation	1	2	3	4	5
The support tools were interesting	1	2	3	4	5
The attitude of all team members was good.	1	2	3	4	5
The language of all team members was good.	1	2	3	4	5

This way of feed-back has another relevant goal. It allows benchmarking presentations by peers and increasing their knowledge and understanding of what is an excellent presentation. At the end of the project they have achieve a higher or lower level of oral communication but they have also learn about what is and how they can achieve an excellent oral presentation. They live the goal of doing interesting oral presentations as a learning process of personal and team development.

Feedback by lecturers and by future professional colleagues is rich and broad on scope and allows looking for areas of improvement in contents, creativity, team work, support tools, sources or means. This system of co-evaluation allows seeing where the team is excellent and where they can improve their level of achievement of goals when they are compared to other teams. The mix of qualitative and quantitative feedback brings a lot of information for teams. It also implies that each member internalize good practices and excellent practices when they evaluate other team projects and see different ways of achieving their same or similar project goals.

Lastly, it enriches our understanding of when a project is interesting for the audience because it gives a lot of information about when and how it achieves this goal. They have made an objective mark of the message, the sender of the message, the support tools, the structure of the presentation, the content of the presentation and they are able to obtain a first picture of a model of excellence that allows improving oral communication.

Table 4. The qualitative feedback. Team 4 as an illustration

Strenghs	Areas of improvement
Oral expression	To control the speed of the speech
<u>Good use of visual supports as video</u> for the introduction about the firm and good use of <u>slides</u>	<u>Too many information</u> and definitions
They communicate a <u>good relationship be-tween members of the team</u>	To look to the people when talking
Innovative use of questions-answer system for explaining some issues of the project	To increase the informality of the oral communication without basing it in memory
Good content	To increase the deepness and elaboration of the <u>areas of improvement</u> for the firm
Excellent support material	

Source: data obtained from 26 surveys that evaluate the team 4 after listening to their Project. Underline items are those ones that appear with a higher frequency.

Table 5. Quantitative feedback. Global evaluation of projects

Name of the project	Mean
Project 1	6.90
Project 2	7.40
Project 3	7.44
Project 4	7.66
Project 5	7.72
Project 6	7.75
Project 7	7.87
Project 8	8.03
Project 9	8.05
Mean	8.08
Project 10	8.52
Project 11	8.83
Project 12	8.84
Project 13	8.93
Project 14	9.05

Source: data obtained from 26 surveys that evaluate each of them each project.

Tabla 6. Quantitative feedback. Global evaluation of projects II
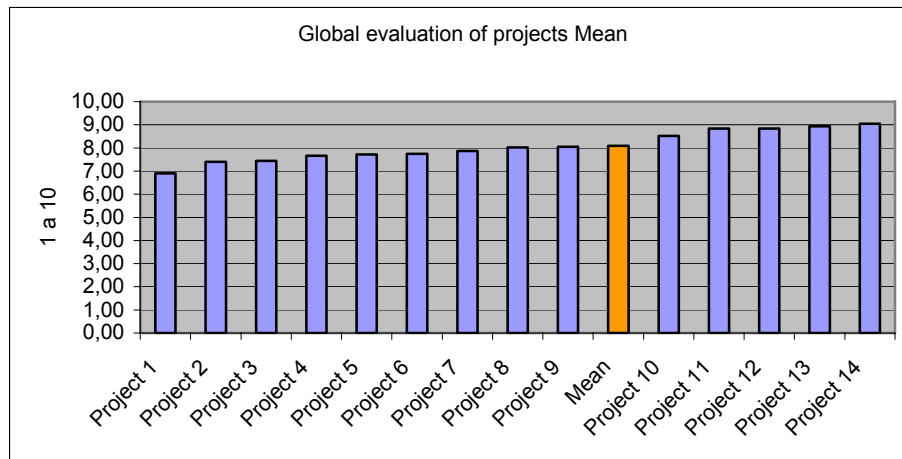
Source: data obtained from 26 surveys that evaluate each of them each project.

ANALYZING THE OUTCOMES OF THIS PROJECT

In order to analyze if the project has achieved some of the objectives that we draw for it, we did a survey for comparing the results of students that learned inside this project and other control group that did the same work content but outside this innovative project. Our survey was focused on analyzing knowledge learning competences in the innovation project group as well as in the control group.

Therefore, our samples were made from two populations. The first one was defined as the total first year students of the double degree on laws and business that take part on the project. From 120 students, the final sample contents 101 valid surveys.
The second sample –the control sample- was made up by students from other groups that were in the first year of a business module and that have made a similar project in content but not in methodology because they did not take part on the innovation project. We obtain 120 useful surveys.

While our initial sample was made up of 292 answers, we eliminate 33 surveys because they were part of another innovation project, and we dropped 43 surveys because there was incomplete information, because there was only one answer by team (seven cases) or because the number of team's surveys was lower than the half of the size of the team (6 teams; 12 surveys). So the final sample was made by 221 students that belong to 75 teams.

The survey was structured taking into account different questions in order to measure some relevant competences for managers. In that sense we use two types of measures for the team performance. The first group is based on the outcomes of the team and the second group is related to some processes outcomes.

Performance variables

Final Outcomes: in order to analyze final outcomes we use a management measure that tries to reflect the learning behavior of management teams. In this case we ask each student to asses the degree of performance of the team by the level of knowledge exploitation and knowledge exploration achieved.

The literature has developed different measures of a learning behavior in terms of knowledge exploitation and exploration.

For some studies exploration and exploitation are two extremes of a unique scale (Bierly and Chakrabarti, 1996; Katila and Ahuja, 2002; Rosenopf and Nerkar, 2001). In front of these, He and Wong (2004), develop a scale that considers exploration and exploitation as two different dimensions of learning behavior. Following this approximation our exploration scale is adapted from Lubatkin et al. (2006) which is rooted on the initial scale of He and Wong (2004) and Benner and Tushman (2003). The measure includes 3 items for exploration and 4 items for exploitation in which students are asked about the orientation of their team. Using a Likert 5 point scale (1= total disagree to 5= totally agree) the survey asked in which level the team: (1) Bases success on the ability for explore new ideas (2) looks for new ideas thinking "outside the box" (3) looks for new ways for obtaining results and for exploitation the survey asked in which level the team: (4) commits to improve work quality (5) continuously improves the reliability of its work (6) Fine-tunes the content for improvement (7) To improve the way of doing things. Those two scales try to measure March (1991) definition of exploration and exploitation. The means and standard deviation for each of the two groups appear on Table 7. The first three items reflect a knowledge exploration orientation and the last four reflect an exploitation approximation.

In all cases the project's teams achieve higher levels of learning behavior that the control group's teams. Moreover, all differences are statistically significant at p<.01. The project teams were more explorative using new ideas for developing their work, looking for new ways for achieving their results and use uncommon ideas for looking "outside the box". All these items are part of an exploration orientation that tries to identify using the terminology of March (1991) to refer to creation, pursuit, discovery or innovation and a different way of doing things.

Moreover, these project teams are also better in their exploitation of knowledge. They were able to improve their own way of doing things, to fine-tune the content, the quality and the reliability of their work.

Table 7. Differences in learning behavior in teams

	Project group			Control group		
Exploration and exploitation	N	Mean	Σ	N	Mean	Σ
Bases success on the ability for explore new ideas	101	3.64	.85	120	3.23	.92
Looks for new ideas thinking "outside the box"	101	3.66	.98	120	3.23	.96
Looks for new ways for obtaining results	101	3.78		120	3.39	
Commits to improve work quality	101	4.09	.89	120	3.63	.99
Continuously improves the reliability of its work	101	3.99	.74	120	3.50	.86
Fine-tunes the content for improvement.	101	4.10	.79	120	3.70	.93
To improve the way of doing things	101	4.19	.79	120	3.69	.81

Exploration and exploitation	Source	Sum of squares	Gr. freedom	Variance	F	
Bases success on the ability for explore new ideas	Inter-groups	9.608	1	9.608	12.086	.001
	Intra-groups	174.093	219	.795		
	Total	183.701	220			
Looks for new ideas thinking "outside the box"	Inter-groups	10.539	1	10.539	11.124	.001
	Intra-groups	207.479	219	.947		
	Total	218.018	220			
Looks for new ways for obtaining results	Inter-groups	8.186	1	8.186	9.978	.002
	Intra-groups	179.656	219	.820		
	Total	187.842	220			
Commits to improve work quality	Inter-groups	11.392	1	11.392	12.596	.000
	Intra-groups	198.065	219	.904		
	Total	209.457	220			
Continuously improves the reliability of its work	Inter-groups	13.173	1	13.173	20.175	.000
	Intra-groups	142.990	219	.653		
	Total	156.163	220			
Refine the content for improvement.	Inter-groups	8.731	1	8.731	11.504	.001
	Intra-groups	166.210	219	.759		
	Total	174.941	220			
To improve the way of doing things	Inter-groups	13.517	1	13.517	20.698	.000
	Intra-groups	143.017	219	.653		
	Total	156.534	220			

Processes outcomes: this second variable is linked to a top management team process, trying to reflect Behavioral integration of students' teams.

Managers as well as academics are worried about what explains the team work efficacy and efficiency. In that sense, Hambrick (1994) point out that top management teams can differ in their composition, structure, incentives, processes, as well as in the role of the leader and those are the key determinant of the team performance. In our study some of these elements were homogenous.

In that sense, our control and project teams where similar in terms of composition, structure and incentives. However processes were clearly heterogeneous.
We use Behavioral Integration as a construct that shows team processes performance. It differs from others constructs as social integration or cohesiveness. It differs from social integration because this one accounts only for an affective dimension of behavior. Social integration is defined by the grade in which an individual feels psychologically joint to others members of a group (Hambrick, 1994), as attraction to other members, satisfaction, or social interaction (Finkelstein and Hambrick, 1996). It is also different from cohesiveness. Cohesion is also an affective construct that is defined as the extent to which upper echelons executives like one another and stick up for each other (Miller, Burke, & Glick,1998). So, as with social integration, it may covariate with behavioral integration but doesn't reflect the multi-construct of behavioral integration.

Others constructs as comprehensiveness of strategic decision-making processes may be related to behavioral integration (Miller et al, 1998). Comprehensiveness is defined as the extent in which a team uses and extensive decision process when dealing with threats and problems on the short run and is looking for the level of information and investigator activity that is done (Miller et al. 1998).

A good way of understanding behavioral integration is to compare it with others possible out comes of a teams. In that sense, we can affirm that a low level of behavioral integration has been related as a fragmented team as well as a groupthink TMT (Hambrick, 1994, 1995, 1997). So, behavioral integration is argued as capturing the level of wholeness and unity of effort in team (Hambrick, 1995).

Behavioral integration was assessed using nine-items each of them with a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree) that was developed and validated by Simsek and colleagues (2005). Specifically, this measure was found to have content, construct, and convergent validity, and was designed to capture *collaborative behavior, information exchange*, and *joint decision-making*; the three interrelated and mutually reinforcing processes associated with Hambrick's construct.

The means and standard deviation for each of the two groups appear on Table 8. In all cases the project's teams achieve higher levels of behavioral integration that the control group's teams. Moreover, all differences are statistically significant at p<.01 with the exception of one item of collaborative behavior.

Table 8. Behavioral integration: *collaborative behavior*, *information exchange*, and *joint decision-making*

	Project group			Control group		
Joint Decision Making	N	Mean	σ	N	Mean	σ
Let each other know when their actions affect another team member's work	101	3.98	.80	120	3.67	.87
Have a clear understanding of the job problems and needs of other team members	101	3.94	.85	120	3.44	.69
Discuss their expectation of each other	101	3.66	.95	120	3.36	1.02
Collaborative behavior	N	Mean	σ	N	Mean	σ
Volunteer to help some team members, who are busy, to manage their workload	101	3,89	1.02	120	3.58	1.07
Are flexible about switching responsibilities to make things easier for each other	101	4.01	.93	120	3.71	.95
Are willing to help each other to complete jobs and meet deadlines	101	4.15	.93	120	4.15	.90
Information exchange	N	Mean	σ	N	Mean	σ
Are effective in developing high quality ideas	101	4.02	.66	120	3.75	.70
Are effective in developing high quality solutions	101	3.93	.71	120	3.68	.72
Are effective in making decisions that require high levels of creativity and innovativeness	101	3.76	.93	120	3.52	.89

Joint Decision Making	Source	Sum of squares	G. of freedom	Variance	F	
Let each other know when their actions affect another team member's work	Inter-groups	5.009	1	5.009	7.107	.008
	Intra-groups	154.363	219	.705		
	Total	159.372	220			
Have a clear understanding of the job problems and needs of other team members	Inter-groups	13.652	1	13.652	22.781	.000
	Intra-groups	131.235	219	.599		
	Total	144.887	220			
Discuss their expectation of each other	Inter-groups	5.103	1	5.103	5.170	.024
	Intra-groups	216.146	219	.987		
	Total	221.249	220			
Collaborative behavior	Source	Sum of squares	G. of freedom	Variance	F	
Volunteer to help some team members, who are busy, to manage their workload	Inter-groups	5.479	1	5.479	4.936	.027
	Intra-groups	243.127	219	1.110		
	Total	248.606	220			
Are flexible about switching responsibilities to make things easier for each other	Inter-groups	4.987	1	4.987	5.579	.019
	Intra-groups	195.782	219	.894		
	Total	200.769	220			
Are willing to help each other to complete jobs and meet deadlines	Inter-groups	.000	1	.000	.000	.990
	Intra-groups	184.072	219	.841		
	Total	184.072	220			
Information exchange	Source	Sum of squares	G. of freedom	Variance	F	
Are effective in developing high quality ideas	Inter-groups	3.992	1	3.992	8.533	.004
	Intra-groups	102.460	219	.468		
	Total	106.452	220			
Are effective in developing high quality solutions	Inter-groups	3.365	1	3.365	6.540	.011
	Intra-groups	112.662	219	.514		

	Total	116.026	220			
Are effective in making decisions that require high levels of creativity and innovativeness	Inter-groups	3.099	1	3.099	3.693	.056
	Intra-groups	183.790	219	.839		
	Total	186.888	220			

CONCLUSIONS

Our new legal context, mainly Bolognia declaration as well as our Spanish legal reform, demands new learning perspectives. Those learning perspectives must be focused on obtaining professional competences. With this aim, we design a development project that focuses on real work context.

Our learning project is focused on specific and explicit competences that are worked along 9 months by teams. Those teams interact with managers and their firms and with lectures. While the content of the project is similar to other projects the learning process differs in clear ways. The main focus of this paper is about understanding learning as a process and not as an outcome mainly in a complex competence as it is the case of oral communication. In order to achieve these, the project is divided in steps and each step is defined by the level of competences to be achieved as well as by the feedback that is expected in the process. A benchmarking approach is used in some of the steps. We explain in depth, how we work, achieve and measure the oral communication competence which is the aim of these paper and one of the competences to be achieved through the learning project.

We validate the usefulness of our learning approach by comparing some outcomes between our learning project students and another control group. From management we borrow the idea that learning behavior and behavioral integration are two key outcomes linked to firm's performance. In this sense, managers are called for using knowledge with an explorative orientation as well as with an exploitative one. Moreover, both ways of using knowledge as well as their balance are linked in management research with firm's performance. The second outcome, is a team process variable, named behavioral integration and it is linked by academics to the performance of management teams and also, to their learning behavior.

Our study demonstrates that students using learning projects are better that control group students in both measurement of competences. The students linked to a learning project obtained higher levels of a learning behavior than the students of the control group. Moreover they were able to obtain more explorative results as well as more exploitative ones. These learning project teams allow improving their team competences because one of the main team processes, the behavioral integration, was higher in the project group.

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Linkage of Learning by Developing and Virtual Learning

Case: Network Design Specialisation Studies

Jyri Rajamäki, *Laurea University of Applied Sciences*
and *Aki Anttila*, *Mamentor Oy*

Abstract

Specialisation studies are an efficient and flexible way of completing and updating professional knowledge, since the multi form way of learning also suits the timetables of those who work simultaneously. In this constructive study, a new adult education innovation 'Network Design Specialisation Studies' is executed and evaluated. The theoretical background consists on Learning by Developing (LbD), virtual learning and virtual empowerment, and adult learning. Laurea University of Applied Sciences' strategy is to integrate its three statutory tasks; education, research and development, and regional development by utilizing its LbD model. Laurea's Network Design Specialisation Studies splice virtual learning and LbD. Virtual learning includes virtual lessons, exercises and examinations, but its main part is virtual laboratory with a virtual laboratory engineer. Laurea's new virtual learning environment has a remarkable role of developing the competences of each individual student, but the LbD concept steers the entireness of specialisation studies. This study shows that LbD and virtual learning support each other. Utilizing Web 2.0 technologies in the future, Laurea's innovative learning environments could be a part of global expert communities leading to the materialisation of the virtual empowerment, which will influence the development of the future society during the next decade.

Introduction

Specialisation studies are a type of adult education products offered by universities of applied sciences. Specialisation studies are an efficient and flexible way of completing and updating professional knowledge, since the multi form way of learning also suits the timetables of those who work simultaneously. The extent of the specialisation studies is usually 30 credits and duration of one year. Principles of adult studies are followed, implying learner directed focus with each student provided with an individual study scheme. Specialisation studies are meant for persons who have a bachelor's degree or a corresponding institute level qualification, together with working life experience.

Laurea University of Applied Sciences operates in the Helsinki metropolitan area, one of the most competitive regions in the world. Laurea's strategic choice is to implement, develop and use Learning by Developing (LbD) as an operational model in order to contribute to the growth of the region around Helsinki, as well as to provide employability benefits to its 8000 students. According to the Finnish legislation, universities of applied sciences have three tasks to fulfil; (1) education, (2) research and development, and (3) regional development. By utilizing LbD model, Laurea can integrate these three statutory tasks (Pedagogical strategy 2007).

Laurea's innovative learning environment facilitates competence development for learners, organisations, regions and partners. The learning environment is a physical, emotional and virtual space that embodies the culture, spirit, time, community and practices of the ongoing development work. The aim of the learning environment is to generate and develop high-quality competence and to interact with the operating environment. With regard to Network

Design Specialisation Studies, Laurea's most important learning environment is the Data Communications Laboratory, which is a development environment meant for students, personnel and partners. The environment offers the possibility to do networking exercises, real life research and development projects and project based theses - working either alone or in groups. Laboratory's fields of expertise are e.g. Wireless Local Area Networks (WLAN), indoor positioning systems, innovative use of existing data communications technologies and implementing of secure remote access technologies.

Research Methods

The subject of this study is a new innovation; the creation of the Network Design Specialisation Studies. And so, it is obvious to use the constructive research approach, pictured in Fig. 1. In this study, the following sub-concepts of constructive research are applied; (1) execution of innovation, and (2) evaluation of innovation. Within the firs sub-concept, the main goal is the construction of the Network Design Specialisation Studies based on the demand from the field, Laureas strategy and relevant theoretical background. The second sub-concept tries to answer the research questions: (1) How the Network Specialisation Studies fulfils Laurea's pedagogical strategy? (2) What are the lessons to be learnt from the Network Specialisation Studies when executing new adult education products for Laurea?
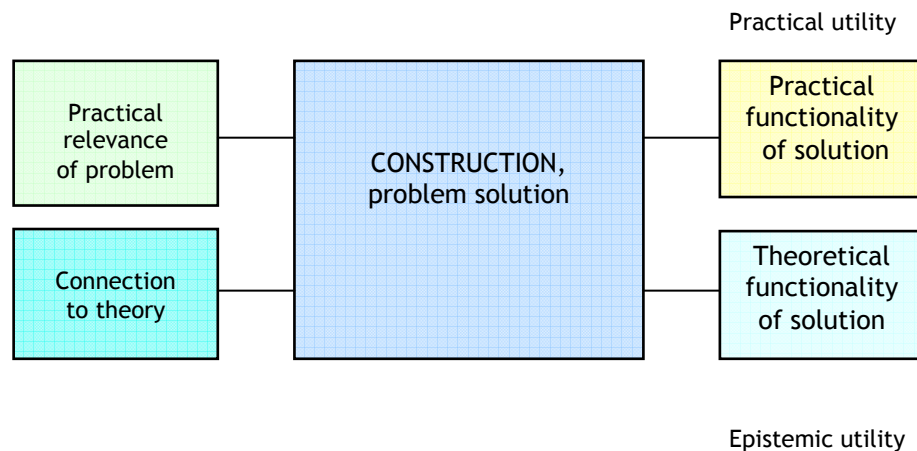

Fig. 1   Constructive research approach

Theoretical background

A. The Model of Learning by Developing (LbD)

Learning by Developing (LbD) is a pedagogical and communal approach in which learning is linked to applied research and development projects and culture. It means learning expertise that arises from social interaction, knowledge and competence sharing, researching and problem solving of collective objects. The model emphasizes on cooperation and creating a 'learning and developing' culture and makes it possible to include and use various scientific perspectives and methods of learning, researching and developing in operation and action. The model represents a management and work philosophy and culture based on the production of shared competence and creativity. In Laurea's current developing culture there are genuine research- and development tasks; there are no ready-made solutions. The learning process starts by identifying the initial problem or strategic research object, analyzing and describing it, and selecting appropriate work methods. The model is not applicable for solving problems set in advance by someone else. Neither does it support the commissioned project principle, because the

starting points are determined by the cooperating participants of the value network, often together with professional developers from research and development organizations. The objective of the work is usually not possible to define clearly in advance, but is specified throughout the development process. The process requires critical thought strategies and skills for justifying solutions and evaluating evidence. Work consists of a continuous problem-solving process, focussing on research, development and generating new competence. The end result is a creation, a new operating method, a model, a service or a product. (Pirinen & Fränti 2007.)

LbD is an innovative operating model which requires that students undertake projects based on in the world of work aiming to produce new practices, the progress of which requires collaboration between teachers, students and workplace experts. LbD may be described as a learning vehicle for the development of two sets of competences; (1) generic such as work/life knowledge and skills, and (2) subject specific competences. LbD also contributes to regional development through the student interaction on projects and especially through Laurea playing a strong role in creating international links. Much effort is expended in ensuring local, regional and international ties. The LbD model at Laurea is not yet completed but in a progressive stage. (Vyakarnam, Illes, Kolmos & Madritsch 2008.)

B. Virtual Learning and Virtual Empowerment

The development of the information society and the practices of its learning infrastructure are function of the innovative implementation of the information and communication technology. Electronic learning, e-learning or eLearning is not semantically an established concept, but a general term used to refer to computer-enhanced learning. Other terms used include web-based learning, online learning and online teaching. (Mänty & Nissinen 2005.) In cases where mobile technologies are used, the term M-learning has become more common. In many respects, eLearning is commonly associated with the field of advanced learning technology (ALT), which deals with both the technologies and associated methodologies in learning using networked and/or multimedia technologies. Most eLearning situations use combinations of the above techniques. E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face-to-face teaching, in which case the term Blended learning is commonly used. Especially in higher education, the increasing tendency is to create a Virtual Learning Environment (VLE) in which all aspects of a course are handled through a consistent user interface standard throughout the institution. However, it can always be noticed that the exploitation of the media and information technology in learning has two aims; (1) the added value for learning assisted by multimedia and/or virtual reality, and (2) the time saving proffered by network technologies (Oesch 2005). In this study, virtual learning means that simultaneously multimedia and virtual reality are used for helping learning, and new network technologies are utilized time saving reasons.

The 'virtual empowerment' is amplifying the social network based human communities and their human capabilities. It is increasing the human competences by using the digital technological environment and the result is a new sociotechnological action space – knowledge space. The main factors of virtual empowerment are the development of personal learning to group based reflective learning methods extending even on open global communities, the extension of the one-way communication to interactive, world wide community based on added value communication and the exponential growth of the media technology influencing on these previous factors. (Oesch 2007.)

C. Adult Learning

Definitions of adult learning vary. In the communication from the European Commission it is defined as all forms of learning undertaken by adults after having left initial education and training, however far this process may have gone e.g. including tertiary education (Adult learning 2006). Adult learning often happens in the workplace, through extension or continuing education courses at secondary schools, colleges or universities. Other common learning places are folk high schools and community colleges as well as lifelong learning centers.

Irrespective of the learning place, educating adults differs from educating children and young people in several ways. It has also been referred to as andragogy to distinguish it from pedagogy. One of the most important differences is that adults have accumulated knowledge and experience that can add or hinder the learning experience. Adults frequently apply their knowledge in a practical way to learn effectively. In general, they must have a reasonable expectation that the knowledge recently gained will help them further their goals.

Lifelong learning is a philosophy that has taken root in a whole host of different organisations. It is attitudinal; one can and should be open to new ideas, decisions, skills or behaviours. It sees citizens provided with learning opportunities at all ages and in numerous contexts; at work, at home and through leisure activities. The European Comission's action plan on adult learning considers the following five key challenges in adult learning (Action Plan on Adult learning 2007):

1. *Lift the barriers to participation.* Adult participation in education and training remains limited and imbalanced, with those with the lowest levels of initial education, older people, people in rural areas, and the disabled being the least likely to participate. Member states of the European Union should introduce high-quality guidance and information systems, as well as targeted financial incentives for individuals and support for local partnerships.
2. *Ensure the quality of adult learning.* Poor quality provision leads to poor quality learning outcomes. To ensure the quality of adult learning special attention has to be paid to the various dimensions of quality with a special attention to staff development, quality assurance mechanisms and methods and materials.
3. Introduce systems that *recognise and validate learning outcomes.* These are essential to motivate adults to participate in lifelong learning. European countries are invited to link these systems to their national qualification frameworks, within the context of the European qualification framework.
4. *Invest in the ageing population and migrants.* Member states of the European Union should invest in older people and migrants, through education and training that matches the needs of the learner, while raising awareness about the important role of migrants and older people in European society and economy. In particular, immigration can be seen as a partial counter-balance to an ageing population and to skills shortages in certain sectors, and adult learning has a key role to play to support the integration of migrants in society and the economy.
5. *Be in a position to measure progress.* Reliable data, with appropriate indicators and benchmarks, are essential for evidence-based policy-making. Unfortunately, data availability in adult learning is limited, not least because providers often operate outside the public sector. The quality and comparability of data must continue to be improved. More analysis and monitoring is needed of the benefits of adult learning and the barriers to its uptake. If relevant data remains unavailable, European countries should consider commissioning new data collection or surveys.

Implementation of Network Design Specialisation Studies

A. Implementation process

Laurea University of Applied Sciences got that kind of feedback from the field that in the near future there will be a massive lack of professionals who are able to design and maintain wide-flung enterprise and operator Internet Protocol (IP) networks. Therefore, Laurea started to plan its network design specialisation studies in the spring of 2006, together with a master programme for data systems. The master programme started in January 2007 and the specialisation studies in September 2007.

B. Study modules

Laurea's Network Design Specialization Studies splice virtual learning and Learning by Developing. Fig. 2 pictures the study modules of the Specialization Studies. Virtual learning modules include virtual lessons, exercises and examinations, but their main part is a virtual laboratory with a virtual laboratory engineer. The new virtual learning environment of Laurea's Data Communications Laboratory has a remarkable role of creating new know-how and developing the competences of each individual student, but Learning by Developing concept steers the entireness of specialization studies.
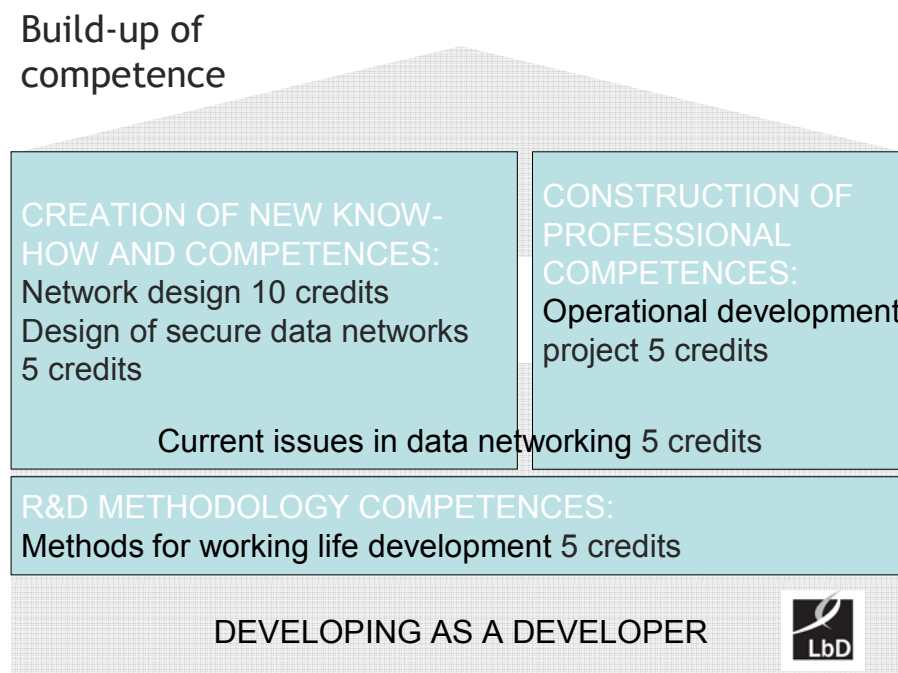

Build-up of competence

CREATION OF NEW KNOW-HOW AND COMPETENCES:	CONSTRUCTION OF PROFESSIONAL COMPETENCES:
Network design 10 credits Design of secure data networks 5 credits	Operational development project 5 credits
Current issues in data networking 5 credits	

R&D METHODOLOGY COMPETENCES:
Methods for working life development 5 credits

DEVELOPING AS A DEVELOPER

Fig. 2   Study modules (Rajamäki 2007)

C. Virtual Learning Environment

The new virtual learning environment 'MentorAid', offered by Mamentor Oy, is a platform for future online learning. It is based on four different modules that are combined in a unique way: (1) MentorHR collects, measures, follows and reports organization's knowledge. (2) MentorNET controls and executes projects that increase organization's knowledge in a networked environ-

ment. (3) MentorLABS models Information and Communication Technology (ICT) systems in a virtualised environment. (4) MentorCAST empowers organization's own knowledge content creation in a networked environment.

MentorHR is the module that is built upon the common idea of knowledge levels. There are various different presentations of these, e.g. the one from Bloom, Hastings and Madaus (1956) and these have been collected and synthesized into a single model. The levels of knowledge that MentorAid currently uses are: (1) Knowing, which means that a person has heard about the subject. (2) Remembering, which means that a person remembers some parts of the subject. (3) Understanding, which means that a person understands, how the subject affects real life. (4) Ability to apply, which means that a person is able to apply his/hers knowledge in a real-life situation. (5) Ability to evaluate, which means that a person can evaluate different approaches to the same subject. (6) Ability to build new, which means that a person knows so much about the subject that he/she is able to build new things based on this knowledge. These levels of knowledge have been taken into usage throughout the MentorAid learning platform. The idea is that each person has individual account and each time a person does something inside the platform, he/she will gather knowledge points. For example, there might be an online lesson that explains the basics of international marketing and thus this person will be assumed to have levels 1-2 after this lesson on this subject. Levels of knowledge are divided into two different sections; gathered and shown knowledge. Gathered knowledge comes from taking online lessons, doing lab exercises and inputting e.g. information about relevant industry certificates. Shown knowledge comes from taking tests inside MentorAid.

MentorAid has highly sophisticated testing system within MentorHR. The idea is to enable online testing either via questions of various forms, e.g. multi-choice, multiple-answer, pictorial and Java-application. Once these questionnaries have been evaluated, either automatically or manually, the person taking the test is given indication about the knowledge in each of the areas of the test. All the information that is gathered via these two methods can be represented in various forms. Since MentorAid is powered by a database, there is no limitation on the amount and form of the reports. These can be further used for e.g. final evaluations of the students.

MentorNET is the module that is used to stream online lessons. The key functions of this module contain; (1) ability to take SCORM-formatted lessons as the input, (2) ability to stream simultaneously to large audience, (3) ability to track the usage of the online material, (4) ability to report the usage of the online material, and (5) seamless integration to the MentorHR module. The sole idea of MentorNET is based on the evolution of online learning. Originally eLearning has been done with static written material in a server that also contains possibilities to e.g. discuss about the material. Although this can be effective for learners that have the ability to understand written material, most of the people prefer somebody to explain the subject matter thoroughly. Therefore the material that is created for MentorNET can include audio and also video material, if needed. It seems that video should be used only in occasions, where something is actually illustrated (such as, how to cook something) and not with a so called "talking head". At least this has been the feedback received from the users of MentorAid.

The material that is fed to MentorNET contains information about the subject and also about the keywords of the subject. Whenever the material is listened or watched, the information of this is put into the database for this person and therefore afterwards it can be seen who should have abilities of relevant subjects, because at least, they have got training for them!

MentorLABS is the module that distinguishes MentorAid from all the other offerings on the market. MentorLABS consists of fully virtualised, customisable ICT laboratory environment that can be used for multiple purposes including learning of software features and technology concepts, testing people's knowledge about different subjects and documentation. For educational purpose the first two purposes are the most important ones.

MentorLABS serves as a virtual laboratory engineer. It contains a graphical user interface that can be used to built the laboratory that is needed for different purposes. As an example, this laboratory can be e.g. one Linux server or it can be a large operator network. Each student has own working space where he/she can build different topologies and save/load/delete/modify configurations of different equipment. Everything is running on separate resource server(s) and each MentorAid installation may contain multiple resource servers. Each user of MentorLABS will reserve suitable time to do whatever is needed on the virtual laboratory and the system takes care that the resources are available at each time.

At the moment, MentorLABS is able to run virtualised all relevant Personal Computer (PC) operating systems (anything on top of x86 architecture), anything that can be used in a regular PC, Cisco IOS, Juniper Junos and Cisco PIX. New features are added constantly to the virtual laboratory and this will extend its usage possibilities for teaching and learning new ICT technologies.

MentorCAST is the module that can be used to create own content. It is basically an environment to create standardised learning content that can be easily put to usage via MentorNET. MentorCAST uses best available components like Camtasia recording tool and Reload SCORM content packaging system.

Experimental Evaluation and Conclusions

When looking the added value that the new innovation 'Network Design Spesialisation Studies' brings for education, MentorAid brings the latest knowledge from the field available for students and teachers. The aim of the learning environment is to generate and develop high-quality competence and to interact with the operating environment. This concept produces value network meeting to participants; working life experts meet students, participants and teachers. When full-professionals from different organisations are studying together in an innovative learning environment and are currying out R&D projects, a great innovation potential is created and huge results can be waited.

With virtual learning, resource allocation could be made eminently effectively. Students as well as personnel save time, and with the use of the virtual laboratory even hardware costs can be reduced. It is a well-known fact that laboratory exercises are essential when applying new technologies. Earlier, arranging of these exercises has been very time consuming, but with the virtual laboratory engineer, arrangements can be made automatically. Also, keeping up of the laboratory system is much quicker and easier, because updating of the virtual laboratory needs only new versions of the software of communications devices but no installation of the physical devices.

From universities' point of view, specialisation studies could play as a product development process for a part of master programme. Also, partly shared implementations with specialisation studies and master programmes create synergy; e.g. they easily give students more study module options and at the same time save resources.

It is obvious that virtual learning suits outstandingly for adult education, because of versatile learning and time saving. With regard to LbD, cost of time is a major opportunity. When students learn themselves, it takes much longer than providing them with knowledge inputs and short cuts. Identifying the optimum ratio of direct input and independent student initiatives could be the next step of integrating LbD into eLearning and virtual learning.

LbD and virtual learning support each other. If virtual learning and knowledge creation expands to the value adding Web 2.0 technologies in global expert communities, the combination of digital empowerment and explorative and investigative learning could lead to the materialisa-

tion of the virtual empowerment, which will influence the development of the future society during the next decade.

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THE EDUCATIONAL INNOVATION PROJECT IN THE ECONOMICS DEGREE (UNIVERSITY OF VALENCIA): FIRST STEPS TOWARDS THE EUROPEAN HIGHER EDUCATION AREA.

Olga Mª Blasco Blasco (*), Vicente Coll Serrano (*) and

Elvira Mª Montañés Brunet (**)

e-mails: Olga.Blasco@uv.es, Vicente.Coll@uv.es, Elvira.Montanes@uv.es

(*) Department of Applied Economy. Faculty of Economy.

(**) Sócrates/Erasmus Coordinator Tourism Management Degree. Faculty of Economy,

University of Valencia (Spain).

ABSTRACT

The 25th of May 1998, the Ministries of Education of France, Germany, Italy and the United Kingdom signed a declaration welcoming the creation of a new era in higher education, the so called European Higher Education Area (EHEA). Later on, the 19th of June 1999, the Bologna Declaration was signed which was the starting point towards the European Convergence in Higher Education matters. This convergence is based on the principles of quality, mobility, diversity and competitiveness and is oriented towards the fulfilment of two main objectives: increasing the employability rate in the EU and making the European System of Higher Education attractive both for academics and students all over the world.

The Bologna process involves at the moment 45 countries which are trying to harmonise the structure of their studies so that real mobility among lecturers and students within the EU be a fact in the future. It also aims not only to recognise the knowledge students get during their studies in an objective, measurable way –by means of the so called European Credit Transfer System (ECTs), but also to value the skills students develop in higher education.

In Spain the Bologna process is being followed by many universities and institutions, like the University of Valencia, a five-hundred year old public institution. In the year 2002 the University of Valencia set up a body, the European Convergence Office, to foster, guide and promote the initiatives towards such a convergence in different faculties, specially the project called "Educational Innovation Project" (*PIE*, in Spanish) which has been implemented in various degrees so far, such as the joint degree Business-Law, English Philology, or Biologics, just to mention a few.

During the academic year 2005-06, the Faculty of Economics decided to implement an Educational Innovation Project at the Economics Degree. The Economics Degree was selected mainly for two reasons; on the one hand, the Ministry of Education wanted to pilot the project in degrees with a high demand and large groups of student; the second reason being that a group of teachers were willing to take part into this challenging project.

The Educational Innovation Project has as its main objectives to foster students' academic and personal development by encouraging autonomous learning and using active methodologies; these methodologies require more participation on the students' side and more interaction between all the participants in the teaching/learning process -namely teachers, students, coordinators- which means an important change of roles for Spanish standards in large classes. It also promotes the use of ITCs and the design of evaluation systems that are both reliable and accurate to measure the objectives attained by students, expressed in terms of skills and competences.

The aim of this paper is to explain how the implementation of the Educational Innovation Project in the Economics Degree worked out. It also analyses the strengths and weaknesses of such an approach and outlines the areas for future improvement. In short, its objective is to describe the new learning environment created for this pioneering group of Economics students.
Keywords: Areas for improvement; Economics Degree; Educational Innovation Project; European Higher Education Area; Strengths, Weaknesses.

1. INTRODUCTION.

Although the origins of the European Union were mainly economic, the convergence towards a common area has developed in different fields, being education included among them. At the end of the nineties, some steps were taken towards the creation of a "European Higher Education Area" (EHEA) with the signature of the Sorbonne and Bologna Declaration. The Bologna Declaration sets the bases for the construction and development of a European Higher Education Area that allows the recognition of the qualifications in all the signatory countries, ensures excellent academic training for students and offers their integration on a labour market without borders; in short, a Europe of Knowledge that, keeping cultural diversity as its principal asset, facilitates and promotes the mobility of students, academics and professionals.

In order to follow the guidelines of the Bologna Process and adapt the degrees in the University of Valencia to the new scenario, a new project was promoted, the so-called Educational Innovation Project, (*PIE*, in its Spanish acronym) to be applied to different degrees. In the current context, that of transformation of the educational paradigms, educational innovation becomes a demand of the processes of change and construction of higher education. For the University of Valencia, the initiatives of educational innovation constitute a determined and strategic stake oriented so much to promote the quality of the teaching and learning processes as to experience with new methodologies.

In this sense, the University of Valencia has been developing processes of innovation in teaching and learning methodologies since the year 2003 with the first call for Educational Innovation Projects. Thus, during the academic year 2006-07, an Education Innovation Project was implemented in the Economics Degree. This *PIE* has as its main objectives to foster students' academic and personal development by encouraging autonomous learning and using active methodologies; these methodologies require more participation on the students' side and more interaction between all the participants in the teaching and learning process -namely teachers, students, coordinators- which means an important change of roles for Spanish standards in large classes. It also promotes the use of ITCs and the design of evaluation systems that are both reliable and accurate to measure the objectives attained by students, expressed in terms of skills and competences.

The aim of this paper is to explain how the implementation of the Educational Innovation Project in the Economics Degree worked out. It shows the academic results obtained by students, analyses the strengths and weaknesses and outlines the areas for future improvement detected at the end of the first year.

The article is structured as follows. It starts with the origin and historical development of the European Higher Education Area. Then we discuss some aspects about the implementation of the Educational Innovation Project in the Economics Degree. In the next section we show the academic results obtained, the strengths and weaknesses detected after the first year and the areas for improvement. We conclude with some final remarks.

2. ORIGIN AND HISTORICAL DEVELOPMENT OF THE EUROPEAN HIGHER EDUCATION AREA (EHEA).

On May 25 1998, the Education Secretaries of four European countries (France, Germany, Italy and the United Kingdom), signed a declaration –the so called Sorbonne Declaration- urging to the development of what is known as the "European Higher Education Area". This was the first step of a political process of change in the long term of higher education in Europe, which continued with further meetings in Bologna (1999) –with the signing of the Bologna Declaration-, Prague (2001), Berlin (2003), Bergen (2005) and London (2007). The next meeting will take place in the countries of the Benelux in Leuven/Louvain-la-Neuve (2009).
The Sorbonne Declaration states some basic ideas:

- To establish a common framework for easily comparable degrees, qualifications and cycles within the European Higher Education Area.
- To adopt a system based on two main cycles –undergraduates and graduates- (Bachelor's degree), plus an extra one for post-graduates (Master and Doctoral degree).
- To encourage and promote mobility.
- To facilitate the recognition of qualifications and degrees.

The Bologna Process officially started in 1999 when thirty European states signed the Bologna Declaration on 19 June 1999; apart from the member states of the EU, there were countries from the European Free Trade and countries from Eastern and Central Europe. The Bologna Declaration sets the foundation for the construction of a E European Higher Education Area, organized in accordance with the principles of quality, mobility, diversity and competitiveness, and faced towards the attainment, among others, of two strategic targets: on the one hand, the increase in employment in the EU, and on the other hand, the conversion of the European System Higher Education in a pole of attraction for students and teachers from other parts of the world.

The fundamental objectives stated in the Bologna Declaration are:
- Adoption of an easily readable and comparable system of qualifications, by means of the implantation of a Degree Supplement, between other proposals.
- Adoption of a system based essentially on two main cycles: undergraduate and graduate.
- Establishment of a European Credit Transference System (ECTS).
- Promotion of European co-operation to assure a quality level for the development of comparable criteria and methodologies.
- Promotion of the necessary European dimensions in higher education, with particular emphasis on curriculum development.
- Promotion of mobility by overcoming obstacles to the free movement of students, teachers, researchers and administrative staff belonging to universities and other European higher education institutions.

The Bologna Declaration sets 2010 as the deadline for the creation of the European Higher Education Area, with biennial stages of execution, each of which culminates with the corresponding Ministerial Conference reviewing what has been achieved and sets guidelines for the future. In May 2001, in Prague, more countries joined the Bologna Process. The 33 ministers taking part in the summit adopted the so-called Prague Communiqué, which sets guidelines for the following two years, until the Ministerial Conference in Berlin 2003. The new elements introduced by the ministers were:
- They reaffirmed their commitment to the goals of the Bologna Declaration.

- They valued the active involvement of the European University Association (European University Association, EUA) and the national unions of students in Europe (National Unions of Students in Europe, ESIB).
- They appreciated the constructive assistance of the European Commission.
- They discussed the future process, with regard to the different objectives of the Bologna Declaration.

They gave emphasis, as fundamental elements of the European Higher Education Area to:
- Long-life learning.
- Students' involvement: a learner-centred approach.
- The increase of the attractiveness and competitiveness of the European Higher Education Area to other parts of the world (including the aspect of transnational education).

When the Ministers of Education met again in Berlin in September 2003, seven new countries were accepted into the process. The Berlin Communiqué, apart from revising the developments that had taken place from 2001 to 2003, established three intermediate priorities for the following two years:
- The assurance of quality.
- The two-cycle degree system.
- The recognition of degrees and periods of study.
-

It was also underlined the fact that research is an important of higher education in Europe and the European Higher Education Area and the European Research Area are two pillars of the knowledge based society. Besides it is necessary to go beyond the current approach of two main cycles and the third cycle –doctoral studies- should be included in the Bologna process. This added another line of action: the doctoral studies and the synergy between EHEA and ERA. At the Bergen Ministerial Conference in May 2005, five new countries joined the Bologna process, making up a total of 45 participating countries. The Ministers evaluated the development of the three main points brought up two years earlier in Berlin and raised future challenges and priorities to start the implementation. It was agreed that it was essential to see how to advance in:
- The adoption of guidelines and standards for quality assurance following the requests of the report of the European Association for Quality Assurance in Higher Education (ENQA).
- The adoption of national qualifications frameworks.
- The reformation of curricula towards the three-cycle system of three cycles, with the recognition of joint qualifications, including the doctorate level.
- The creation of opportunities for routes of flexible learning in higher education, including procedures for the recognition of prior learning.
- The stress on the importance of the social dimension of higher education.

Before the challenge posed by the construction of the new European Higher Education, what answer can the University of Valencia -and specifically the Faculty of Economy- offer? In this sense, the University of Valencia has been developing processes of innovation in teaching and learning methodologies.

3. THE EDUCATIONAL INNOVATION PROJECT IN THE ECONOMICS DEGREE: SOME ASPECTS ABOUT ITS IMPLEMENTATION.

To comply with the convergence of the Spanish university system with the European requests, different groups and institutions are impelling the Process of Bologna from various bodies to study, analyze and expose the necessary changes to carry out such a task.

In the University of Valencia, the European Convergence Office is the technical unit to give support, impulse, advice and consultation, so as to help coordination and provide a follow-up of the process of implementation of the European Higher Education Area.

Within this process towards European converge, the Faculty of Economy of the University of Valencia set up a *PIE*, financed with funds of the Ministry of Education and Science for the Economics Degree, during the year 2005-2006, with the objective to pilot *PIEs* in degrees with a high demand; that is to say, degrees where there is high number of first enrolment students per group and the reduction of its size is unfeasible with the current endowment of resources (human and material).

In Spain it is a fact that some degrees, like Economics or Business Administration, present a high demand, with the consequent large number of registered students. For example, in the Economics Degree 300 new students enter every year, together with those who take some subjects again; therefore, the average number of registered pupils per group is often more than 120, which makes it difficult the use of active methodologies and systems of evaluation alternative to taking a final examination.

After some debates in the Faculty, it was agreed that the implementation of the PIE should take place gradually and not to extend it to all first year groups. So the experience started with one group, but it was decided that the remaining groups –six on the whole-, should limit the number of students' registered to the same number as the PIE (80 students), to be able to compare their academic results. This number, no matter how large it seems for European standards, means an important reduction and improvement for our situation; we reduce the number of students per group from 120 to 80.

For the enrolment of students to the PIE group, they could voluntarily join in. The only requisite being that it was their first time enrolment (straight from high school), with no restriction due to marks; as shown in Figure 1, the university-entering examination marks of the PIE students was far from high.

Figure 1. University-entering examination marks.
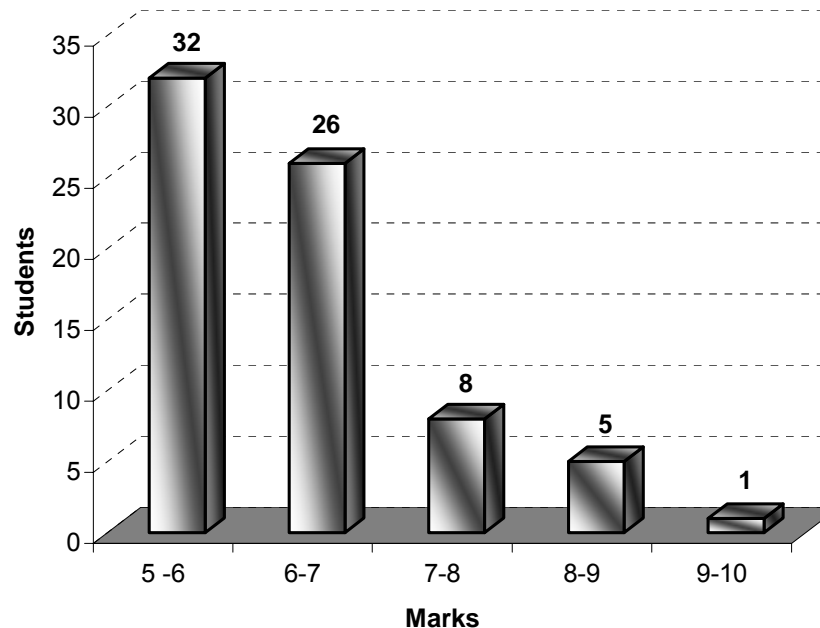
As for the incorporation of teachers in the Project, it was also done on a voluntary basis, for it meant lots of extra work that will be explained later, though a very small number of teachers were forced to undertake it.

Before we move on, we would like to briefly state some features of the traditional teaching and learning situation in higher education in Spain. As far as teaching is concerned, in some degrees with large classes, the type of teaching is mainly front teaching, with the teacher's role as provider of information and setting a final exam for students' evaluation. As for learning, traditional learning methods implied individual learning, with neither cooperation, nor interaction between teacher-student or students themselves and emphasis on the final outcome, the results of learning, not the learning itself.

On the contrary, the PIE's objectives are based on the following guidelines:

✓ Promotion of learners' autonomous work

✓ Attention to generic and subject-specific competences.

✓ Coordination among lecturers.

✓ Personal –and individual- attention to students ("transition tutorials"[8]).

✓ Promotion of ICTs.

This change of paradigm involves a double need: training teachers and coordination. We will briefly comment on each of these two aspects.

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[8] These are individualised tutorials to pave the way for students coming from Secondary Education and entering the new learning environment.

Training.

As we can see in Figure 2, initial training -by means of workshops- was oriented towards three main domains: Educational Innovation, Teaching Guides and Virtual Classroom.

Figure 2. Training workshops.
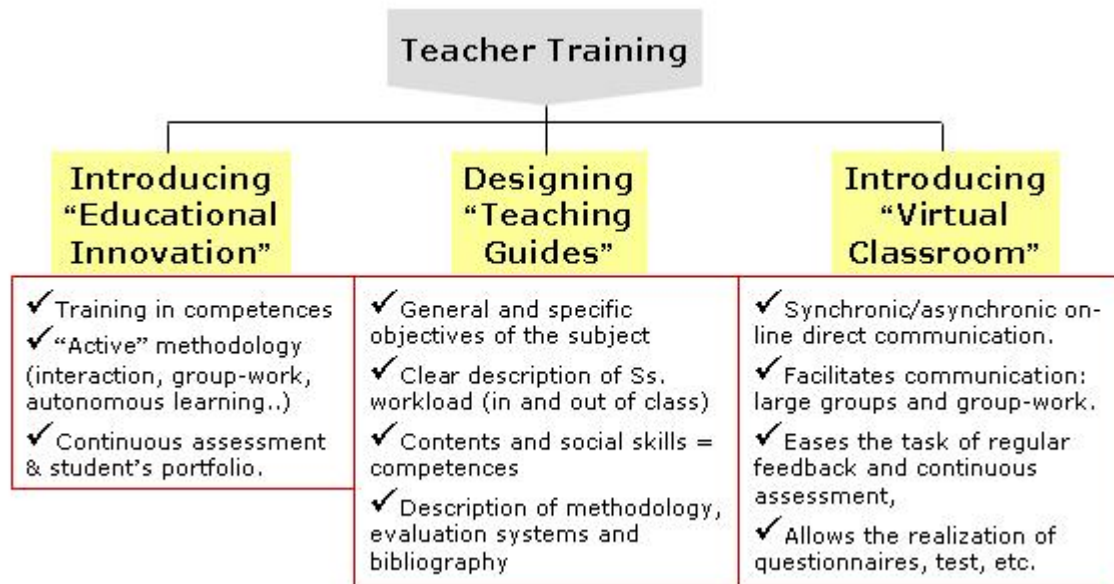
Introducing "Educational Innovation".

This workshop was given to explain and discuss what "Educational Innovation" meant. Among the topics developed, we can outline the introduction to active methodologies (interaction, group-work, autonomous learning…), the training in competences and the value of continuous assessment –as opposed to final examination, and also the creation of a student's portfolio to monitor the student's individual work and improvement.

Designing "Teaching Guides".

The seminar 'Designing "Teaching Guides"' was offered to PIE teachers, because a Teaching Guide has to be designed for each subject, following a complex and structured framework. The sections that every Teaching Guide should cover are:
- ✓ Identification of the subject and the teacher.
- ✓ Introduction of the subject.
- ✓ Workload, including contact and non-contact hours, in accordance with the European Credit Transfer System.
- ✓ General objectives of the subject.
- ✓ Contents, abilities and social skills to be acquired by the students.
- ✓ Approximate timetable (i.e. contact, non-contact sessions, deadlines for presenting papers, tests, etc.)
- ✓ Description of methodology and continuous assessment system used.

Introducing "Virtual Clasroom".

The last workshop, 'Introducing "Virtual Classroom"', had the objective to familiarize users with the University of Valencia's e-learning platform, called "Virtual Classroom". Virtual classroom is a flexible platform which facilitates the use of new technologies in the educational processes; it is easily accessible and user-friendly; it allows to set up on-line activities, to realize questionnaires, evaluations, give feedback; in sum, it offers the whole range of resources any e-learning platform has.

Coordination.

A coordinator was appointed to manage the PIE, Dr. Olga Blasco, whose first task was to set up a calendar of regular meetings of the commission of teachers. The issues discussed in those meetings were:

- ❖ Coordination and supervision of "Teaching Guides".

- ❖ Personal –and individual- attention to students ("transition tutorials").

- ❖ Programming:

  - ▪ Extracurricular activities, such as training workshops for students ("Virtual Classroom", "Databases for Law", "Introducing software 'Mathematica'", "Statistics with Excel", "Statistics and European Union Economy");

  - ▪ Company visits: Lladró Porcelaine and Gandía Wine cellar;

  - ▪ Seminars where politicians, entrepreneurs, managers, judges and other professionals were invited to talk about their working experience;

  - ▪ Cycle "Cinema and Economy": in order to approach the university to its socio-cultural environment and so as to foster ethical values, some films were shown, such as "Darwin's Nightmare".

- ❖ Negotiated chronogram: the chronogram was agreed on by all the members of the PIE –students and teacher- with the aim to prevent overlapping and prevent excessive workload.

- ❖ Follow-up of the development of the PIE: students' progress, students' attendance, new seminars, etc.

4. EVALUATION OF THE RESULTS OF THE FIRST YEAR OF IMPLEMENTATION OF THE PIE.

In this section we are going to tackle two issues. First, the academic results obtained by PIE students during the first year and, second, the strengths, weaknesses and areas for improvement detected related with the implementation of this innovative project.

4.1. Academic results.

In spite of this brief experience, it is possible to do a first general evaluation of the academic results obtained by PIE students. These results derive, on the one hand, from the effort that PIE teachers did with the introduction of this pilot project, going beyond the limitations of traditional classroom management and implementing active methodologies (team work, case studies, problem-solving activities, student-student and teacher-student interaction, individual tutorial work, etc.) and the design of continuous assessment systems (whereas the final mark does not depend upon an only exam) and which are appropriate for this innovative teaching-learning environment.

On the other hand, this innovative environment has meant a dramatic change for students themselves, for autonomous learning has been promoted, as well as building up team-work spirit, and this has required more daily effort on their side. As a consequence, students' attendance and active participation in lessons has increased compared to non-PIE groups.

We shall see below the most relevant academic results from the first year of implementation of PIE in the Economics Degree. So, in Figure 3, there are two columns for each subject given; the first column shows the percentage of students who sat the exams ("*Presentados*") and those who did not sit the exams ("*No Presentados*") over the total number of students enrolled in the PIE. This column is compared to the numbers given in the second column: all first-year students who did not follow PIE. On having compared the percentage of pupils taking exams, it is observed that this percentage is significantly higher in the PIE group (see Figure 3). It is worth commenting on these results for, in non-PIE groups, the percentage of students who sit the exams in always lower than in PIE groups. However, the results in PIE also vary considerably depending on the subjects. For example, the percentage of students who sat the exam in "Statistics I" is 58,33%, whereas in "Introduction to Law", the percentage rose to 90,28%.
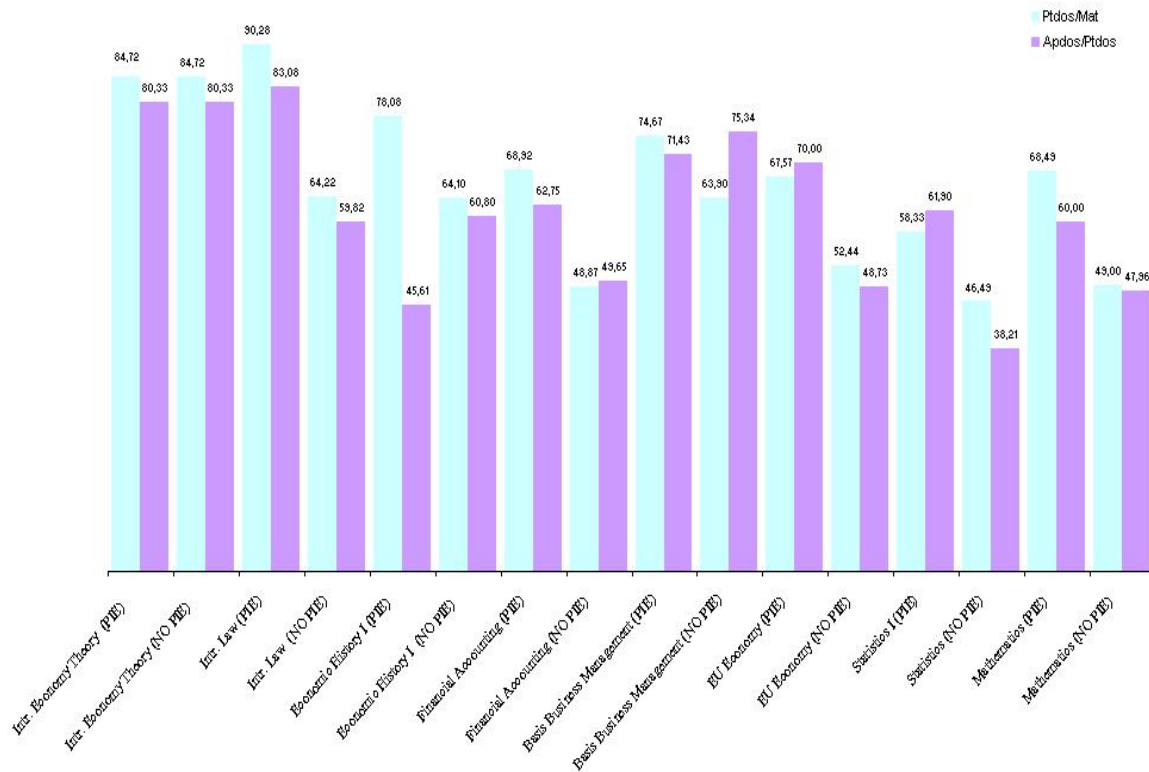
Figure 3. Percentage of students who took the examination, according to subject (2006-07).
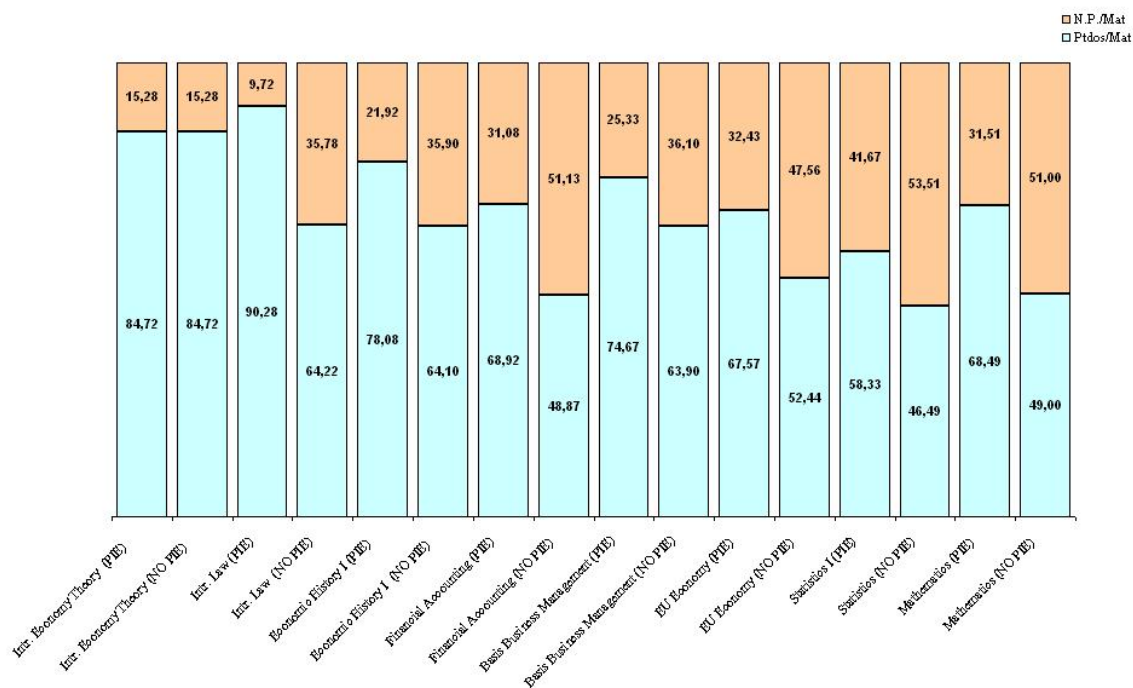
In Figure 4, following the same structure as in the previous one, it can be observed that not only the percentage of students sitting the exams is higher, but also that the percentage of students passing the exams is higher too; except in two subjects:
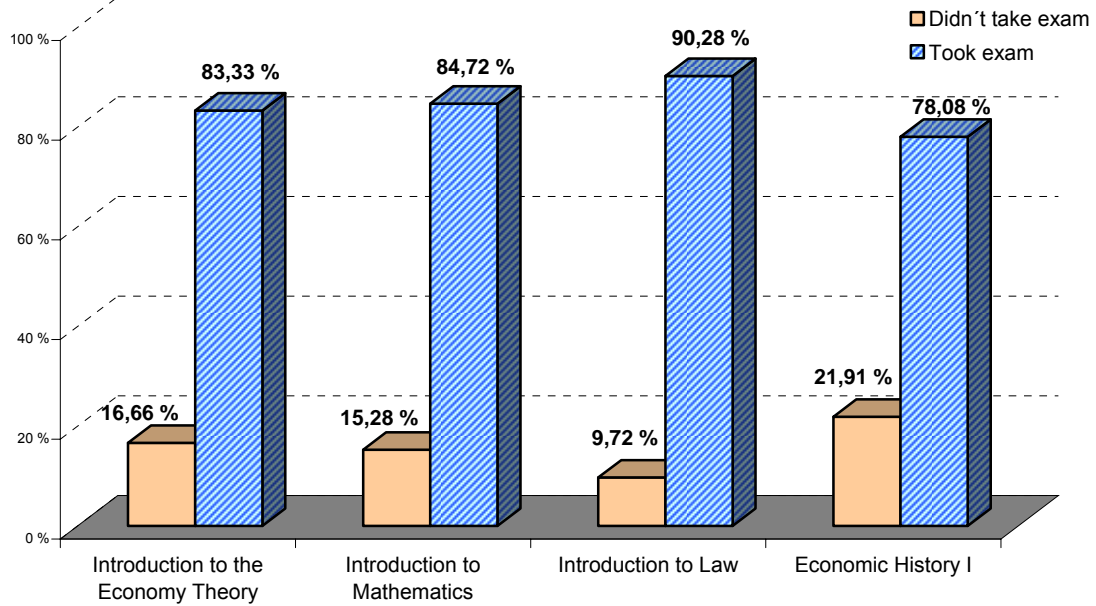
- ➢ "Economic History I": where the percentage of people passing the exam in the non-PIE group was 60,80%, whereas in the PIE group it was 45,61%. The teacher of the PIE group did not apply PIE methodologies for he did not join the project voluntarily and did not do any innovation in class.
- ➢ "Basis of Business Management", where the results for PIE and non-PIE are similar, for in both cases the teacher used PIE methodology and evaluation systems.

Figure 4. Percentage of students who passed, according to subject (2006-07)


Breaking down the results got by PIE students by semester, in Figure 5, it can be seen the low percentage of students who did not take the exams in the first semester. In no case this percentage is above 20%.

Figure 5. Results first semester, first examination session, according to subject (2006-07): percentage of students who took and did not take the exams.

Considering the number of students taking the exam, in Figure 6 it can be seen that the percentage of students who failed is low (between 15 and 20%), with the exception mentioned before of "Economic History I".

Figure 6. Results first semester, first examination session, according to subject (2006-07): percentage of marks obtained.
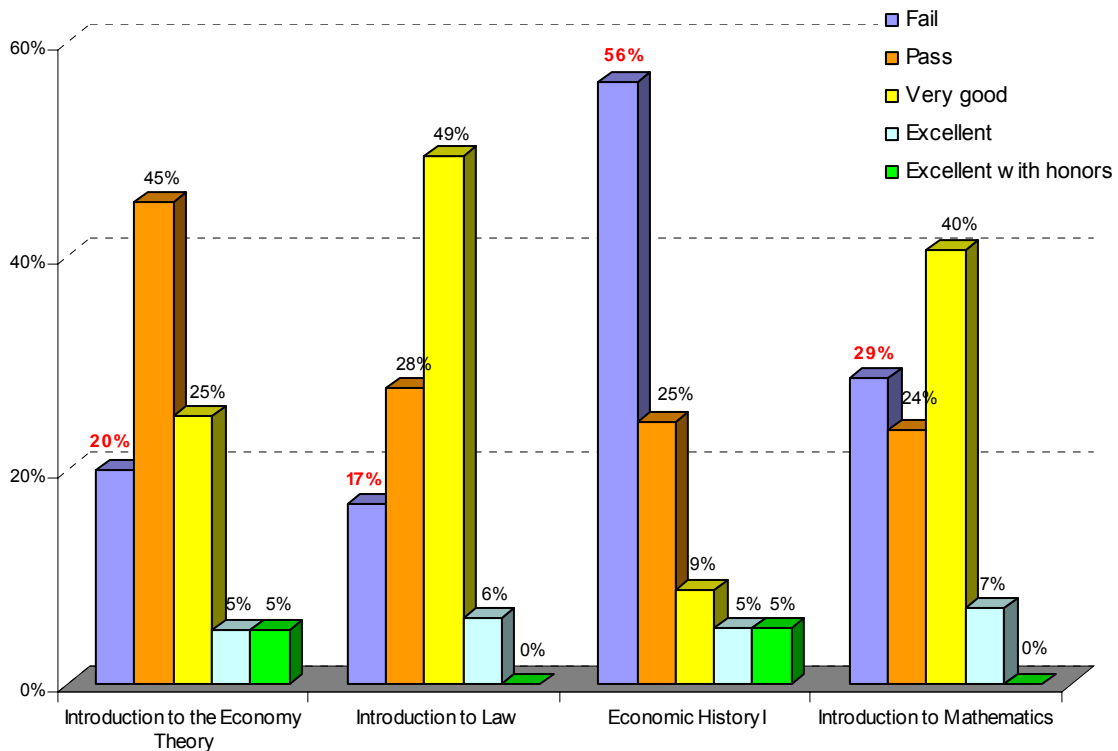
In the second semester, as we can see in Figure 7, the percentage of students who took the exam was below 70% in all the subjects. The higher percentage is in "Basis Business Management" (71,43%). This means an increase of more than 10 points in the percentage of students who did not take the exam, compared to the first semester. Besides, as it can be observed in Figure 8, in the subjects from the second semester, the percentage of people who failed a subject is considerably higher. So while in the first semester the percentage of failures did not go over 20%, in the second semester this percentage is near 30% in "Basis Business Management" and "European Union Economy" and between 35 and 40% in the other subjects. However, these percentages are still higher than in non-PIE groups (see Figure 3).

Figure 7. Results second semester, first examination session, according to subject (2006-7): percentage of students who took and did not take the exams.
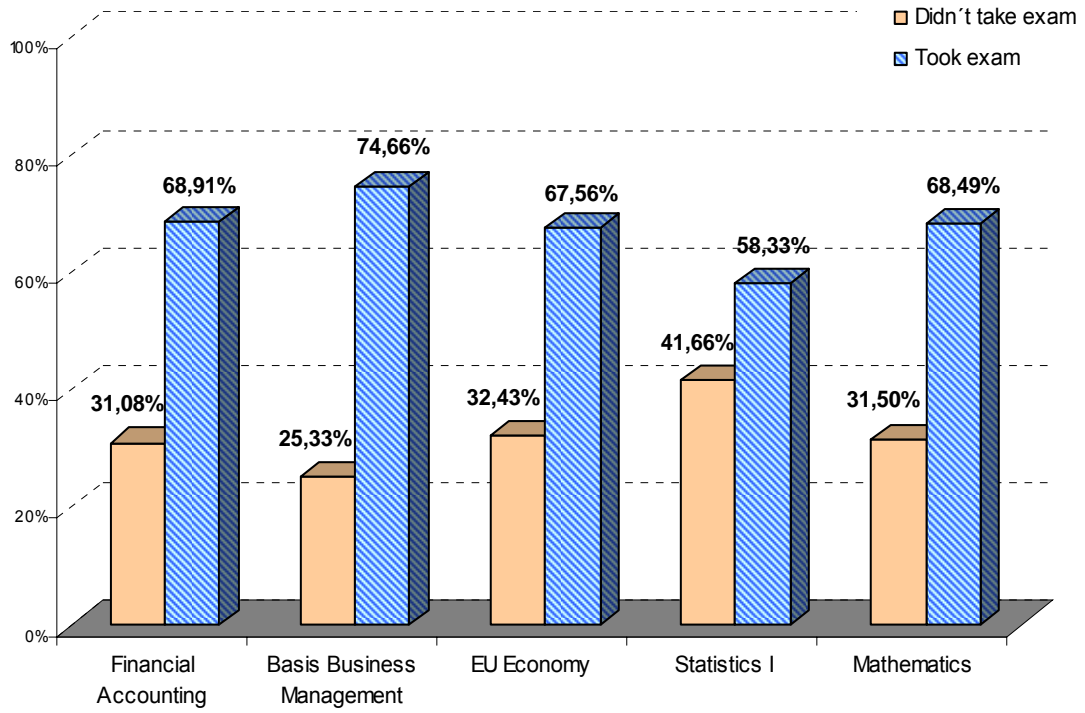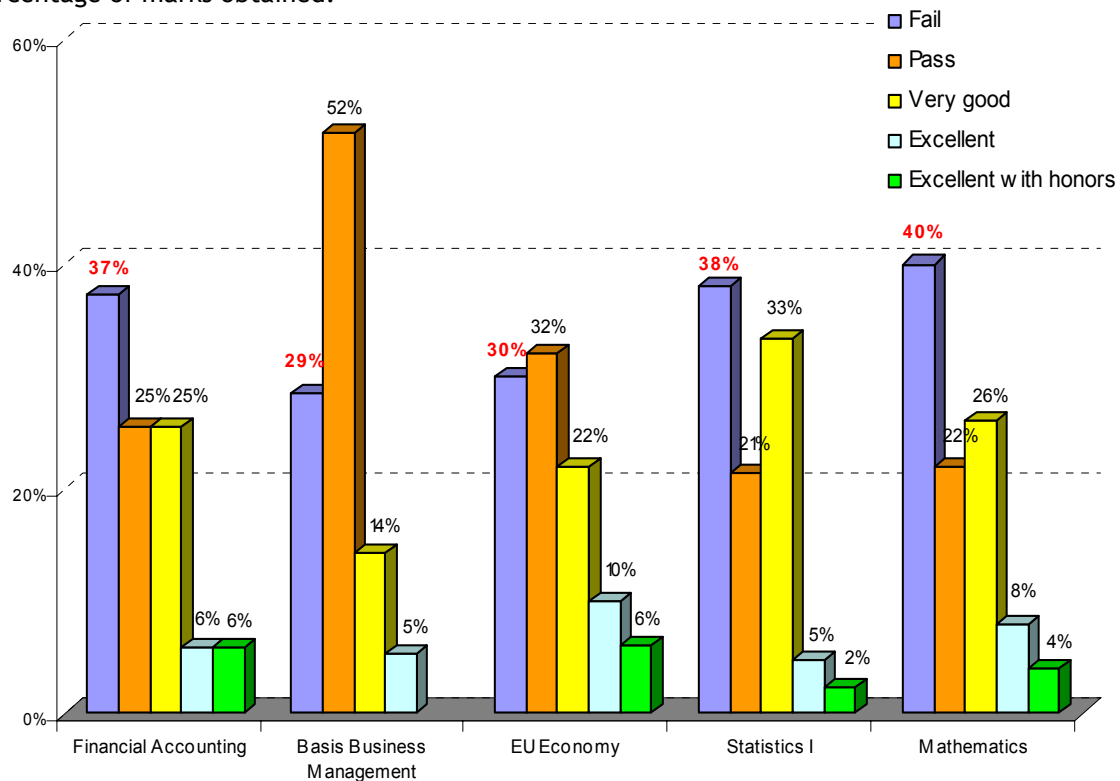
Figure 8. Results second semester, first examination session, according to subject (2006-07): percentage of marks obtained.

4.2. Strong points, weaknesses and areas for improvement.

The strong points, weaknesses and areas for improvement described in this sub-section have been brought up after several meetings between the coordinator and the teachers involved in the project.

As far as strong points are concerned, both for students and teachers, the following items were agreed upon as the most relevant ones:

- ✓ Considerable increase of students regularly attending the lessons compared to traditional groups. The average attendance was 65 students per lesson, that is to say, 90%.

- ✓ Active participation in lesson development which favours a major and better relationship between students and teachers.

- ✓ Better personal relationship and more fluid communication among students themselves, thanks to the decrease in the number of students in PIE group and the development of cooperative work in the classroom.

- ✓ "Transition tutorials": in these personalized tutorials every teacher is in charge of informing and advising his/her supervised students on certain aspects, such as the degree and university life. These tutorials make teachers know more about the interests and worries of the students. This information is shared by all the lecturers in their regular meetings so as to have as much knowledge as possible about PIE students.

- ✓ Extracurricular activities: attendance to seminars, visits to companies, cycle on cinema and economics, etc. whose aim was to approach the university to its socio-cultural environment and to foster ethical values.

- ✓ A higher percentage of students sitting the exams and with better results, as it has been discussed in the previous sub-section. This improvement was due, according to the teachers, to the use of active methodologies and to the continuous assessment system that allows viewing the evolution of the student in every subject.

- ✓ Improvement of communication and human relations between the PIE teachers. From the moment a teacher chooses to teach PIE, regular meetings are held to discuss every issue of interest about the contents of subjects, classroom management, workload, etc.

- ✓ Coordination between the different subjects: the team of teachers agreed on a joint timetable to organize the workload and avoid the concentration and overlapping in the delivery of papers and in the evaluation of students.

- ✓ Revision of the contents of the subjects looking for common topics to develop papers of interdisciplinary nature; that is, to promote the ability to work in an interdisciplinary team.

- ✓ Teacher motivation: most of the teachers agreed to be a part of the project on a voluntary basis, which makes people wish to work and to improve the teaching and learning process.

- ✓ Teacher training workshops: their objective was to give teachers some guidelines in the new educational scenario springing from the Bologna Process.

- ✓ Promotion of ICTs: "Virtual Classroom" became a daily routine, both for teachers and students.

Let's turn now to the weakness. Some of the points refer to teachers, others to students, and some are common to both of them. Among the weakness observed, we can highlight the following referring to teachers:

- ✓ Excessive number of students per group: although the number of students in the PIE group has been reduced to 80, the size is still too large; therefore it is difficult to manage pair and group work and to apply the active methodologies proposed.

- ✓ Scarce participation in training workshops and extracurricular activities. In spite of the wide range of workshops offered and the incentives that the Convergence Office of the Faculty of Economics gives to PIE teachers, the average participation in them is quite scarce. This is mainly due to the fact that both teaching and training are not valued enough as academic merits.

- ✓ Decrease in motivation. At the beginning, most teachers were excited about the implementation of this innovative project; however, as time went by their motivation decreased a little, because they felt that some institutions did not appreciate their effort.

- ✓ Little flexibility from a few departments to adapt its official evaluation system –an only exam at the end of the year- to the special requirements of the PIE group - continuous assessment.

- ✓ Excessive workload: It has been detected a mistake in the rough estimate of the non-contact hours made by teachers. Teachers suggested the development of many workshops and extracurricular activities, together with reading and summarizing references, writing papers, filling in questionnaires, etc. this has meant that teachers have been overwhelmed by the excessive workload.

As for the weaknesses that affect students, some weaknesses are similar to the previous ones, but they are obviously perceived from a different perspective. We can mention the following ones:

- ✓ Little information about what being in an innovation project really meant. Students, who chose to join in the PIE group as a second choice in September, did not attend the information meetings that were held in July. Some students have complained about this lack of information which made them choose this innovative group without being aware of the implications it had for them –autonomous learning, continuous assessment, etc.

- ✓ Excessive number of students per group: the students themselves realized that it was difficult to achieve a fluent interaction. Group dynamics were hindered by this fact.

- ✓ Little participation in training workshops and extracurricular activities. The attendance to these types of activities is low if it is not compulsory.

- ✓ Little students' motivation. A few students did not have an initial motivation because they had joined the PIE as a second or third choice (for their university-entering examination mark was low and could not choose the degree they really wanted to study, this is, their first choice). The amount of work required from students was also another factor which decreased their motivation (they saw that students from non-PIE groups did not work as much as they did).

- ✓ Excessive workload and overlapping. As it happened with the teachers, students have also complained about the excessive workload and overlapping, due to the fact that they had to prepare many activities for every subject and, occasionally, there was some overlapping between handing in papers and preparing continuous assessment tests.

Areas for improvement:

Once we have discussed the weaknesses detected, we would like to add some actions that could help to prevent and/or reduce the weaknesses and that, hopefully, would improve the final outcome of the project. The areas for improvement we propose are as follows:

- ✓ Reduction in the number of students per group: it is quite evident that to apply another type of methodology, different from the traditional one, with a large number of students, is very complicated because of the extra workload it supposes for teachers and the difficulty for classroom management.

- ✓ Higher participation of teachers in training courses, as training courses provide ideas to improve time management and the planning of activities to prevent the excessive workload and the overlapping claimed by some teachers and which may be the reason why they do not want to teach in the innovation group again.

- ✓ Improve the design of a joint timetable to plan the lessons, seminars, talks, visits to companies, exams, etc., so as to distribute the workload for students in a homogeneous way.

- ✓ Look for ideas to increase students' regular attendance to the lessons, as they are not motivated enough. Although attendance is higher than in traditional groups, as it has been mentioned in the previous sub-section, it is still low and irregular what makes it difficult for teachers to have an adequate and personalized follow-up of individual students. And, on the other hand, it also makes it difficult for students to fully understand the subjects and to prepare all the work in due time.

- ✓ Increase participation in training seminars and extracurricular activities for students. We consider that a careful selection of topics for seminars and workshops could increase students' participation; so we can ask them to give a list of topics that may

interest them. Other idea could be to give students a mark for attending the seminars and doing voluntary work.

- ✓ And above all, we think we have to find mechanisms to increase motivation for students and teachers to participate in innovation projects that will improve the teaching and learning process.

7. FINAL REMARKS

The main aim of this paper has been to describe the new learning environment created for this pioneering group of Economics students. We have shown the academic results obtained by students, analysed the strengths and weaknesses and outlined some areas for future improvement. The preliminary conclusions we may draw are that the implementation of the PIE in the Economics Degree during the first year seem to point out that a reduction in the number of students per group is essential if we aspire to achieve a Higher Education of quality. But the reduction in quantity has to be accompanied by an increase in the motivation of students and teachers. This is an essential element to enhance the total quality in the teaching and learning process.

In our opinion, the overall evaluation of the implementation of the PIE project in the Economics Degree is a positive one. We think that it is important to provide continuity to the project to act as a reference for the future in our faculty and for the rest of degrees.
From this experience we are aware we can help to develop a culture of educational innovation, to build up a team of teachers implicated in the project and to train teachers in active methodologies. These are the first steps we have given towards the convergence with the European Higher Education Area.

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DEVELOPING INTERNATIONAL UNIVERSITY-BUSINESS NETWORKS IN E-LEARNING

Eija Källström, Timo Ala-Vähälä

Abstract:

The article focuses on innovative knowledge sharing mechanisms in international university-business collaboration projects. The project partners developed a pedagogical model (INTERN) for integrating internationalization, use of ICTs and close contacts to business life in traditional pedagogical settings. Experiences from implementing and further developing the model are described. Focus is on an ongoing e-learning project in multicultural management (HANSA NOVA), where universities and businesses cooperate for knowledge creation in the Baltic Sea region. The relevance of using EQF-criteria together with online technologies in such projects is also discussed.

Definitions:

Collaborative learning: when learners work in groups on the same task simultaneously, thinking together over demands and tackling complexities. Collaboration is seen as the act of shared creation and/or discovery. Within the context of electronic communication, collaborative learning can take place without members being physically in the same location. www.unesco.org/education/educprog/lwf/doc/portfolio/definitions.htm

Communities of practice: groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise by interacting on an ongoing basis (Wenger & McDermott & Snyder, 2002).

Explicit and tacit knowledge: *Explicit* knowledge is the familiar codified form that is transmittable in formal, systematic language. *Tacit* knowledge is the component of knowledge that is normally not reportable since it is deeply rooted in action and involvement in a specific context (Raelin, 1997).

Lifelong Learning: All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective (European Comission, 2006).
The term *university* is here used for all types of higher education institutions.

1. Introduction

In today's society, knowledge is largely seen as a key to competitiveness. New educational initiatives, such as the framework of lifelong learning, have also been developed to meet the challenges of a knowledge-based society (European Commission, 2008). But how does knowledge develop and how is innovation created? Several authors argue that knowledge development takes place within 'communities of interaction' that can cross intra- and inter-organizational levels and boundaries (e.g. Nonaka and Takeuchi, 1995; Nonaka, Umemoto, and Sasaki, 1998). In such communities, the combination of tacit and explicit knowledge is generally seen to lead to dynamic knowledge creation and timely development of new products and services.

Technological progress has enabled the creation of virtual learning communities. Virtual learning communities have also developed as flexible forms of cooperation between universities and businesses. This paper describes collaborative e-learning projects where the student's learning process is enhanced by collaboration between universities and businesses. First, the pedagogical model (INTERN) developed for such projects will be presented. Thereafter, experience of implementing and further developing the model will be reported with a focus on an ongoing project (HANSA NOVA). The relevance of using EQF-criteria together with online technologies in e-learning projects is also discussed.

2. The INTERN model

The INTERN model was developed for a project with the same name where higher education institutions (HEIs) and companies interacted within an ICT-supported environment. Based upon previous research, a pedagogical e-learning model was developed for the project. In the model, theory was used as a mode of learning in combination with action in practice. *"Work-based learning, then, must blend theory and action. Theory makes sense only through practice and practice makes sense only through reflection as enhanced by theory"* (Raelin 1997, p. 564).

The basic idea of INTERN was to enable students to participate in Virtual Internships for international companies. At the beginning of the project, the project's management group defined the concept of Virtual Internships as follows (Intern management group, 2002 a):

> *A Virtual Internship involves the use of an Information and Communication Technology supported environment, where students interact with each other, and companies, independent of time and space and across traditional geographical boundaries. In this environment, effective communications are created between students, faculty and company representatives, in order to carry out a specific and meaningful work-based activity that fits within the student's compulsory educational curriculum.*

The HEIs taking part in INTERN are all experienced business schools, who used the INTERN project to test the Virtual Internship approach and to gather information about how such Internships might be improved in the future. The HEIs taking part were Tietgen Business College, Denmark, Arcada Polytechnic, Finland, Buskerud University College, Norway, and Institut de Formation International (IFI), France. The companies comprised Tronrud Engineering, ICL Invia, DFDS Transportation Group, and Kremlin, Inc. The students performed different cross-border assignments for these companies (described in more detail in Kristensen & Källström & Svenkerud, 2007).

The pedagogical model developed for the INTERN project was inspired by research in knowledge management and pedagogy (e.g. Nonaka and Takeuchi, 1995; Nonaka, Umemoto, and Sasaki, 1998, Raelin, 1997). The pedagogical model (Figure 1) shows how different learning processes operate through the interplay between theory and practice, and between tacit and explicit knowledge.

Figure 7. THE INTERN MODEL

	Explicit knowledge	Tacit knowledge
Theory	**CONCEPTUALIZATION** • Planning of project • Creating a theoretical basis for the pilot project in terms of the topic studied ICT-tools: • audio conference • videoconference • use of electronic databases • web-search	**EXPERIMENTATION** • Broadening the understanding of theories used in individual pilot project ICT-tools: • discussions on project's web-site • studying previous cases distributed on the Internet • group-discussions using web-cams
Practice	**REFLECTION** • Students analyse practical results of their research • Students report findings to partner companies and to students in other countries • Company representatives and students evaluate their learning experience ICT-tools: • videoconference • web-based questionnaire including software applications for analysing results	**EXPERIENCE** • Assignments to students in own country and abroad • Practical basis laid by company representatives, sharing their tacit knowledge • Students perform research according to the assignment ICT-tools: • videoconference • discussions on project´s web-site • group discussions with web-cams

The learning process in the INTERN model:

The student's learning process was planned as a cycle progressing from conceptualization – experimentation – experience- reflection (Intern management group, 2002 c). For each phase of the learning process, ICT-tools were suggested and extensively applied in the various stages of the project to facilitate communication and knowledge sharing.

A. Conceptualization

The student's learning process in the virtual internship started by theoretical lectures in the specific academic fields studied. Theoretical conceptualizations, provided by the faculty, gave the students the means to tackle the forthcoming assignments in different organizational and cultural contexts. Conceptualization thereby provided the students with a common theoretical frame for the forthcoming comparative studies. ICT-tools were utilized in different forms, as suggested in the model.

B. Experimentation

In the experimentation stage of the learning process, the theoretical concepts in the individual pilot projects were elaborated upon. Students learning was enhanced e.g. from studying previous cases in their specific discipline. Web-discussions and cases solved on the

project's web-site allowed for further theoretical discussions and modelling between project participants situated in different countries.

C. Experience
First-hand knowledge from practical business life was thereafter introduced into the project, when company representatives shared their tacit knowledge with the students. At this stage the students collected data and gained practical experience through the assignments given to them by the company. Students learned both from the contact persons in the firms and through their own research contributions. The students' learning process was enhanced by problem-solving in practice.

D. Reflection
In the reflection stage, students reported their findings to the company representatives, often through videoconferencing. Thereby, representatives from both the business and academic sector evaluated the students' project results. It was possible for students to reflect critically on theoretical concepts and their practical relevance, as well as to compare alternative ways of solving the same practical problems.

The learning process (A -> D) thereafter continued in a learning cycle, as the students could utilize the knowledge and experience gained in the project in other courses and assignments. Along with specific academic knowledge, students also gained experience of working in a multicultural environment in an academic as well as in a business context. The INTERN project was therefore well in-line with the current trend in international business, where multicultural teamworking often result from networking, different partnering agreements or joint ventures. Multicultural teams can be home or overseas based, and the virtual element is often present (Edwards & Rees, 2006).

2.1. Experience of implementing the model

When implementing the INTERN model, the students' learning was enhanced especially in the following areas (INTERN management group, 2002 b):

- Communication skills. Using virtual internships instead of normal classroom teaching was considered an effective way of learning to communicate in a foreign language (82.3% agreed) and to learn about cross-cultural communication (81.1% agreed).

- Knowledge in business administration and project management. . More than half (62.8%) of the students had learnt a lot about how to plan and work in a project because of their participation in this virtual internship.

- Reflective thinking. The cooperation between HEIs and business was reported to increase reflective thinking by 58.9% of the students.

During the project, the use of ICTs was strongly supported. The various IT-tools listed in figure 1 facilitated communication between students, teachers, and company representatives. For the students, the ICT-based virtual internships clearly represented a new way of studying. 78.6% of the students had never used such a comprehensive E-learning environment before, even if they used computers extensively in their studies. The project therefore fostered new IT-skills, and the students could soon master the new technology well.

During the project, the overall level of IT skills of the participants increased. Some groups used a broader range of the tools recommended than others. The choice of IT-tools was influenced by the equipment in the home institution and by the type of assignment provided. Some tools also required additional training - e.g. mastering the videoconferencing equipment and its pedagogical requirements.

When implementing the INTERN model, a special challenge was to integrate theory and practice. The students participating in the INTERN project had the following experience:

- The role of the local teacher/facilitator was stressed. The facilitator could illustrate problems in the learning team/situation so that participants could learn by themselves and from each other. According to the students, the best support was given by the internal supervisors and by the members in the local group.

- The students' were sometimes disappointed at the companies support and feedback. Time restrictions on behalf of the company tutor were sometimes a problem. Real commitment is needed from both university and industry. Furthermore, company representatives seldom have pedagogical background, which further underlines the importance of communication with the teacher/facilitator

- In the assignments integrating theory and practice, students worked with companies and students located in other countries, and the multinational atmosphere was the most motivating factor in the project (78.4% agreed).

In general, the INTERN-project demonstrated that Industry-University collaboration offers fruitful possibilities for professional development. Therefore, the project management decided to the implement and further develop the model in a new project called Hansa Nova, as will be described below.

3. The Hansa Nova project

The HANSA NOVA project is carried out with the support of the European Community (Socrates/Curriculum Development) and the Nordic Council of Ministers (Nordplus Neighbour). HANSA NOVA develops new knowledge on the topic "Managing a multicultural workforce – key issues in the Baltic Sea Region".

The e-learning network consists of the following Higher Education Institutions in the Baltic Sea Region:

– Denmark: Tietgen Business College (TBC), Odense
– Estonia: Tartu University (UT), Tallinn University of Technology (TUT)
– Finland: Arcada University of Applied Sciences, Helsinki
– Lithuania: Vilnius University (VU), Vilnius College (VIKO) in Higher Education
– Norway: Buskerud University College (HIBU), Hönefoss
– Russia: St. Petersburg State University (SPBSU), St. Petersburg Polytechnic Institute (SBPSPU)

Furthermore, a Trade Union (Tradenomiliitto) and a Research Institute (ETLA) participate as network partners. From the business side, 20 companies with strong cross-border presence in the Baltic Sea Region participate, sharing their experience of managing multicultural projects in the Region. More information about the participants can be found on the project's website http://hansanova.arcada.fi

The purposes of the Hansa Nova project are

> a) To increase the knowledge of cultural differences in business organizations in the Baltic Sea Region
> b) To develop and deliver a European Module supporting multicultural management with modern ICT-tools in the Region.

The European Module will cover both macro and micro aspects of doing business in the Baltic Sea region. In line with the Bologna process and the Tuning project (http://unideusto.org/tuning/), the Module can be implemented as a core module (fostering competencies in Business Management), a support module (use of ICTs), an organisation- and communication skills module (working in cross-cultural teams), a specialisation module (geographical area), or a transferable skills module (bridging the gap between theory and practice).

Materials for the Module are aimed for third year Bachelor students and/or first year Master students.

The Module development takes place in teams consisting of members from the different countries – thereby multicultural teams have created multicultural knowledge. Experts from both Higher Education Institutions and from businesses contribute to producing new materials in business management in the Baltic Sea Region today.

3.1. Phase 1: Materials development

In the first phase of the Hansa Nova project (year 2007), materials for the Module have been developed. The development took place in Communities of Practice where HEIs and companies interacted. During this phase, students participated in knowledge development by performing empirical research.

A suitable methodological approach for creating new knowledge related to multicultural management is exploratory multiple-case study research. The research question in Hansa Nova was expressed as:
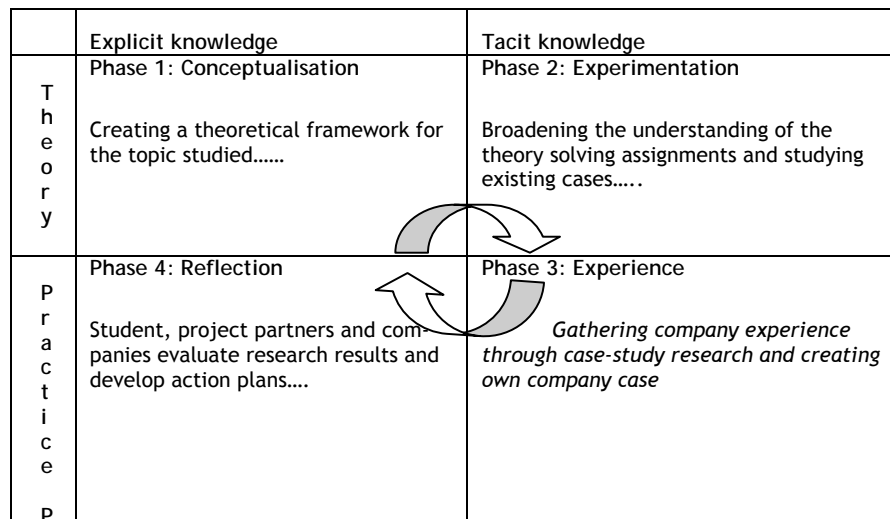
"What competencies do project managers and project team members need in order to be successful in multicultural projects in the Baltic Sea Region?"

The empirical research was based upon interviews with leading industry actors. In the Baltic Sea area 20 project managers have been interviewed about the need for competencies when conducting multinational projects in the region. Only companies with activities in at least two countries in the Baltic Sea Region were accepted as research objectives.

The main data gathering technique was interviews to be performed with a common questionnaire/interview guide for all companies chosen. Different types of questions were applied, both structured and open-ended based. The interviewers took notes during the interview and wrote down the answers after the interview was completed. The answers were thereafter sent to the persons interviewed for approval Competencies were researched for project managers (based upon relevant project management literature) and for project participants (based upon research done by The Danish Ministry of Education in the field of mapping competencies).

In Hansa Nova, the INTERN model has therefore been further developed with students' own research as a form of gathering experience from practice. Case study research and interviews with company representatives form an additional way of combining theory and practice. Examining real-life cases in the light of scientific theories, and theories in the light of practical experiences, has also been shown to foster the development of tacit knowledge (Slotte & Tynjälä, 2003, Raelin, 1997).

Figure 2. AMENDED INTERN MODEL IN HANSA NOVA

		Explicit knowledge	Tacit knowledge
T h e o r y		**Phase 1: Conceptualisation** Creating a theoretical framework for the topic studied……	**Phase 2: Experimentation** Broadening the understanding of the theory solving assignments and studying existing cases…..
P r a c t i c e P		**Phase 4: Reflection** Student, project partners and com-panies evaluate research results and develop action plans….	**Phase 3: Experience** *Gathering company experience through case-study research and creating own company case*

In terms of ICTs used, the alternatives have also been further developed with new software, e.g. social software for document sharing, newest learning systems (BLS) and desktop confer-ence software (Acrobat Connect Professional).

During the first phase of the Hansa Nova project, desk research was also performed mainly by professors at the partner institutions. Therefore, comprehensive learning materials have there-fore been developed in the following areas relating to the Baltic Sea Region (BSR):

1. The social and economic environment
2. Business culture – country specific information
3. Managing multicultural projects in the region
4. Research results and case collection
5. Summarizing guidelines

In addition to the comprehensive course materials developed, a summarizing handbook has also been published. The handbook is available in printed form and electronically on the project's website on http://hansanova.arcada.fi

3.2.   Phase 2: Implementing the Hansa Nova module

The second learning cycle in Hansa Nova is scheduled for year 2008. During that year, the Hansa Nova module and the learning materials will be implemented in the partner institu-tions. At present, 20 different courses are already scheduled for spring 2008, where the Hansa Nova course materials will be used.

In table 1 the different course where the Module will be implemented in during the academic year 2007 – 2008 are listed.

TABLE 1: IMPLEMENTING THE HANSA NOVA MODULE IN THE ACADEMIC YEAR 2007-2008		
University	Level	Name of Course
ARCADA	Bachelor	Course 1: Multicultural Business Environment of the BSR
		Course 2: Project Management in the BSR
HIBU	Bachelor	Course1: Tourism and Management
		Course 2: Pedagogical Methodology
SPBSPU	Bachelor	Course 1: Business Communication
SPBSU	Master	Course 1: Theory and practice of business communications
	Specialization (Bachelor +)	Course 2: Problems of Russia - EU integration
TBC	Bachelor	Course 1: Macro Economics
		Course 2: Global Communication
		Course 3: Organisation
TUT	Bachelor	Course 1:Multicultural working environment
	Master	Course 2:Design for cost and environment
UT, Pärnu College	Diploma/ Bachelor	Course 1: Project personnel management
VIKO	Bachelor	Course 1: Project management
	Bachelor	Optional course for 5 study programmes: Business management, Advertising management, Trade management, Office and Enterprise administration, Tourism and Hotel administration
VU	Master	Course 1: Globalisation of Economy
	Master	Course 2: Cross-cultural management
	Bachelor	Course 3: International Economics

Students participating in these courses will benefit from the experiences gained in the first phase of the project, and also contribute to the further development of the materials in the following way:

- Students will use the Hansa Nova course materials in stages 1 (Conceptualisation) and 2 (Experimentation) of their learning process. This is possible since the materials include both theory and practical assignments to the theory, as developed by the network partners.

- In stage 3 (Experience) the student will conduct own case-study research in some of the knowledge areas of Hansa Nova

- In stage 4 (Reflection) the new research results will be evaluated against previous knowledge in the Hansa Nova materials. As a result, the Module materials will yeah year be updated with the latest available knowledge.

During the coming years, the Hansa Nova module will be regularly updated based upon the INTERN/updated HANSA NOVA model. This is possible, since the Module is now integrated in the partner institutions curricula and can be delivered either on campus or online with other network partners.

We can therefore conclude that the student's learning cycle in Hansa Nova truly corresponds to the topic of this seminar – Learning by Developing. New students benefit from knowledge developed by students of the previous years and also contribute with own new findings.

The Hansa Nova project has been closely followed by an external evaluator, based upon the evaluation principles presented in the next section.

4. Evaluation of the Hansa Nova project

The evaluation of the Hansa Nova project is carried out in three phases, which are
1. Evaluation of the Module draft
2. Evaluation of the piloting
3. Evaluation of the implementation

Phases 1 and 2 were carried out in spring 2006 and fall 2007, and the third phase will happen in spring 2008. This article focuses on the second evaluation and also discusses the role of European Qualifications Frameworks (EQF) as a reference point for evaluation.

The European Qualifications Framework (EQF) is closely linked to the Bologna Process which aims at creating a European Higher Education Area. It is intended to become a meta-framework, which enables various national and sectoral frameworks and systems to relate and communicate to another. The European Qualifications Frameworks consist of 8 levels of vocational education. They are closely connected to the 'Dublin descriptors', which were adopted within the Bologna process for coordination of higher education, and they have contributed to the 4 highest levels of the EQF. Actually, the three highest levels of EQF cover the three cycles of tertiary education as they are defined in the Bologna Process Documents.

According to the working document of the Commission, EQF would establish a common reference point-referring to learning outcomes and levels of competence and it would function as a common reference for quality assurance and development in education and training. The term "qualification" denotes here an act where some competent body determines that an individual's learning has reached a specified standard of knowledge, skills and wider competences. Qualifications at each level in EQF are described in terms of three types of learning outcomes:
*   knowledge;
*   skills; and
*   wider competences described as personal and professional outcomes.

All these items are competences of their own type. According to the document, "competence" may be i) an ability to the use of theory and concepts, as well as informal tacit knowledge gained experientially; ii) a thing that a person should be able to do when they are functioning in a given area of work, learning or social activity; iii) personal competence involving knowing how to conduct oneself in a specific situation; and iv) ethical competence involving the possession of certain personal and professional values.

The Hansa Nova project experimented with EQF as a tool for evaluation for a curriculum development project. EQF was chosen because it offers a transnational framework for the standards of tertiary education. On the other hand, its definitions are of a very general level. Due to this, it is difficult to develop analytical tools, like measuring instruments. The evaluation of the Hansa Nova project has been a kind of first step towards this target, but there is still a lot of work to do.

In Hansa Nova, the piloting of the module was carried out in two Lithuanian higher education institutions: in Vilnius University (Department of Management, Faculty of Economics) and Vilnius College in Higher Education (Degree program of Tourism, Faculty of Business management). The main aim of the evaluation was to assess whether the module meets the learning targets stated in project application and also meets the standards of higher education stated in the EQF. Due to this, the web survey consisted of three sets of questions: first a group of ten questions which were based on the learning targets of Hansa Nova, then ten questions which were designed to measure the learning targets of the European Qualifications Framework (EQF) for bachelor level and finally ten questions which measured the learning targets of EQF for master-level.

In addition to the web-survey, the external evaluator used two other sources of information: student group discussions and teacher interviews. The evaluator also got the presentations made by the international students at Vilnius University. Three different sources were used, because it was expected that web-surveys only give information about topics that the evaluator wants to ask, whereas the more spontaneous group discussions may focus attention on topics that the students themselves consider essential. In other words, the student discussions and teacher interviews contributed to the evaluation in two ways: first, they gave a richer picture of the strengths and potential weaknesses of the module. In addition, they gave some information about the intern validity of the web-survey. The group discussions succeeded quite well. The evaluator got reports from eleven discussions: ten from Vilnius College and one from Vilnius University. The web-survey suffered from a low percentage of responses, only 48% of the participants filled in the survey form.

All the three sources of information gave a positive assessment about Hansa Nova. The student discussions and teacher interviews gave the impression that Hansa Nova was considered to be good, useful and interesting. The student discussion groups and the teachers considered that Hansa Nova well meets the standards of bachelor level education, but needs some further development in order to meet the standards of master

level. They also stated that Hansa Nova met the requirements of Bachelor level jobs, but perhaps not of master level tasks. In addition, there were some criticism about the language and lay-out.
As stated above, the Web-survey consisted of three types of questions:

1. Does Hansa Nova meet its own learning targets, stated in the project application?
2. Does Hans Nova meet the bachelor level standards of the European Qualifications Framework?
3. Does Hansa Nova meet the master level standards of the European Qualifications Framework?
The students got 30 statements, which they commented by setting a mark to a line with left end meaning "totally disagree" and right end meaning "fully agree" (See attachment 6). The survey program changed these answers to a numerical scale with 0 = "completely disagree" and 100 = "completely agree". Table 1 presents the averages of each statement. As it was mentioned above, in EQF the competences have been divided in three groups, which are 1) knowledge, 2) skills and 3) wider competences described as personal and professional outcomes. This categorization is a bit difficult to use as a basis of analysis, because some areas of learning – like principles of accounting or the basics of business ethics – are difficult to categorize by using these three groups of competences. Due to this, the statements were typified according whether they measure 1) the student's assessment about his/her knowledge and understanding; 2) analytical skills and independent learning skills or 3) other skills, motivation and commitment.

Table 2. Students' assessment about the impact of Hansa Nova , statements grouped according to Hansa Nova learning targets and European Qualification Framework criteria (0 = completely disagree ... 100 completely agree)

	Average, bachelor level students	Average, master level students	Average, total
Statements about Hansa Nova learning targets	71,8	60,1	68,5
Statements about EQF Bachelor standards	70,1	67,4	69.4
Statements about EQF Master standards	64,0	65,2	64,4

Table 3. Students' assessment about the impact of Hansa Nova , statements grouped according to learning targets (0 = completely disagree ... 100 completely agree)

	Bachelor level students	Master level students	Total
Statements about knowledge and understanding	75,6	65,2	72,5
Statements about analytical skills, independent learning	66,9	64,5	66,1
Statements about other skills, motivation, commitment	68,0	61,1	65,9

According to the results of the WEB survey, the reception of Hansa Nova was quite positive and all the statements were assessed quite equally – none of them was totally rejected nor fully agreed. It appears that the web-survey revealed two topics quite clearly. First, it gave the indication that the Hansa Nova Module suits better for the end phase of bachelor level than to the master level. Usually bachelor level students gave more positive responses than master level students. In addition,   statements about how Hansa Nova met the EQF master level standards were not assessed as positive as other statements. This opinion was expressed also in student discussions and in teacher interviews.

Second, it the web-survey pointed out that the piloting courses contributed more to the knowledge and understanding of foreign cultures and in a smaller extent to analytical skills and other skills, motivation and commitment. The main reason for this is obviously the fact that the piloting modules consisted mainly in lectures, reading and short presentations. This type of studies may contribute to knowledge and understanding, but analytical skill, commitment to work and other similar competencies may need more time to develop.

5.   Conclusion

The article described innovative e-learning models for international university-business collaboration projects. A pedagogical model (INTERN) has been developed for integrating internationalization, use of ICTs and close contacts to business life in traditional pedagogical settings. In the HANSA NOVA project, this model was further developed to integrate case study research as a way to learn from Trans-Baltic companies. Based upon the research findings, a European Module has been developed on the topic "Managing a multicultural workforce in the Baltic Sea Region". During the development process, EQF-criteria have been applied for the evaluation activities. Using EQF for e-learning projects is a piloting that has given the project partners valuable experience for developing the Module further. This process of applying EQF for evaluation is now also under further development.

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Visualising Understanding

A multicase study of an individual and collaborative learning by using concept maps and Vee diagrams

Päivi Immonen-Orpana,
Laurea University of Applied Sciences
Well Life Center, FINLAND

Mauri Åhlberg,
University of Helsinki, FINLAND

Abstract

We are reporting research on collaborative knowledge building compared to individual conceptual change during a professional study unit in University of Applied Sciences. As educational research that is a design experiment, a multi-case, multi-method study. We used both individual and collaborative concept mapping in the same design experiment. The theme of the design experiment was 'Coping at Home'. In the competence based curriculum it was a research project as a learning environment. The core concept of the research project and study unit *Physiotherapy of the elderly* was 'successful aging'. The subjects were Bachelor of Health Care students in Laurea University of Applied Sciences in Finland. We monitored both individual and collaborative learning and knowledge building related to this concept and also students' self-reflection by Vee diagrams. The focus of the study was professional and generic competence, especially the reflective competence of physiotherapy students. Students' conceptions developed greatly. Collaborative knowledge building was meaningful for the individual conceptual change. The discussion during the concept mapping process was like a shared thinking process. Students continued each others talking and thinking very fluently like they had had "common brains". It took lot of conversations and many speech acts before the common understanding had existed. After collaborative interactions, multidisciplinary concrete links were made between all concepts almost in all individual concept maps and interconnectedness of concepts in different subject areas was understood. Concepts in these individual concept maps were also more at the same time more theoretical and practical than in previous concept maps of these subjects. Also the wider context of the concepts was recognized in many individual concept maps. Students' conceptual frameworks developed from novice level to more advanced expert level. According to students the research project as a learning environment was interesting and useful. They attained new knowledge, skills and attitude and new perspective to their professional knowledge.

Introduction

The purpose of the study is to monitor and promote quality of learning and development of the professional and generic competences of physiotherapy students. The generic competence focused in this study is reflective metacognitive competence which means students ability to evaluate her/his own learning and competence, to identify development challenges and problems, to develop her/his competence independently and with others, to share what she/he has learnt and to assume a role in a group/team and acquire and analyse information systematically.

The learning environment - the research project - is based on real needs of elderly people (over 75 years) who still live at home and wish to stay home. The physiotherapy students are going to design programs for an interactive TV – Caring TV-project in aim to support the functional ability, activity, social and mental welfare of the elderly and also to give possibilities to the elderly to discuss with other elderly people in similar positions with the help of different counselling, teaching and instruction methods. The aim of the project is to support successful ageing and sustainable welfare. The needs and expectations of the elderly exist in four themes: welfare, safety, functional activity and possibility to take part in activities. Students try to find out these themes in their professional basis and to plan evidence based interactions as programs of that interactive television. To plan the programs they need to understand and learn more about the main concept of project: successful ageing. The teaching and learning method is Learning by Developing (LbD), which is a concept developed in Laurea University of Applied Sciences, Finland (Raij 2007). In this study learning is understood as a meaningful conceptual change. Physiotherapy students' learning is monitored and evaluated by the quality tools of high quality learning: improved concept maps and Vee diagrams: (1) as an individual conceptual change and (2) as collaborative and social learning and knowledge building of two student groups.

Backgroud

Conceptual change as learning

Sinatra & Pintrich (2003, 6) characterize intentional conceptual learning with few dimensions: intentional conceptual learning is goal-directed, the goal is to change conceptual understanding; intentional conceptual change is characterized by conscious initiation and regulation of cognitive, metacognitive and motivational processes to bring about a change in knowledge.

According to Vosniadou & Kollias (2003, 2) the conceptual change is the outcome of a complex cognitive as well social process. An initial naïve theory is restructured in order to agree with currently accepted scientific and expert views. Studies of conceptual change have shown that this is a slow and gradual process. Dillon (1993, 229) describes the relationship between conceptual development, context and characteristic models of learning for a given issue. He creates a theoretical model for how people develop an understanding of environmental issues. The first exploratory, stage is characterized by developing an awareness of key concepts in a limited contextual framework. In the second stage, often involving some rudimentary work across disciplines, tentative links are made between concepts. In the third stage, usually characterized by extensive subject- based study, concrete links between related subjects are made, the contextual framework is broadened and there is some recognition of the interconnectedness of concepts in different subject areas. In the final, multidisciplinary, stage, concrete links are made between all concepts, interconnectedness is understood and the wider context dependency of the concepts is recognized.

Concept mapping is a way to describe and visualize the conceptual understanding and its change. According to Nowak and Canãs concept maps are graphical tools for organizing and representing knowledge. They include concepts, usually enclosed in circles or boxes of some type, and relationships between concepts indicated by a connecting line linking two concepts. Words on the line referred to as linking words or linking phrases, specify the relationship between the two concepts. We define concept as a perceived regularity in events or objects, or records of events or objects, designated by a label. The label for most concepts is a word, although sometimes we use symbols such as + or %, and sometimes more than one word is used. Propositions are statements about some object or event in the universe, either naturally occurring or constructed. Propositions contain two or more concepts connected using linking words or phrases to form a meaningful statement. Sometimes these are called semantic units, or units of meaning. (Nowak & Canãs 2008, 1)

Meaningful, high-quality Learning

According to Åhlberg (1993 - 2007) high quality learning has at least 20 aspects. It is divided into individual and social learning, learning from personal level to organizational and the humankind levels. The first four aspects of high quality learning are as follows: 1) Meaningful in the sense that it corresponds real needs of individual, society and humankind. Through the concept of 'real needs' high quality learning is connected to the general definition of 'quality'. It is meaningful also in the Ausubel's sense that new learnt knowledge is connected to earlier knowledge. 2) Deep in the sense that grounds and justifications for knowledge are actively sought after, and consequences of knowledge is actively tested both theoretically and empirically. 3) Proactive, creative, expanding, transformative, surpassing earlier knowledge and expertise in the sense that real human needs are better and better met, real problems are solved, or at least alleviated and better future is created as a result of creative learning. It often means reframing problems, seeing the world, its problems and real human needs in different perspectives. 4) Metacognitive, in the sense that ways to monitor and promote own learning are learnt.

According Novak and Gowin (1984) concept maps and Gowin's Vee diagram are a way to promote meaningful learning. Åhlberg (1993) presented his improved versions of both, which have been improved later on (Åhlberg 1998 – 2008, Åhlberg, Äänismaa & Dillon 2005). Elements of an improved method of concept mapping are as follows: 1) All concepts are main elements of thinking and learning, and they are always inside frames. 2) Novak and Gowin (1984) and Novak (1990, 1998) prefer very short verbal labels for concepts. However, concepts sometimes require many words in order to be correctly labelled. There is no accurate limit on how many words may be included in a concept label. In an improved concept map as many words as are needed are used to name the concept accurately. 3) In order to have a meaningful proposition, all links between concepts have arrowheads to show in which direction the connection from one concept to another is to be read

The problem with original Vee heuristic was that university students did not know what is their orientation and World View. Åhlberg changed this item to 'Value Basis': 'Why do you want to spend your life, time and

resources to answer the focus question'? Åhlberg integrated the basic ideas of action research and Deming's cycle from Continual Quality Improvement movement into the design of Improved Vee Heuristic. This tool provides for teachers, pupils and researchers valuable data (e.g. Åhlberg & Ahoranta 2002). Åhlberg (1988 – 2008) has an integrating approach to both theory building and its testing in practice. Similar integrating approach is in Laurea's pedagogical strategy, Learning by Developing (Raij 2007).

Table 1. The steps of Improved Vee Diagram by Åhlberg (1993-2007)

The main elements of the improved Vee heuristic (Åhlberg 1993 – 2007)
1. Focus question(s) with own words, in question form.
2. Value basis: Why do you want to spend your life, time and resources to answer the focus question(s)?
3. Theoretical basis: What is your tentative theory in the beginning of your inquiry? What do you know in the beginning of your inquiry?
4. Conceptual basis: What are the main concepts of your theoretical basis? They act like lenses or a net by which you try to answer the focus question(s).
5. Methodological basis: What methods do you plan to use to answer your focus question(s)?
6. Description of what has been really done in order to answer the focus question(s).
7. Records; what kind of literature, research paper etc. has got
8. Transformations: decision making, How?
9. Knowledge claims; what did I really learn?
10. Value claims; what was valuable?

Learning by Developing

In the late 1990s, Laurea University of Applied Sciences chose as its strategic approach the integration of education, research and development, and regional development. A concept of learning and knowledge in line with the strategic intent was recorded in Laurea's pedagogical strategy and approved by the Board on 28 October 2002. This strategy was revised in spring 2007. According to the strategy, learning at Laurea takes place through instruction, research and development. The principle of triple task integration, approved as Laurea's strategy, was turned into the idea of 'learning in projects' in the 1990s and the early days of the new millennium. While implementing the pedagogical strategy, Laurea's practical developers refined this principle into the Learning by Developing (LbD) model. Competence development in the LbD- model and its values like authenticity, partnership and creativity etc. are described in figure 1. Learning by Developing combines two of the major orientations of polytechnic universities: professional education (learning) and research-oriented higher education (developing). (Rauhala 2007a)

The development objectives of the European Higher Education Area and research on curricula carried out by Finnish higher education institutions led to the adoption of a competence-based curriculum idea and model. The model's focus is not on contents but on broader competences needed in the workplace of the future. It is no coincidence that the core competences defined in a Future Probe published in autumn 2006 by the Confederation of Finnish Industries ended up being very similar to Laurea's generic curriculum competences, which are reflective, ethical, innovation, globalisation and network competence. The generic competences defined in Laurea's competence-based core curriculum are theoretically same as those defined by ARENE's ECTS Project: self-development, ethical competence, communication and interaction competence, development competence, organisational and social competence, and international competence. (ARENE 2007) The theoretical difference lies in the fact that subject-specific competences run parallel to the generic competences in the ECTS Project's recommendations. In Laurea's theory, subject-specific competences are also generic competences (knowledge-based and skill-based professional competences). (Rauhala 2007b) The curriculum of physiotherapy education is based on Laurea's development work and European Physiotherapy benchmark work (WCPT 2003) and curriculum process in physiotherapy in Laurea is described by Piirainen, Julin and Immonen-Orpana (2007).

Successful ageing as conceptions of physiotherapy students

The purpose of the study and research questions

The purpose of the study is to monitor and promote quality of learning and the growth of the professional and generic competence of the physiotherapy students (Laurea 2006). The teaching and learning method was learning by developing. In this study learning is understood as a meaningful conceptual change. Physiotherapy students' learning is monitored and evaluated by the quality tools of high quality learning: improved concept maps and Vee diagrams: (1) as an individual conceptual change and (2) as collaborative and social learning and knowledge building of two student groups. The core concept of the course and developmental project is 'successful aging'. The research questions are:

1. What kind of individual conceptions do the students build on the concept of successful ageing? What kind of concepts and propositions they have a) before the project, b) after the project and c) after they have built together a summarising concept map?
2. What happens in collaborative learning as social knowledge building? What happens when a concept map of the same theme is built by group of students? What kinds of differences (if any) are in collaborative learning processes and products when the two groups are compared?
3. What kind of socially built conceptions (concepts and propositions) do the students have after the project?
4. What did student learn evaluated by Vee diagrams?

Method and subjects

As educational research this is a design experiment, a multi -case, multi -method study. The subjects are Bachelor of Health Care students in Laurea University of Applied Sciences in Finland. They are third year Physiotherapy students and they all are female. They are studying their professional study unit **Physiotherapy of the elderly** in the Coping at Home research project and in its Caring TV- project. In the two study groups there are 22 students. The individual chance of conceptual change is evaluated by 9 research persons who have a different knowledge level in baccalaureate qualification, in the matriculation examination of Finnish language test. Three research persons are chosen by random choice in each group: high achieving, average achieving and low achieving group.

Data collection as a part of design experiment

In September 2006, before the study unit of Physiotherapy of elderly starts, the students built their first individual concept maps of the concept of successful ageing based on their own common sense knowledge. After that they discussed the themes and tried to find out their own professional possibilities to support the aims of the project. They wrote evidence based reports of the theme and planned programs to television. They had their 7 week sessions; one to two programs every weekday and 3-4 programs per a student pair. The students had a possibility to discuss in a computer based learning environment (Discendum Optima) of their own experiences and evaluate each others work and reports. They visit in homes of the elderly and there to observe and evaluate the functional ability and activity, quality of life, stress and experiences of the elderly by WHO's measures. After that they built their second individual concept maps of successful ageing based on experiences with the elderly, evidence based literature and reports and work in television. In January 2007, the students wrote their reflection by Vee diagrams of the process of planning their TV programs. Because of practical scheduling reasons the students were divided into two groups: group A had 15 members and group B had 7 members. In January both group A and B created collaboratively a group level concept map of the theme' successful ageing' These face- to – face interaction sessions were both videotaped and recorded by Cmap Recorder. In February 2007 the students built third individual concept maps, individual professional concept map based on shared knowledge creation.

Data analysis

Both individually and socially built concept maps and Vee diagrams were evaluated and analysed by content analysis; content maps also by simply statistical analysis. Collaborative group level concept mapping processes, videotaped sessions, were analyzed by dialogue analysis. Before dialogue process analysis, the dialogue was divided into dialogue turns. A turn is an interval of expression by a single participant. The units were either turns or parts of turns, such as sentences or single words. The categories in analysis (Table 2.) were developed applying Aarnio & Enqvist (2001).

Table 2.   The categories in dialogue analysis applying Aarnio & Enqvist 2001.

1. to produce a concept synthesis (CS),
2. to produce a proposition synthesis (PS)
3. to produce own opinion (O),
4. to ask a clarifying question, (CQ)
5. to ask a direct question (DQ)
6. to support others opinion by agreeing or connecting own opinions to others' (S)
7. to answer a question (AQ)
8. to continue others opinion with a new idea (C),
9. to produce own attitudes (A)
10. to produce an unnecessary opinion, which is not connected to aims (UN)

Results

Individual conceptual change

What kind of individual conceptions do the students build on the concept of successful ageing? What kind of concepts and propositions they have a) before the project, b) after the project and c) after they have built together a summarising concept map?

Before the study unit, in first concept maps of a concept of "successful ageing" the research persons (N=9) created 48 concepts and 32 propositions. (Figure 2.) The following kinds of abstract concepts were used: 'life' (good life, quality of life, life satisfaction) 'health' (physical and mental health), 'welfare', 'functional ability', 'human relationships', 'economical situation', and concrete concepts like 'home' and 'environment'. Immediately after the study unit, in the second individual concept maps the total number of concepts increased from 48 to 71 and the total number of propositions from 32 to 54. The content categories remained similar as earlier. Professional, active functional aspect was very prominent and concepts of 'independency' and 'activity' were mentioned many times. In propositions there was found five themes: "supporting the health", "physical -", "social -", "environmental -" and "psychological existent".
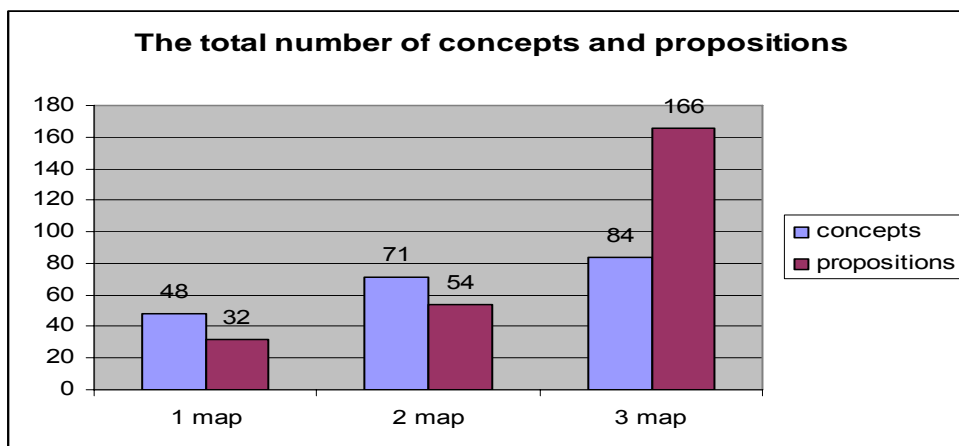

Figure 2.   The total number of concepts and propositions in improved concept maps.

After the social concept mapping, in the third individual concept maps, the total number of concept increased from 71 to 84 and the total number of propositions increased from 54 to 166.
In the third individual concept maps, there was lot of new propositions and concepts like "optimistic attitude", "sexuality", "good physical condition" "social support" and "pets" which did not exists in first or second individual concept maps. In propositions there were found very similar themes like before and a new theme "safety". Themes in third concept maps had changed to become more concrete compared with second maps like "environmental existent" which had changed to "stimulating environment".
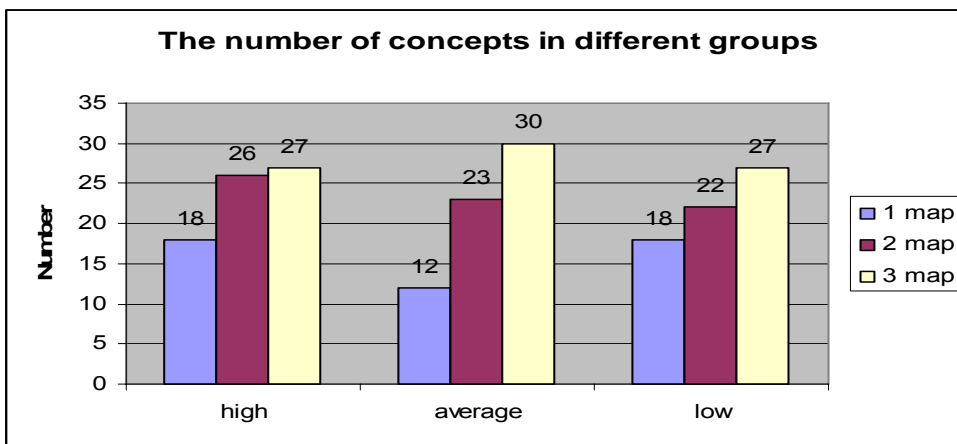
Figure 3.   The number of concepts in different groups.

After the second concept mapping the number of concepts increased in the "high achieving" group from 18 to 26; in the "average achieving" group from 12 to 23 and in the "low achieving" group from 18 to 22. The number of propositions increased in the "high achieving" students from 12 to 28, in "average achieving" students from 12 to 22 and decreased in "low achieving" students from 8 to 4. The increase of relevant propositions indicates increase in meaningful learning.
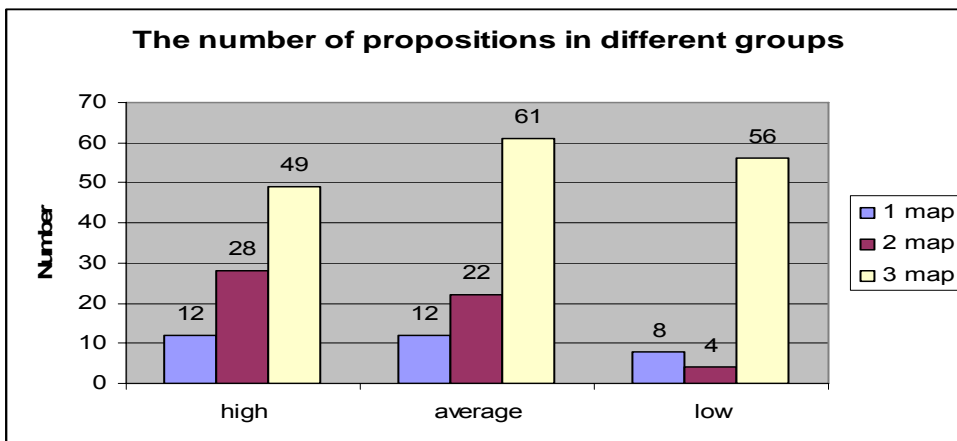

Figure 4.   The number of propositions in different groups.

After the social concept mapping, in the third individual concept maps the "high achieving" students increased their total number of propositions only from 28 to 49 and the "average achieving" students from 22 to 61. The "low achieving" students' group increased the number of propositions from 4 to 56. The number of relevant concepts increased only a little. (Figure 3. and 4.) The increase of relevant propositions indicates increase in meaningful learning. Like Dillon (1993) presents, in the final third individual concept maps, multidisciplinary, stage, concrete links are made between all concepts, interconnectedness is understood and the wider context dependency of the concepts is recognized.

Social knowledge building and collaborative learning

What happens in collaborative learning as social knowledge building? What happens when a concept map of the same theme is built by group of students? What kinds of differences (if any) are in collaborative learning processes and products when the two groups are compared?

Between the second and third individual concept maps a group level collaborative concept map was created in both groups; 22 students in two groups. The first group (15 members) created its collaborative concept map in January 2007. The whole process took one 45 minutes session. Students of this group created 261 speech acts. (Figure 5.) The variance of speech act was from 0 to 82. In that bigger group five of the 15 students did not say anything during the process. The most active speaker was the student, who acted as a secretary in social concept mapping.
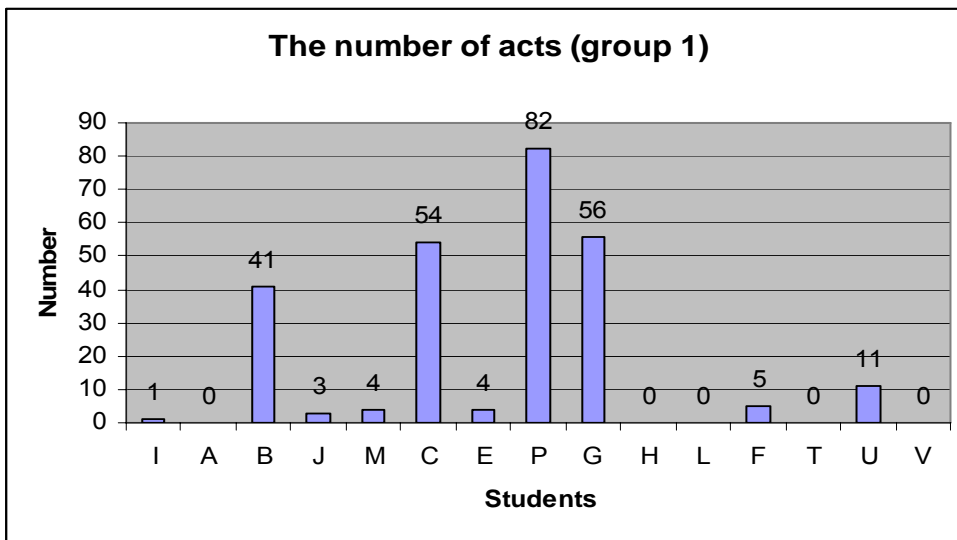
Figure 5.   Number of speech acts in the first group (I. A... are codes of students).

The second group (7 members) created its collaborative concept map also in January 2007. The whole process was over in one 45 minutes session. Students of that smaller group created 384 speech acts and the variance was from 17 to 101, so in that group all seven students participated also orally (Figure 6.). The most active student was, like in first group, the secretary of that social concept mapping. The discussion during the concept mapping process was like a shared thinking process. Students continued each others talking and thinking very fluently like they had had "common brains".
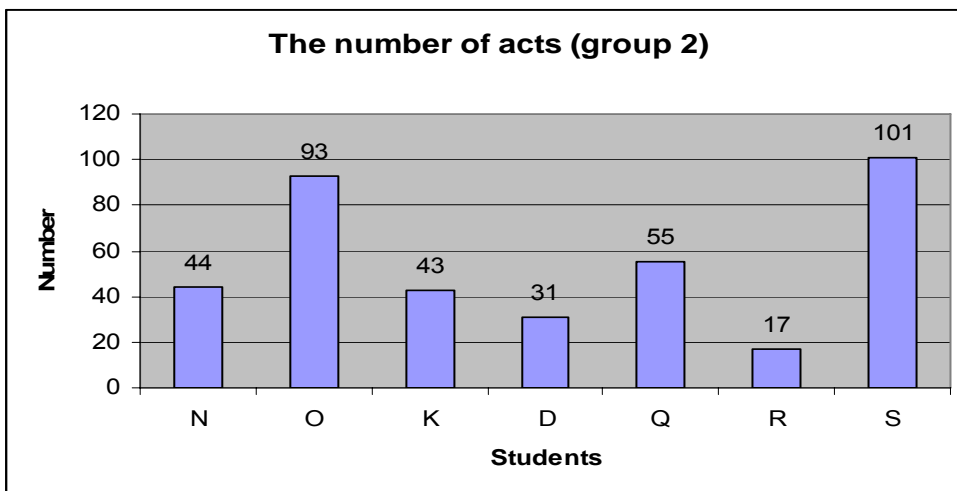

Figure 6.   Number of acts in the second group (N, O... are codes of students).

In the first group, the videotaped conversations 261 speech acts were divided into dialogue turns as a part of building group level concept maps. These dialogue turns were classified by the category system (Table 2) developed by applying Aarnio & Enqvist (2001). In the Table 3 there is the result of dialogue analysis of the first group conversation.

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Table 3. The categories of dialogical turns in collaborative concept mapping of the first group

Category	Number
1. to produce a concept synthesis (CS),	15
2. to produce a proposition synthesis (PS)	40
3. to produce own opinion (O),	42
4. to ask a clarifying question, (CQ)	34
5. to ask a direct question (DQ)	32
6. to support others opinion by agreeing or connecting own opinions to others' (S)	133
7. to answer a question (AQ)	22
8. to continue others opinion with a new idea (C),	51
9. to produce own attitudes (A)	5
10. to produce an unnecessary opinion which is not connected to aims (UN)	5
SUM	379

The sum of all dialogical turns was 379. In that first group the category used mostly was to support others opinion to connect or to agree. Almost a half of all dialogical turns were classified in that category. There were 66 questions (CQ+DQ) but only 22 answers. There were only a few unnecessary opinions. It took quite many dialogical turns before the synthesis of concepts or propositions had determined. In their concept map there were 15 concepts and 40 propositions. (Figure 7)

In the second group, the videotaped conversations 384 speech acts were divided into dialogical turns as a part of building group level concept maps. These dialogical turns were classified by the category system applying Aarnio & Enqvist (2001). In the table 4 there is the result of dialogue analysis of the second group.

Table 4. The categories of dialogical turns in collaborative concept mapping of the second group

Category	Number
1. to produce a concept synthesis (CS),	11
2. to produce a proposition synthesis (PS)	22
3. to produce own opinion (O),	5
4. to ask a clarifying question, (CQ)	87
5. to ask a direct question (DQ)	36
6. to support others opinion by agreeing or connecting own opinions to others' (S)	190
7. to answer a question (AQ)	48
8. to continue others opinion with a new idea (C),	35
9. to produce own attitudes (A)	21
10. to produce an unnecessary opinion, which is not connected to aims (UN)	9
SUM	464

In the second group the category used mostly was also to support others opinion or to agree. And also almost a half of all dialogical turns were classified in that category. There produced quite many question (123 questions) and only 36 answers. Unnecessary opinions were 9, also only a few like in the first group.

In the collaborative improved concept mapping of the second group, they produced 11 concept synthesis and 22 proposition synthesis. So it means lot of discussion and conversation before the synthesis had existed. (Figure 7.)
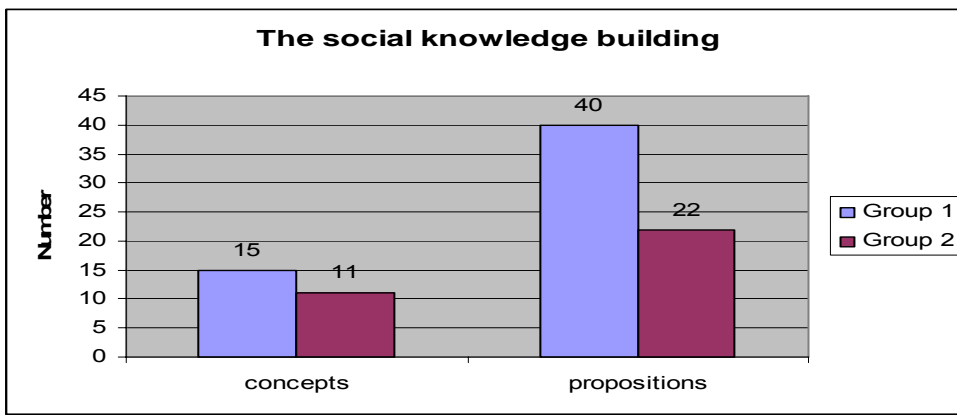
Figure 7.   The number of concepts and propositions in socially built concept maps.

What kind of socially built conceptions (concepts and propositions) do the students have after the project?

In the socially built concept map, there were few concepts, which did not exist in first or second individually built concept maps, like "supporting network", "accepting the death", "free environment" and few concepts, which was so meaningful, that students had them in their third individual concept maps created after social concept mapping, like "safety", "social network" and "good economical resources". The safety – theme was also mentioned in many propositions.

The process and content of collaborative concept mapping of two groups was quite similar according to a data of Cmap Recorder. Both groups started by the concept of "successful ageing" and continued by themes like health (good health, comprehensive health), home (home of own), independency (to make own decisions), environment, services (good services) and social network (supportive social network). In the first group the important concepts were connected to mental, social and environmental area like "accepting to become old and to die" or "good economical situation". There were no mentions of physical aspect (Table 5.) In the second group the free living environment was important, but there were no mentions of physical or mental aspects. (Table 6)

Table 5.   Concepts in the collaborative concept mapping of the first group.

	INNER RESOURCES			ENVIRONMENTAL RE-SOURCES
Common level	Physical Aspect	Mental aspect	Social aspect	
Good health	0	Good mental health	Social network	Active environment
Independency		To accept becoming old	Good economical balance	Own environment
Activity of own		To accept dying		Home of own
Functional ability		Safety		Good services

Table 6. Concepts in the collaborative concept mapping of the second group.

Common level	INNER RESOURCES			ENVIRONMENTAL RESOURCES
	Physical Aspect	Mental aspect	Social aspect	
Comprehensive health	0	0	Supportive social network	Living environment
Possibility to make own decisions			Family, society	Free environment
Active life style				Home
				Services

According to Vee diagram analysis the study questions in Vee diagrams were professional and connected to the needs and expectations of the elderly people. Students described three of four themes: welfare, safety, functional activity. When they evaluated the value of study unit some of students really wanted to know more, and some only did the task, because it was a part of the course. The theoretical basis was connected to the professional basis concepts of physiotherapy like functional activity, activities of daily living, movement, balance, relaxation and wellbeing.

According to Vee diagram analysis it was easy to all students to collect knowledge but the decision making with that collected data was very difficult. Actually few of student small group did not even describe how their chose the content to CaringTV programs. All students learnt something important: new knowledge, new way to work, new attitude towards elderly people, new way to use knowledge, which was learnt before study unit. Everybody expressed that this experience was very interesting and improved their learning.

Conclusion

The change between first and second individual concept map was small. (Figure 3. and 4.) To evaluate students' learning: before and after the study unit is a common method to evaluate learning. In that case we continued the process with collaborative knowledge building. That was very meaningful to all students and in the third individual concept maps all students improved their conception of the core concept "successful ageing" very highly. Difference between high, average and low achieving students had almost disappeared.

In the collaborative knowledge building process, both groups expressed that they felt a unified and shared thinking process. Students continued fluently with each others' talking and thinking. The social atmosphere was excellent in both groups and there were plenty of informal qualitative positive evidence for collaborative learning and thinking. The concept mapping centred teaching, studying and learning process was a success in these university level groups. Students discussed much more than in traditional teacher centred teaching of the earlier years. The Cmap Recorder data gave a lot of new information of the process. For scientific purposes it is important to replicate these kinds of design experiments. For us this was an optimal way to monitor and promote quality of learning in this kind of course.

Students reflected their learning themselves and produced Vee diagrams by pairs in 10 small groups. The study questions in Vee diagrams were professional and connected to the needs and expectations of the elderly. Students described three of four themes: welfare, safety, functional activity. The possibility to take part in activities was the way to implement the CaringTV programs. When they evaluated the value of study unit some of students really wanted to know more, and some only did the task, because it was a part of the course. The theoretical basis was connected to the professional basis concepts of physiotherapy like functional activity, activities of daily living, movement, balance, relaxation and wellbeing. It was easy to the students to collect data in internet and library. Decision making was very difficult. Actually few of student small group did not even describe how their chose the content to CaringTV programs. The Vee diagrams were integral parts of the total process and provided plenty of important knowledge of the overall quality of the course and learning experiences. For the supervisor the answers to ten questions of the used version of Vee diagram provided plenty of new knowledge of student thinking. For students the answers were worthwhile for continual improvement of their metacognition. The Vee diagram was a window to student values thinking. The researchers got impression that the students were very honest in their answers. The professional competence of the students and the aims of the study unit were improved.

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An integrative learning environment from a working life perspective: A method for teachers to develop their professional skills. Case Produforum.

Leena Björkqvist (Translation Vivan Storlund)

This article discusses the project Produforum, as an integrative learning environment for the students of Cultural Management and a working space for small independent art groups, providing the students opportunity to learn in a concrete development project in an unstable free art field. For teachers Produforum provides a platform for continuing cooperation with many different art groups and projects at the same time. The central question is how can the active and sometimes even chaotic practice of the art field be transformed into a systematic and structured research and development project?

The aim of this article is to describe and analyse Produforum from a pedagogical perspective, the aspiration being that students will learn through working processes involving the daily problems and developing activities a cultural manager is facing. The Learning by Development method developed at the Laurea University of Applied Sciences inspires systematic development in an interaction between training and working life. Laurea's model takes its departure in learning environments where space, time, the working group and the method have been integrated in the specific space created by the university campus (see for example Fränti, M. Pirinen, R. 2005). In the case of Produforum, the Sydväst University of Applied Sciences is just one actor among others, as Produforum is physically situated in the Cultural Factory Korjaamo, in Helsinki. It is located at a distance of four kilometres from the ordinary facilities of the degree programme in Cultural Management.

The theme Learning through development projects may also serve to launch a discussion about cooperation between training and the free artistic field as part of working life, in the context of international Cultural Management. This article is the product of a teamwork, in which I as a researching lecturer in Cultural Management focus on a discussion about the development of pedagogical models.
To be able to discuss Produforum as a development project and a learning environment, I will start by describing Produforum and the free cultural field as part of working life. Focus is placed on the process involved in knowledge production and result analysis, as well as a discussion about development strategies.

Background and the present state of Produforum

Produforum is a project funded by the European Social Fund, ESF, set up in order to support independent professional artists, groups and cultural managers in the Finno-Swedish cultural field. Over a long number of years there had been discussions about the need for infrastructure in the form of an office, rehearsal facilities and a coordination of different kinds of activities. This resulted in Produforum that started its activities in the Cultural Factory Korjaamo in Helsinki on 1 December 2006.

The field of independent cultural actors signifies in practice independent groups of artists that are also called "outlaws". These terms refer to professional artists and cultural workers that work outside established institutions, lacking thereby both a permanent income and work-associated support and protection. Work is done step by step with one project succeeding another, and the actors are constantly dependent on the generosity of or possible cooperation agreements with funding agencies. This professional group has grown considerably during past years, as an increasing number of institutions have been forced to cut down on permanent expenditure such as personnel costs. (Karlsson. 2008)

Picture 1. Produforum at the Cultural Factory Korjaamo: Seven working stations, archive facilities, meeting room, café, community and tutoring. Photo Ann Westerberg.

Artists have received assistance for different kinds of needs and work processes from persons representing different instances and organisations; the information centre Luckan in the Helsinki region, the City of Helsinki Cultural Office, the Sydväst University of Applied Sciences and the Arts Council of the Helsinki Metropolitan Region.

But why does an institution training cultural managers want to be involved in establishing and working for a platform for the independent arts field? The answer is simple: if a dance company lacks office facilities, then

a student of cultural management also lacks a place to do his or her work practice that would allow him or her to create networks. This is the end of the easy answers and this discussion will be resumed in the next chapter. Now we will first focus on Produforum's working model.

The members of Produforum are either permanent participants or occasional ones. The permanent participants have their own working desk in the Produforum office, and they are entitled to make use of Produforum's services. These are the following associations, authorities and art companies: Dot r.f, Etnokult r.f., the regional artist at the Arts Council of the Helsinki Metropolitan Region, Hangö Teaterträff r.f., Klockriketeatern r.f., Korander Co, MatikiMojo, Oblivia r.f., Teaterföreningen Stjärnfall r.f, Taite r.f., Teater 90 och Teatteriyhdistys Metamorfoosi r.y. The permanent participants commit themselves to contribute to the development work and to exchange services for example by participating in the organisation of seminars. The groups represent a variety of activities from performance to masque theatre and cultural production. The groups are presented at Produforum's web site www.produforum.fi. In principle the occasional participants include all artists and cultural workers that have dealings with Produforum.

The work of Produforum is organised as follows: A steering group, which is composed of those who initiated Produforum and a student representative. An operative group that, as the name already indicates is an active working group that plans and decides on Produforum's factual activities. There are further working groups focussing on different themes: international cooperation, seminar planning, future planning, audience development, cultural entrepreneurship, parties and fairs.

From an educational perspective, the coordinator of Produforum is absolutely vital. When necessary, she is able to give tutorial advice in cultural management. As free groups often cannot afford to hire a professional manager, this has earlier been a concrete obstacle for students of cultural management to do their work practice with free groups. These groups often work under harsh conditions, managing all tasks among themselves with varying degrees of success. For this reason they have not had the capacity to make use of trainees. Here Produforum can either directly provide tutorship in cultural management, or act as an intermediary by conveying such service from a permanent participant. For a permanent participant again, tutorship can be one contribution to the project. Through its tutorial and intermediary activities, Produforum thereby provides a pedagogical link to the study programmes.

Produforum in a competence raising perspective

A central question for the study programmes is what qualifications students will need in future. Due to the Bologna process, higher education institutions have moulded their study programmes according to joint European criteria. The goal is to create a transparent European educational field, where students can easily move among different higher education institutions and have their studies recognised by their own institution. For Finnish Arts Management study programmes at Bachelor level, this has implied joint planning, which has resulted in shared fields of core competences. These are *1) Competence in cultural operating environment, 2) Business competence in cultural production and management 3) Competence in production and project processes* (KuTu 2006). Through this cooperation several seminars and meetings have been organised with working life representatives. The European Network of Cultural Administration Training Centres (ENCATC) is at a European level an important actor that has inspired discussions around the Bologna process. One example is workshops on the topic *The Bologna process in practice: experiences with international modules and projects,* organised in Bratislava, Slovakia in May 2006, where almost all institutions offering studies in cultural management participated.

Earlier in this text I put the simple question about the reasons why an educational institution wants to participate in creating a joint platform for free art groups. The introductory answer was simplistic, but why does an educational institution in cultural management want to cooperate with the chaotic free cultural field? A spontaneous answer is that it is interesting and it is fun! A more reflected reason and description of the free cultural field is given by the Deputy Director Odile Chenal and Programme Officer Philipp Dietachmair of the European Cultural Foundation in Amsterdam, the Netherlands: "These newly-founded initiatives often act as pioneers of alternative and innovative art production. They frequently operate as important icebreakers in advocating substantial changes in dealing with the cultural, social and even political issues of their local environments". (Dragićević, S. M. 2005 p. 11)

It is easy to see Produforum's participants as critical voices and innovators. Many cultural managers, whom we train will be working in this turbulent field. The challenge is to synchronise the higher education field that by tradition is very slow, with the fast changing world. In the training in cultural management at Sydväst we can say that we have longstanding cooperation with some of Produforum's participants. These contacts derive from previous work by some teachers, as well as cooperation in the form of work training and theses

that some students have written, for example for the Hangö teaterträff and the performance group Oblivia. As a result of this cooperation three Produforum participants (Oblivia, Stjärnfall and Klockriketeatern) have cultural managers that have graduated from Sydväst.

All study programmes have their own dynamics and our strength is our presence in the cultural field. Our challenge is to anchor to the national and international research community, such as Laurea's Conference on Innovative Pedagogical Models in Higher Education. We are in a situation that is so aptly described in Liisa Vanhanen-Nuutinen's and Pirjo Lambert's book *Hankkeesta julkaisuksi*, freely translated as From project to publication. Lambert and Vanhanen-Nuutinen have longstanding experience of developing writing in projects carried out by universities of applied sciences. They call for new writing strategies and genres that are adapted to the development projects that teachers are working with. According to them, teachers' publication activities are, at a theoretical level, seen as important, but a common problem is that in practice teachers' working profile are seldom planned in such a way that working time would be clearly allocated for this work. A major part of project reports and articles are written in evenings and weekends, as is also the case with this text.

Many of you, who read this text in Laurea's conference publication, know Lambert's and Vanhanen-Nuutinen's work. For this reason, I will merely single out their comment that teachers write about their projects, but not in their projects. (Opettajat siis kirjoittavat hankkeestaan, mutta eivät hankkeessaan) (Lambert, Vanhanen. 2005. p. 32). Through the Produforum project we have been able to reverse this. Writing itself is used as a method to allow different voices to be heard in the project, and it has also given us an opportunity to design shared working models.

Knowledge production, the first step

Produforum is a EU-financed project, for better or for worse. The positive thing about it is money and the requirement for documentation, the negative the obsessive demand for documentation. For instance, the payment requests have been nicknamed Mårran after the icy and voiceless ghost in Tove Jansson's books about the Mumintroll. To write applications, to document and write reports may be felt as a necessary evil, but in Produforum we use collective writing as a method that leads to joint visions, strategies and working models. At a practical level this has meant open writing workshops and joint development of texts. This material is thereafter used as a basis for assessments, new applications and other information material.

This method is inspired by action research, which departs from the idea that a practitioner, in this case an actively participating teacher, can research and develop his or her own activities (see for example Anttila, 1996). During past years this approach has become commonly used in students' theses in universities of applied sciences, as the students should mature into developing practitioners, who know how to evaluate and develop the work processes they are engaged in.

The first step in Produforum's research and development work was to device a model for knowledge production. A picture often inspires to joint creative work. I took my departure in a picture where the Produforum's participants represent the heart in the midst, whereas knowledge production creates a ring around the core activities. The picture has changed several times as a result of different meetings and discussions, and here is the last version.
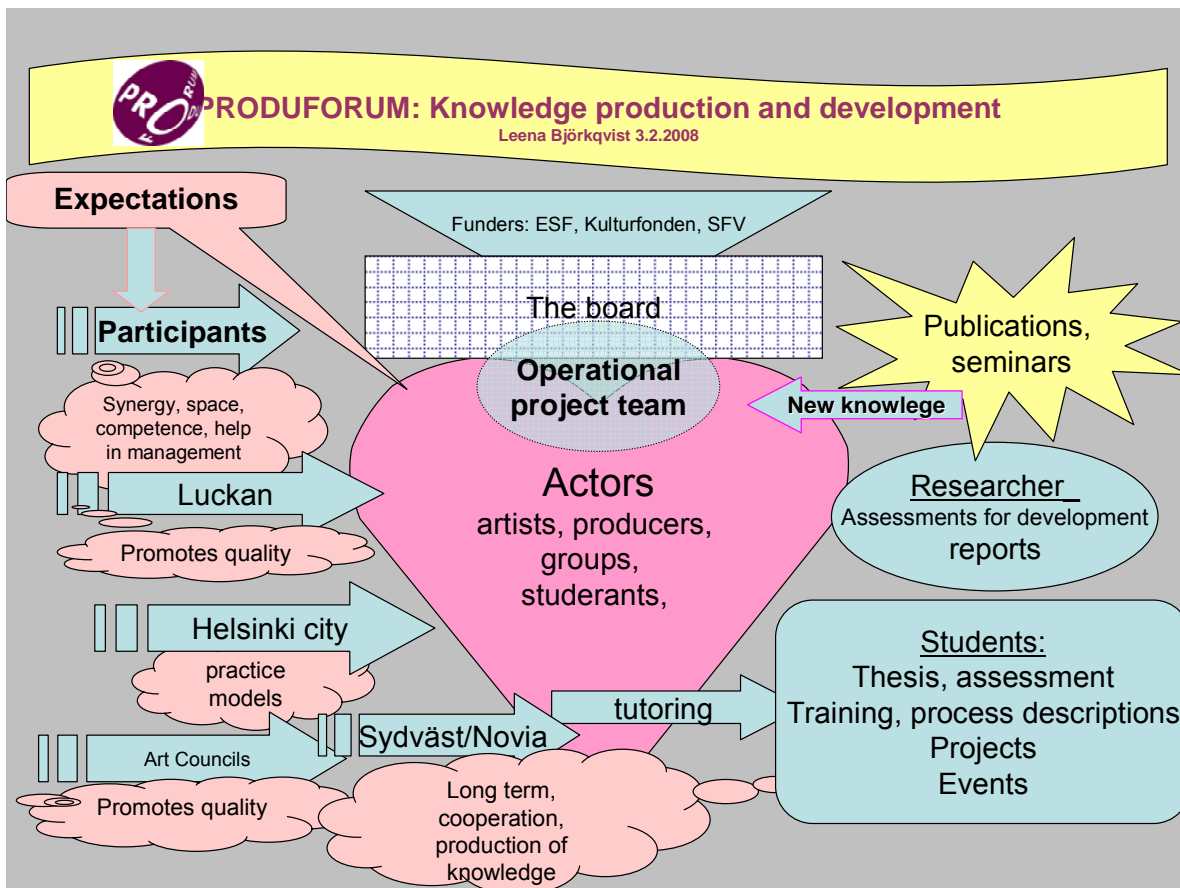
Picture 2. The model for Produforum's knowledge production and development.

To the left expectations are pictured involving synergy, competence raising, new work models, long-term cooperation and knowledge production. This intensive cooperation offers an opportunity for an increasing number of students of cultural management to work as trainees for the participants. They also produce some project and trainee reports as well as theses. This is visualised in the box to the right. In order for this knowledge production to be transformed into research and development work, we have organised the work in line with the action research model:

1. Permanent participant and student of cultural management Jesper Karlsson is writing his thesis as an assessment of Produforum from the participants' perspective (internal evaluation).

2. Working life researcher Vivan Storlund assesses Produforum's structure and activities from a working life perspective (external evaluation).

3. Teacher and lector in charge of the study programme Leena Björkqvist analyses and develops Produforum in a pedagogical perspective.

The three of us have also been actively involved in the writing process for new applications, for which the coordinator of the project, Ann-Christin Hellberg-Sågfors has the main responsibility. In line with action re-search principles, we have used the research findings to tailor the activities while we, at the same time, recognise the need for new knowledge that has been revealed in shaping the continued expanding regional Produforum project. The principal source material, both for the internal and external evaluation, has been the evaluators' own experiences, minutes from meetings, applications, reports, as well as interviews with participants and those who initiated the project. Writing has been process-like and all have supported each other and striven to find ways to open the writing process for others to partake. It has not been easy, but it has been a genuine learning experience.

Up till now Vivan Storlund's external evaluation has been completed and appended to Produforum's final report 30.1.2008. The active dialogue in the working group is reflected in the report in text passages and interview citations. Jesper Karlsson's internal evaluation is now just short of a summary analysis. The first pedagogical analysis comes in the form of this article.

Results of Produforum's research and development work after the first project period

Produforum fulfils the requirements of an integrative learning milieu, providing authentic and topical work opportunities for students, and for teachers as well. As Sydväst does not administer the project, this makes the project authentic while it, at the same time, requires continuous flexibility and activity in teaching. At the moment, authenticity is precisely the strength of the project. Competence raising is a natural part of Produforum's working culture, as the activities are based on artists' needs of deepening and broadening the field of art and culture. An investigatory approach stands at the core of artistic work. The tutoring of trainees has taken off well and the big challenge for education is to create a dialogue between Produforum's activities and theory.

One specific result of Produforum's research and development work is Vivan Storlund's evaluation of the project from a working life perspective. According to Storlund, Produforum has, during its first year of activity, facilitated the work of free groups and cultural managers. She also emphasises that Produforum is an interesting model for new forms of work that is generally sought today. (Storlund, 2008 p. 8). One of the wishes expressed by the Cultural Office of the City of Helsinki (see picture 2) for the project was precisely that it would develop models of operation, good practises, which may be applied and also could inspire others to develop their networks. This mode of operation can be seen as very successful, as Produforum has received a positive decision about its continued activity for a three year period for activities in the Helsinki Metropolitan Region (Uusimaa and Itä-Uusimaa).

Based on the experience of one year, and with the certainty of possibilities to continue, work can now be planned more long-term. To the credit of the project, it should be mentioned that nobody waited for an official decision about the possibility to continue the work; everybody just worked and planned as were the future secured. This tells something about how people in the free art field are used to live in a state of uncertainty.

What are the experiences of Produforum for training in cultural management? Students of cultural management have from spring 2007 onwards in a concrete way participated in Produforum's activities through projects and work practices as follows:

- A group of students of cultural management partook in organising Produforum's opening party within the context of module I event production.

- Two students have made their work practise for one of Produforum's participants and they have also worked with Produforum's marketing.

- One student did his long practise (30 ECTS) in the project, spring 2007.

- Three students did their long practise (30 ECTS) in the project, autumn 2007.

- In his thesis, one student evaluates Produforum from the participants' perspective.

- Three permanent Produforum participants have managers, who have graduated from the Sydväst University of Applied Sciences

Tutoring of these students is done in cooperation among Produforum participants, teachers at Sydväst and Produforum's coordinator Ann-Christine Hellberg-Sågfors, who is both an experienced cultural manager and also a qualified teacher of cultural management. This cooperation holds great potentials for developing tutoring processes where everybody learns. The challenge, though, is to find joint time for discussions and the generation of knowledge.

Joint seminars offer another forum for competence raising. A big seminar *Networking and cultural production* was organised in November 2007, and also some smaller seminars were organised. Here the challenge is to synchronise different themes with the students' curricula. Curricula development is planned in big professionally oriented modules, such as project management, cultural economy, cultural policy and event production, which opens the possibility to participate in topical discussions and events.

New contacts that have been established via Produforum, have generated prospects for visiting lecturers, which it its turn has generated new joint development projects with the participants. For example audience development and cultural pedagogy are fields of activities that have assumed importance for the free cultural field. Account of this has been taken in the development of the curriculum for cultural management. Proficiency in EU project administration has increased alongside the process of applying, administering and reporting.

Produforum has already proved to be a good first working place for newly graduated cultural managers. This is something that can be further developed in order to facilitate young persons entry into working life. There is a clear potential for developing alumni activity in the cultural field.

The big question concerning research in and development of the multifaceted activities of Produforum is dealt with next in the closing chapter.

Future prospects for Produforum's research and development activities

As Produforum has obtained continued funding as a three-year regional ESF- funded project, there are good prospects to develop the activities in such a way that all participants may find their own meaningful way of working within Produforum's frame.

A particularly valuable aspect of this work with different kinds of participants, artists, cultural managers, general secretaries, officials, researchers, teachers and politicians, is the feeling that everything is possible as long as we share things with each other and try to avoid misunderstanding one another.

Yet another contributing factor in the implementation of the project is the small format, which is characteristic of the Finno-Swedish cultural field. Everybody knows each other and needs each other, in order to one day reach the critical masses. To work in a language that is spoken by merely 6 percent of the Finnish population creates a feeling of community that may enhance cross-sectoral cooperation.

To create something new is evidently at the core of artistic work. Nothing human is strange for the curious artist, besides EU bureaucracy perhaps, but as an active actor in society Produforum tries even to make it a working tool.

The first year of activity has been characterised by intensive work to make the basic structure work. The next step is to develop and assemble new knowledge in the project. Indeed, we have observed that there are similar needs all over the globe, and there are certainly many different ways to go about this kind of work. We just need to find good cooperating partners in the Nordic countries, in Europe, in the world.

The dialogue with theoretical knowledge about learning organisations, Learning by Development and action research, will certainly also give more tools to structure the knowledge production and development work of Produforum.

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Developing the Emotional Intelligence of Students Within The LbD Framework

Stephen Stacey
Laurea University of Applied Sciences
Espoo, Finland
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Introduction

Relationship skills are essential to our human experience – to our ability to go through our one life on earth 'living life well.' Research studies from all over the world consistently show that what we most value in life, more than wealth or professional achievement, is being able to build closeness in our families and in our friendships. When it comes to our professional life Dr. Daniel Goleman, in his ground breaking book 'Emotional Intelligence,' noted that though it was IQ and knowledge competence that was likely to determine a person's profession, it was the strength and breadth of their EQ (emotional and relationship intelligence) that was more likely to determine how successful (and happy) they would be in that profession. The same rule applies to our couple relationships, our friendships and our parent/child relationships – the wider the range and higher the level of our emotional and relationship intelligence the more likely it is that we are able to build a lasting couple relationship that we can enjoy, to build stronger bonds in our friendships, and to raise children who we can feel proud of.

Because of the growing value of having well developed EQ skills in both professional and personal life it's important that universities today look at ways to develop the EQ of their students so they are more fully prepared for life. The challenge is that it is often difficult to develop students' EQ skills using tradition methods of teaching. Laurea's new teaching philosophy Learning by Development (LbD), however, offers increased opportunities to develop the EQ of students, thus better equipping them for life. This paper will look at three different aspects of this topic. Firstly we will look at how important EQ skills are in profession life and within the main relationship in most adults' lives, the couple relationship. Secondly, we will seek to establish that many of the EQ skills that are useful in professional life are similar to those that provide for stability and happiness within the couple relationship – showing, in essence, that EQ skills are life skills and that similar skills are useful in many different relationship settings. Lastly, we look at how LbD finally offers higher education the opportunity to raise the EQ of students and we look at one aspect of the teaching of EQ in Laurea within the context of LbD.

The Importance of EQ Skills to Professional Growth and to the Couple Relationship

Goleman, in his seminal work, broke down the concept of emotional intelligence into four main categories – self-awareness, self-management, social awareness and relationship management/teamwork.

Self-awareness - Emotionally aware of one's emotions and their effects - To accurately self-assess one's strengths and limits - Self-confidence	**Social awareness** - Empathy - Awareness of a group's emotional currents and power relationships - Service orientation (anticipating, recognizing, and meeting another person's needs).
Self-management - Emotional self-control - Trustworthiness - Conscientiousness - Adaptability - Flexibility - Innovativeness - Achievement orientation - Commitment - Initiative - Optimism	**Relationship management** - Ability to develop others - To leverage and value diversity - To know how to influence others - To send clear and convincing messages - Inspirational leadership - Act as a catalyst for change - Be able to resolve conflicts - Good networking skills - Nurture and strengthen instrumental relationships - To collaborate and cooperate with others when working towards shared goals.

His research and the research of others in his field allowed him to come to the following conclusions.

a) Firstly, EQ was a much more important factor determining success in one's chosen career than technical proficiency. For example, competency research in over 200 companies and organizations worldwide suggests that about one-third of the difference between a top and an average performer in a white-collar job is due to technical skill and cognitive ability while two-thirds is due to emotional competence. This rises to four-fifths being attributed to emotional competence in top leadership positions. (Goleman, 1998)

b) Secondly, each profession needs a different mix of emotional and relationship skills and employees need to work to develop the right EQ skills for their profession if they are to reach higher levels of success. For example, successful recruiters in the US Air Force scored significantly higher on assertiveness, empathy, and emotional self-awareness.

c) Thirdly, research showed that to be classed a high achiever in their chosen career a person needed to find the right six personal skills that were essential for his or her profession and develop them to a high level of competence. For example, an analysis of more than 300 top-level executives from fifteen global companies showed that six emotional competencies distinguished stars from the average: Influence, Team Leadership, Organizational Awareness, Self-confidence, Achievement Drive, and Leadership (Spencer et al, 1997)

It's evident from the above that having well developed EQ skills can play a major role in the ability of an individual to succeed in their chosen profession. Having these skills often offers an employee the chance to achieve their professional goals, has a positive affect on their ability to develop their self-esteem, and allows them to be a wealth creator for any company they work for.

Relationship skills and self-management are not only of value in professional life. They, of course, form the basis for success in a couple relationship. A review of the most popular couple relationship education programs shows that the writers believe that many adults today need a greater range of EQ skills than they now have if they are to succeed in building the long-term couple relationship they dream of. For example, the best researched couple education program, PREP, focuses on improving couple communication, on developing problem solving strategies, on improving the ability of couples to nurture their relationship, and on helping partners work on their ability to forgive. The most popular couple education book, 'The Seven Principles For Making Marriage Work' by Dr. John Gottman, the world's pre-eminent researcher on couple relationships, focuses on helping couples find a common vision, on teaching couple how to improve communication and solve conflicts, how to be more adaptable and collaborative, and how couples can nurture their friendship.

Both programs begin with the premise – a premise based on extensive research and experience – that the reason why so many couple relationships fail today is not because of incompatibility but because so many people lack the relationship skills needed to sustain and develop a successful long-term couple relationship in today's demanding society. Many other couple education programs are based on the same premise and extensive research on these programs shows that teaching relationship skills in an educational setting can be effective in improving the quality of a couple's relationship. For example, research on couples that filed for divorce shows that those who received relationship education were far less likely to go through with the divorce and those who didn't - 12% compared to 60% (Geasler and Blaisure, 1998). Also a recent meta-study on the effectiveness of relationship education concluded that even short educational interventions to improve the EQ skills of the partners were effective in improving the quality of the marital relationship. (Reardon-Anderson et al, 2005)

Looking more deeply we can see that research on couple relationships consistently shows that it is the negatives caused by a lack of emotional and relationship intelligence that usually cause a family to be distressed. For example, Dr. John Gottman studied thousands of couples over the course of many years and found a high degree of correlation between the way couples argued and the stability of their relationship. Others researchers such as Dr. Willard Harley (Book: His needs, Her needs) and Dr. Emerson Eggerichs (Book: Love and Respect) have found that successful couples tend to be more aware of the different relationship needs of their partner and thus are more likely to think about fulfilling those needs in their daily lives. Also, some couples today fail to maintain the friendship side of their relationship and thus drift apart. All these issues – communication, service orientation, and the nurturing of friendship are all things that can be taught to partners – and thus couples can be encouraged to improve their abilities in these and other areas over the years. It's true EQ skills take longer to learn than academic knowledge – but that doesn't mean that they are not learnable. A customer service employee can learn to be more empathic, so can a husband. A coach can learn to help a person to gently change, so can a wife. It would be wrong to believe that a spouse can't develop any of their EQ skills over the period of 40 years or more.

Most EQ Skills Are Life Skills

The question needs to be asked as to whether the emotional awareness and relationship intelligence that Goleman feels are essential for a successful career have any connection to the kind of skills that couple educators such as Gottman feel are essential for a healthy couple relationship.

If one was to look at the long list of EQ skills that Goleman compiled to explain what makes for success in professional life, it is not hard to find skills that might also be of value within a couple relationship. One might, without much hesitation, include emotional self-control, trustworthiness, conscientiousness, flexibility, commitment, optimism, empathy, service orientation, the ability to develop another, finding value in diversity, knowing how to send clear messages, to be able to resolve conflicts, the ability to nurture and strengthen instrumental relationships, and the ability to cooperate with another when working towards a shared goal. In other words, many of the same EQ skills that provide for success in business are needed for success in the home. Though they sometimes may not feel similar, in practice they are often the same skills just nuanced in a different way, and many of the underlying thinking patterns that allow a person to exhibit a particular EQ skill in different settings are remarkably similar.

It's not surprising then that research finds that those who have the skills needed to sustain a life-long committed relationship also, on average, earn more than those who divorce, separate or remain single (Waite, 1995). If a person has high levels of EQ these skills can be used effectively in both areas of life. This doesn't mean that Bill Gates should have a perfect marriage - he will probably need a different set of EQ skills at work and at home. What it does mean is that the more proficient a person is in general in EQ skills, the more likely it is that they will have EQ skills that will be of use in both environments. There are also some social thinkers who argue that it is not primarily the lack educational opportunity that holds back those who come from deprived social backgrounds. It is instead their low levels of EQ, and the low levels of EQ within their families and communities, that negatively impacts on their life – and thus they are more likely to lack concentration at school, be unemployed, to live below the poverty line and also to divorce or separate.

When we look at the normal school curriculum and the academic life skills it aims to teach young people we can look at it two ways. We can hope that as many people as possible get the basic skills (reading, writing, maths, etc) that are needed to start to deal with life's challenges. We can also hope for excellence - that some people will excel and achieve more in their life because of the knowledge they have gained. Research studies show that Finland can be extremely proud of itself – in that it is determined to give the highest percentage of adolescents the basic key academic skills to function in life. We can look at EQ skills in the same way. We can ask what is the basic level of EQ competence that will allow a person to achieve the fundamental life goals that most people hope to achieve. We can also ask which level of EQ skills might allow a person to excel in their chosen profession. The challenge for society, as seen through the eyes of the high divorce and separation rates (now over 50%), is that people are going through 12 or more years of education but are not learning the basic EQ skills that are needed to achieve one of their most important life goals – that of building a successful family. Quite a few people also finish schooling with to key EQ skills that are of fundamental importance in workplace.

The fact that over half of young adults don't have the basic EQ skills to achieve normal life goals is expensive for society – both socially and financially. From a financial perspective, estimates in other countries are that this lack of key basic EQ skills costs everyone in society somewhere around between Eur 2,000 and Eur 3,000/yr. These financial costs can be broken down into 3 categories: increased taxes (To pay for more social workers, prisons, police, special needs schools, hospitals to deal with depression related illnesses, alcohol and drug abuse, benefits for the unemployed, etc); personal costs (Higher insurance premiums, costs of divorce and separation, low personal motivation, higher product costs, etc); company costs (Increased absenteeism due to depression – both caused by negative home or work environment, higher costs from theft, poor group skills leading to low productivity, etc). Over a lifetime – that's over Eur 150,000/person. And that doesn't include the costs of people not having the EQ skills to excel. It's evident that it would be much cheaper to support the development of the key EQ skills to a basic level through the education system, something that would enable more people to enter life as young adults with the EQ skills needed to achieve their basic life goals – and along the way we could probably raise many more children with the EQ skills needed to excel. From a sociological viewpoint, low basic EQ skills are also expensive – with many couples going through years of conflict, many children growing up without their father's support and love, many grandparents separated from their grandchildren, poor work relationships leading to burnout, and growing numbers of people who are afraid to go out on Friday night.

Moving Towards Teaching EQ Skills Within Laurea's LbD Framework

We have seen that EQ skills are life skills, that one relationship skill can help a person in several areas of their life. We also know that all of these skills are, to some extent, learnable. People can become more empathic if they so choose; can learn to solve differences of opinion without arguing, can learn to be more conscientious or committed. The question society needs to ask, however, is when, where and how is it possible to promote the development of EQ skills within the population and thus improve the quality of life of an individual, of the family, of communities and the nation.

In many ways EQ skills should be seen in the context of life-long learning, that there needs to be a commitment to inspire the growth of EQ skills during all stages of a child's educational years and beyond. Society should develop an understanding that these skills are an indispensable part of life if people are to live life well and thus they need to be constantly improved and refined over the course of a lifetime. The now accepted concept of the life-long learning of knowledge and practical skills should be broadened to include the life-long development of EQ skills – that together they form different sides of the same coin. Because of the extremely large financial burden that poor EQ skills costs society it will certainly makes financial sense to include EQ skills development into the education system from the youngest age up to and including university. From the viewpoint that many couples and their children often suffer immensely for years because they have poor EQ skills – it certainly makes moral sense. Also, from the viewpoint of social justice, it seems only fair that those who grow up in socially underprivileged environments are offered the chance to learn and embody the same social skills that those from the more privileged part of society use everyday to enhance the quality of their life.

In many ways, the traditional methods of teaching professional EQ skills (team building, cross-cultural intelligence, entrepreneurial initiative, etc) within a higher education setting seem to have only a limited affect on helping the students develop their EQ skills for life. Inspiring EQ development is difficult when students don't have a chance to practice the skills in a real-life environment – the practical experience of working with people from other cultures, of learning to resolve real conflict with others in a genuine team environment, of understanding the depth commitment that is really needed to develop one's own business. Also, no attempt is usually made to link the teaching of EQ skills with a wider understanding of how these skills might be of use in other areas of life – thus they become segmented skills. Because of this segmentation some people might use planning skills effectively in the office – only to come home and argue with their partner over the same issues. Traditional teaching methods are, therefore, somewhat ineffective in teaching students EQ skills.

The new model of learning by development (LbD) as presented by Laurea offers a chance to change all this – a real chance to improve the development of EQ skills within the students' lives. In many ways, LbD seeks to offer the practical experience of apprenticeship within an education context - learning through authentic experiences with the aid of educational support. But for LbD to be truly effective as an educational model, for it be a valued attempt to prepare young minds for real life, the importance of EQ skills for building a successful future cannot be overlooked. When there are relationship problems on a team in college, these should be seen as a chance for the students to develop new conflict resolution skills. Team members might also be coached, for example, to give sensitive feedback, to learn about conscientiousness, or to actually learn how to seek out and use the diverse talents of others. They can also be helped to understand how these and other EQ skills are of use in other areas of life. As such, lecturers then become 'life coaches'. Obviously, this requires renewal in the understanding of the role of educator and the need for new educational models.

As well as using the LbD educational setting to help students develop their EQ skills there are other ways to inspire the development these skills within the minds of young adults. This spring, Laurea University of Applied Sciences started offering a course specifically designed to help students develop some of their EQ skills from a reverse perspective. In considering which approach to take to introduce these issues it was decided that a course should be offered focussing on helping the students develop their EQ skills within the context of their (future) couple relationships – and then the students would look at how the skills and awareness they developed within this course might be applied to their work life. The couple relationship was used as the focal point for several reasons. Firstly, research into divorce and separation rates showed that over the half the students in Laurea didn't have the EQ skills needed to create the lasting couple relationship they hoped they would build. Secondly, the couple relationship is probably the most intense relationship of all human relationships, demanding the development of a wide variety of EQ skills to a reasonable degree of competence. By looking at the couple relationship the students would be covering and seeking to develop a wide number of EQ skills. Thirdly, and most relevant to the LbD design, the couple relationship was chosen because it is already relevant to so many of the students' lives. Some are already married, and many are cohab-

iting or in dating relationships. They, therefore, would have a chance to practice their new skills in real time – and get instant feedback on the development of their abilities.

The course was designed to focus on those EQ skills that were deemed to be of most relevance to the couple relationship. Not surprisingly, in almost all of the these relevant areas there were one or more best selling couple education books that dealt extensively with this aspect of the couple relationship. The topics covered by the course included the following:

1. Life-Long Learning: Because the success of the couple relationship is largely based on the development of EQ skills within each partner, partners need to look at their couple relationship in the context of life-long learning – of learning and embodying a wide range of EQ skills.
2. Service Orientation: To seek to understand the different relationship needs of men and women and how each partner should consistently offer something that the other partner values
3. Emotional Self-Control and Trustworthiness: To understand how respect determines the essential quality of any relationship.
4. Sending Clear and Convincing Messages: To learn how partners can communicate in ways that the opposite sex can understand.
5. Joint Leadership: Because building a home and life together requires teamwork we study healthy team communication strategies.
6. Conflict Resolution and Empathy: Because couples sometimes need to discuss their most important values students learn enhanced communication skills so they can talk about sensitive topics without hurting the relationship.
7. Collaboration and Cooperation: Because partners always have different ideas about how to build a home – students look at where there are common problems and how they might negotiate a good compromise.
8. Commitment: Because many couples that divorce today later regret their decision and wish they had tried harder, students look at how they can strengthen their commitment muscle so they can get through the natural difficult times
9. Developing Team Player Skills: Students learn about the kind of personal skills that are useful in a long-term relationship – skills such as the ability to forgive, say sorry or praise.
10. Nurturing and Strengthening Relationships: We look at how couples can keep their friendship alive through dating and doing activities together. They also study how partners can discover their partner's most important love buttons – to know what their partner most likes to receive. The art of affection, romancing and creating romantic anniversaries is also covered.
11. And we discuss how many of these EQ skills are transferable to work and other areas of life

Though the range of topics covered by the course is extensive, the number of teaching hours available to teach these EQ skills is limited (36 hours). Clearly, since learning all these skills to a reasonable level of competence in such a short time would be impossible – the only hope could be that the students were pointed in the right direction, allowed to understand the most important EQ dynamics that allow for success, and were shown that there were extensive resources available if they one day find that they need to improve one or more of their EQ skills.

After choosing the key EQ topics for the course the question arose as to how LbD experiences might be built into the course in order that the learning be more personal and relevant to the students' everyday lives. Sadly, time considerations prevented the course becoming fully LbD. It was impossible for the students to search out their own solutions and information on each of the course topics – but still aspects of LbD could be developed within the course framework. This is what was decided:

1) As each topic was covered time would be allowed for group discussion and learning. Discussion was seen as important for three main reasons. Firstly, it would allow students to uncover their present beliefs and level of knowledge. This self-discovery process was believed to provide the best platform from which new information or skills might be accepted and learnt. Secondly, group discussion would allow the students to learn from the collective wisdom of the group. Thirdly, since many students today are very wary of commitment it was felt that unless these students felt the freedom to talk about their barriers then very little of what was taught on the course would be of relevance to them.
2) The five course assignments were designed to help the students explore their thoughts, to help them find answers to questions they might have, to help bring them into contact with people in real life couple relationships. They were to interview a couple that had been together for many years using the EQ skills framework that was taught in the class as a basis for their questions. They were to do a self-reflection exercise after each class – reflecting on their present understanding and what they might have learnt from the day's lesson. In pairs they were to read one of the books on the book list and offer short lecture on it to the class. This enabled the students to become owners of the knowledge. They were also re-

quired to research a topic of interest concerning the couple relationship – again hopefully helping them find answers to questions they might have. Lastly, to show the universality of EQ skills they were to find a pairwork exercise from a business teambuilding book and convert it into a pairwork exercise that couples might use.

3)Lastly, the students would be asked to practice their newly found skills both in class and at home in their relationships.

The students, at the beginning of the course, filled out a pre-test questionnaire. The results confirmed the general reasoning behind creating the course.

- Rate your desire for a successful long-term committed relationship

20%		40%	1	60%	3	80%	5	100%	22

- Which is more important to you:

Successful Career:	5	Successful Committed Relationship:	26

- Rate the level of education you've received about building a successful relationship during you school years

20%	18	40%	7	60%	4	80%	1	100%	1

- What would like the level of education to have been?

20%	1	40%	6	60%	16	80%	7	100%	1

- Do you have any emotional barriers or fear that make it difficult to think about making a commitment to a future partner?   Yes: 10   No: 21

It's clear from these answers that the students, at the average age of 23, are fully aware that they are ill prepared for the most important relationship of their life and that most of them feel that the education system hasn't helped them develop the EQ skills they feel they need to build a successful couple relationship. It was also discovered that about 1/3 of the students have already, at their young age, a fear of commitment – something that has the potential to have major negative consequences for their life unless they develop more confidence in their ability to build a strong couple relationship through developing their emotional and relationship intelligences.

Conclusion and Proposals

Through this paper we've seen that EQ skills are life skills. It's possible to imagine that a person with empathy, problem solving skills or emotional self-control might use that ability in all areas of their life. We've seen that having a healthy range of EQ skills can play an important role in enhancing a person's professional and family life. We've also seen that, despite the importance of EQ skills to each person's life, the present education system has often not realised that it is important to help the next generation develop their emotional or relationship intelligence. In fact, if we look at the growing number of people who finish years of education without the EQ skills needed to build a successful life-long relationship, and also look at the growing number people in all developed nations who find they don't have enough EQ skills to cope with life (E.g.; The rising number of those who are on anti-depressants or who practice escapism through alcohol and drug abuse; the growing amount of disruptive classroom behaviour, high crime rates, etc) we can see that present EQ thin education models are in no way adequate in helping the present generation prepare for real life. Research shows not only are the present education models EQ deficient but they are seem to be so lacking in EQ nutrients that EQ skills are actually being lost across the population as a whole. For example, the weakening in the ability of people to stay committed to their marriage promise during the normal difficult times or the lessening in the level of service orientation in a growing 'me-first' society means that the rate of breakdown in the couple relationship is still increasing and expectations are that within 20 years the majority of children in Europe will spend some of their childhood being raised by a lone parent. Also, the growing numbers of children growing up lacking emotional self-control and self-esteem means that prison populations and the number of people involved in drug and alcohol abuse continue to rise everywhere in the developed world. The loss of these EQ intelligences will only place heavier burdens on state funds and lead to a lower quality of life for many communities.

The question we face as a society is how long we can afford to take a 'pick-up-the-pieces' attitude to these EQ related problems rather than a preventative 'let's-equip-our-citizens-for-life' one. In many ways society seems to have not seen that today people actually need a greater level of EQ skills than people needed 50 years ago. Years ago divorce and separation rates were much lower than today because people stuck in poor couple relationships because of the social stigma of divorce or because of economic reasons. Now, with no

barriers to divorce, young adults actually need to have high levels of EQ if they are to succeed in this valued relationship. Also, forty years ago obedience to the boss' word was the primary EQ skill. Today people actually need initiative, good team skills, to be service oriented and know how to deal with conflict in a positive manner. The education system, however, hasn't yet really adapted itself to this new reality.

Laurea's new LbD offers hope for change. It offers the opportunity for those in the position of educator to move from being a traditional lecturer on through the stage of being a facilitator of the PBL school to hopefully to become a 'life coach' to the students who are in their care. It might be possible to imagine a time when:

a) Each profession might be assessed to understand which 7-8 EQ skills are of most value. The desire to develop these EQ skills in students would then be integrated into that profession's degree study program.
b) Possibly students, when being accepted for a course, would also take an EQ profiling test (for example: Emotional and Social Competency Inventory - University Edition ESCI-U from the Hay group) – and this would be taken into account when choosing students for a particular course. In the present system, for example when selecting nursing students, often a person with slightly higher exam grades is chosen instead of a person with slightly lower grades but much better EQ social skills – but the person with good EQ social skills would become a much better nurse. Such EQ testing and matching would also lead to less students dropping out of the course due to a feeling of incompatibility.
c) At the start of a degree program, students could be lead to clearly understand the role of the most important EQ skills for their future profession. Most courses studied in the degree program would include an EQ element – thus helping the students focus on the development of those skills. A clear personalized EQ 'map' could be developed – helping the students understand which EQ skills they most needed to develop and which courses could help them develop each skill. Books that might help the students develop their EQ skills would be identified and experts could mentor students, showing how they use these skills in they work life.
d) The development of these EQ skills would not been seen in the isolated context of the profession the students are studying. Efforts should be made to link the development of these EQ skills with the understanding that these skills are useful in other relationships and contexts. The aim would be to integrate these skills into the person's whole being. Far too often people have a skill that they use in one area of their life but they haven't discovered its usefulness in other important relationships.
e) In order to not forget the development of the other EQ skills, more generic EQ courses could be designed. For example, the building successful couple relationships course as mentioned above would cover a broad range of EQ skills.

There are obviously many challenges along the path towards EQ competence development within students. New educational models need to be designed and ways to actually enhance the EQ skills in students need to be developed. For LbD to function properly, however, it demands that educators not only understand and believe in the concept of the life-long learning of EQ skills but also that they, in some way, also embody enhanced EQ skills in certain areas. It requires a high degree of personal honesty and a desire for consistent, personal growth – for teachers to also seek to develop the EQ skills that they need to do their job to a high level of proficiency. It's a long journey but if LbD can develop the right educational model it finally offers hope to bridge the communication chasm that afflicts the old traditional education model – bringing the student closer to an educator who can coach them along the path towards having the right attitudes and relationship competences to succeed in both their professional and private life. Also, if it can help students substantially improve their EQ skills LbD offers hope to reverse some of negative trends we see in society. Even done well, however, it is not panacea for all social ills – but it definitely can be one step in the right direction.

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Introduction

The research, development and consulting services of PIRAMK University of Applied Sciences invest in projects aiming at developing the operation and services of companies and the public sector in the Tampere Region. The responsibility of developing the regional working life based on scientific information and knowledge is written into the law for universities of applied sciences (2003 / 351). But as we who have been working with development projects well know – it is challenging to unite the needs and the time recourses of working life and education. How to plan the curricula in such a way that students can learn in development projects and be developers by themselves and on the other hand how to plan the development projects in a way that timing of the curricula, the developing projects and the working life match together. Because in PIRAMK we find the students´ participation in developing projects very important not only from the working life´s point of view but from the students´ own point of view – we have invested energy and resources in the development of an open, modern and multidisciplinary learning environment, Wellbeing Clinic.

Wellbeing Clinic has been established into the new facilities of PIRAMK University of Applied Sciences. The clinic located by Tampere University Hospital develops new services and functions as a modern learning environment for the students of the university of applied sciences. The modern facilities offer many possibilities to create and test new wellbeing services by crossing the boundaries between the disciplines / fields of education. The facilities include for example a swimming/therapy pool with warm water, a gym, reception rooms, measuring devices, an office and so on. Our very special environment are the homelike ITSE - facilities, where it is possible to test and practise hearing, seeing and communication aids as well as the technical solutions developed to facilitate independent coping.

The theoretical background of project learning

For the students different kind of research and development projects offer interesting but also demanding opportunities to learn. The best results in project learning can be achieved when the learning process is dissected carefully and appropriate pedagogical decisions are made to support and guide the learning process. Project learning has been studied since the 1970s and it has increased largely in the 1990s. (Vesterinen 2001). In Finland there has been an increasing number of different kind of projects in working life in recent years. But what is a project? According to a dictionary a project is described by using words such as a plan or a work (MOT 2008.) The theoretical background of project learning is in experimental learning, cooperative learning and motivation psychology. (Pehkonen 2001). Project learning is based on constructive idea of learning and earlier life and learning experiences. (Vesterinen 2001). Project learning is cooperative and social and is bound in a certain context. It is important that students understand the responsibilities they have when involved in developing projects and realise the meaning of commitment expected from them. In project learning learners try to find out new problem solving methods by specifying or expanding the problem. Information retrieval skills are very important for learners. Learners must gather information, discuss and analyse data, make conclusions and communicate and share new information and findings with other learners. (Eteläpelto & Rasku-Puttonen 1999). Projects can be seen as teaching methods, learning methods and developing methods for working life. (Vesterinen 2001). According to Eteläpelto & Rasku-Puttonen (1999) projects can refer to a way of organising learning.

Koivumäki (2002) has studied project learning by interviewing ten students of universities of applied sciences and ten representatives of working life. The students had been learning in projects for at least two years and they had earlier education and working life experience. According to the results of the research the project was seen as a *meaningful* learning experience. Project learning was experienced to be *demanding, interesting* and *efficient*. The researcher found important concepts to describe the nature of project learning. The concepts found were *learning process, atmosphere, functionality, persistence / continuity, scientific information,* sharing of information, restructuring of concepts and meanings (Koivumäki 2002). Pehkonen (2001) also found scientific information to be one of the main concepts in project learning. But despite sharing information he talks about *co-operation*. He also highlights the concepts of *responsibility, freedom of action, practicality and problem-orientation* to be the essential concepts of project learning. His research is based on the articles about project learning published in The Elementary School Journal from 1920 until 1990. He analysed the articles by using grounded theory method. (Pehkonen 2001).

The challenges of project learning

Good atmosphere and genuine operational environment are things that improve project functioning. Strict structures and teacher changes in the middle of projects can hold back the continuous process of developing projects. Successful project learning gives the kind of readiness what is needed in future working life. (Koivumäki 2002). According to Vesterinen (2001) project learning is an intentional, efficient and motivated way to learn. By learning in projects students can strengthen their professional competences, competences needed in working life and strategical readiness they need in practising their own professions. Projects make it possible to make up new ideas and experiment them. By participating in projects students can make contacts that are helpful for them when they graduate and find their place in working life. (Vesterinen 2001).

Teaching and guiding in projects

Dialogue, reflection, feedback and evaluation are important when project learning is being seen from the pedagogical point of view. Guiding the learning process in project learning is based on reflective dialogue. In projects students unite theoretical and practical information. The aim of the learning process is that students start to trust their own skills and competences and are less dependent on external authorities. Reflection of learning appears at different levels: self reflection, team reflection and reflection from the teacher. With the help of reflection the learner can take distance to the problem and find new angles to help in solving problems. Reflection is as important to the student as it is for the teacher. Feedback makes learning easier and helps keeping the right direction in action. Feedback also helps in recognising made mistakes and adds learner´s self confidence. In project learning the feedback is needed from different participants of the project. When several people give feedback to the learner, there is a risk that the given feedback is not in line and confuses the learner´s thoughts. It may lead the learner to accept only the feedback that he approves. And in the end he does not benefit from the given feedback as he was supposed to. The most important task is to support learners´ self-image and motivate them. With time the role of the teacher in the evaluation becomes smaller and the learner takes more responsibility in self reflection. In project learning you cannot just evaluate the objective results of learning but it should be based on self reflection. (Vesterinen 2001).

Opening the learning process in Wellbeing Clinic

The aim of this process was to open the learning process in the Wellbeing Clinic from the learner´s point of view. Opening the process was a part of a larger quality assurance work in PIRAMK University of Applied Sciences. We had two "quality teams" both of which worked in this project led by a lecturer who is specialised in quality work and teachers´ quality assessment of students in health care education. The smaller team worked and opened the process step by step and the process was reflected in the larger group several times and at different stages. As a result the learning process was written into a flow chart and each step of the flow chart was opened carefully. As a result six different stages were recognised in the learning process in Wellbeing Clinic: 1) needs for learning, 2) facilities and personnel resources, 3) plan for learning, 4) project learning in Wellbeing Clinic, 5) evaluation of learning process and finally 6) results of learning (table 1).

1) The needs for learning arise from different levels: the expectations of society and working life, the curricula and the learner´s personal needs for learning. The changes in the future society must be seen as a foundation of education. The expectations of the society and working life in Finland are well known. The age structure is going to change radically and the number of elderly people is growing every year. A great number of workers in health and wellbeing sector will retire during the next ten years. The customer demands are higher and the developing technology makes new kind of solutions possible in wellbeing sector. (Larjovuori 2004). In future workers need both common knowledge and competences as well as special professional skills and competences. (Metsämuuronen 2001). People are no longer educated in certain tasks but to be able to work in a certain segment or level. (Lehtisalo & Raivola 2003). When having a close look at the contents of projects and tasks learners face in Wellbeing Clinic we recognised several potential competences that Metsämuuronen (2001) has said to be needed in the future working life. They are project working, taking of responsibility, information retrieval skills, co-operation skills, self-direction, innovative way to work, social competences and customer service. The Wellbeing Clinic is a learner oriented environment that provides the students great opportunities to use their imagination and create new services. Customers usually make a request that learners start to process with a problem based approach in the multidisciplinary team. The team together takes responsibility for the action in Wellbeing Clinic. Students need to work and solve problems together. Their social skills and competences gain good practice. Customer service has a very important role in Wellbeing Clinic. The services produced must be based on the demands and needs of customers and the end-users of the services. The principles of high quality customer services are written out and the principles are discussed with the students so they understand their meaning and are also motivated to follow them.

Students usually recognise the needs of customers but the learning goes much deeper when they actually practise the principles and gain feedback on it.

2) Learning environment includes the Wellbeing Clinic with its facilities, personnel resources and development projects. Last year, one clinic manager plus several teachers worked in the Wellbeing Clinic. The teachers have their own special competences and they usually want to take part in projects where they can exploit their skills and competences and take part in regional development work. The role of the teacher in developing projects demands fresh attitude towards teaching. It is not traditional lecturing in a class room. It is learning by developing and by using appropriate pedagogical solutions as tools in guiding the learning process. Last year, the customers of Wellbeing Clinic came from different kind of organisations, companies and third sector actors. Co-operation with occupational health care organisations was active. The organisations usually had development projects of their own and wanted to have Wellbeing Clinic as a partner and test-bed in developing new services etc. The orientation and introduction are a very important part of project working. If students do not understand the wholeness of the project and its goals and their own role in it, it is difficult for them to commit themselves to the project. Without commitment the project working is not fruitful, because there will always be changes in the plan that need to be taken into consideration and thus some re-planning has to be done. And if the student is not motivated it can be seen in the doing and results.

3) Plan for learning in Wellbeing Clinic is based on the curriculum and the student´s personal plan for learning. The developing projects give students the content of practical training and the pedagogical decisions made in Wellbeing Clinic support the process. Students may be in different stages of their education and their level is considered when giving them tasks and projects to work with. The plan includes making the time scale. The learners take part in making the time scale for themselves. It is not an easy task because there are several students who have their own tasks and shared projects – they need to work together to achieve a functional time scale. In the beginning of their practical training there is always a meeting where they get to know more of the contents of the projects they participate in.

4) Learning in Wellbeing Clinic means all the action students take part in Wellbeing Clinic. Entrepreneurship skills and competences (internal and external) are a part of students´ learning plan in Wellbeing Clinic. The internal entrepreneurship skills in Wellbeing Clinic mean being self-directed, taking responsibility for the given tasks and the learning process in Wellbeing Clinic, practising social skills in a multidisciplinary team with other students, teachers and also with customers and end users of the services. External entrepreneurship skills are practised by "running business" in Wellbeing Clinic which means taking the first contact with the client, planning the service, making written offers to the customer, counting price for the planned service, producing and evaluating the service and billing customers for the made service. So they see the wholeness of the process from planning of something new to the end. How much guidance the student needs in different stages of his practical training depends on the student´s earlier experiences, competences and stage of the studies. The further the studies are, the more independently the students usually want to work. The nature of guidance at that point is more like the student consulting the lecturers when necessary and as planned beforehand.

5) Evaluation in Wellbeing Clinic is based on reflection and dialogue. Evaluation takes place in different stages of the student´s practical training. The feedback they receive strengthens their self-esteem and self-image. In Wellbeing Clinic the students gain feedback from several actors: from clients, other students and teachers. In spite of the risk involved in gaining feedback from several actors, we have found it fruitful. And when the learner gains same kind of feedback from several persons it makes the message stronger. And sometimes the different perspectives may raise good conversation and reflection. Nowadays students seem to be more and more demanding towards themselves and often have other responsibilities that affect their performance in practical training. When problems occur, the best way to resolve them is discussion. Students value open discussions and usually find them relieving, when they are not left alone with their problems. The discussions also give teachers new perspectives and they can adjust their guidance to suit better the student´s situation. Sometimes it is just a question of doing some re-planning concerning the projects or timetables. In Wellbeing Clinic we have two questionnaires in use. One is for students and the other for customers. Every year the results of the questionnaires are analysed and actions are planned to make changes if needed. The customer´s questionnaire includes four areas: facilities, content of the service, meaningfulness of the service and benefit of the service. The results of the customer questionnaire are also used in giving students feedback on their action and services they have produced. The questionnaire for the students includes seven different areas. Each area has 2-4 questions. The areas are facilities and equipment, orientation and pre-information, projects and tasks, guidance, learning results, learning atmosphere and chance to develop. In the end of the questionnaire the students evaluate the total value of the learning process in Wellbeing Clinic. (2594)

6) The results of learning can be measured at several levels. In the end of the practical training there is an evaluation discussion with each student. In the discussion the whole learning process is evaluated. Students gain their grade and credits. In recent years students have gained around 290 credits by studying in Wellbeing Clinic when all credits are counted together. The average period of practical training was 5 weeks (= 7.5 credits). Every year students have also made a SWOT –analysis of Wellbeing Clinic as a learning environment. According to the results the Wellbeing Clinic has succeeded in offering students the kind of learning environment that supports the student´s entrepreneurial skills and competences. Here are some examples about students´ thoughts. "Everybody there had the same goal, it was pleasantly open and the atmosphere there was very good". And another one said that you learn "business life" there.

In conclusion

The opening of the learning process proved that we are on the right way. As learning environment Wellbeing Clinic is practical and needed in uniting development projects with education. The requests for future working life skills and competences in wellbeing sector that were described in the theoretical background of this article are well represented as a part of learning process in Wellbeing Clinic. But there is also a lot to do and more to develop. Opening this process brought up the next challenge – opening the teaching and guiding process in Wellbeing Clinic. It might bring up new ideas on how to re-develop the Wellbeing Clinic in the future. (2907)

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