

Outi Kallioinen (ed.)

THE COMPETENCE-BASED CURRICULUM AT LAUREA



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The Competence-Based Curriculum at Laurea

Outi Kallioinen (ed.)

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Foreword

In the late 1990s, Laurea 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. Learning by Developing combines two of the major orientations of universities of applied sciences: professional education (learning) and research-oriented higher education (developing).

It was soon evident after implementing the 'learning in projects' model that the traditional curriculum process wasn't optimally supportive of the new operating model. 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.

The aim of this publication is to describe the competence-based core curriculum adopted by Laurea on 1 August 2006, and the LbD operating model as its implementation.

Vantaa, 2007

Pentti Rauhala

President, PhD, Adjunct Professor

Introduction

In August 2006, Laurea concluded an extensive curriculum reform, which led to the creation of a shared competence-based core curriculum for the whole university. During the reform, a core curriculum model was created, which produces service innovations and competence, safeguards and facilitates the fulfilment of Laurea's strategies. All degree programme curricula were revised according to this jointly created model. The new competence-based curriculum forms an innovative statement on Laurea's behalf, as well as a contribution to the metropolitan area's innovation environment and the development of the European Higher Education Area, in that it allows research and development to be integrated into education even better than before.

With the new competence-based core curriculum, Laurea continues to strongly define itself as a university of applied sciences specialising in service innovations, whose specific task is to foster the competitiveness and regional development of the Helsinki metropolitan area. Two of the most evident outcomes of this long-term development effort are Laurea's appointment as a centre of excellence in regional development for 2006-2007 (Higher Education Evaluation Council, 2006) and the fact that according to the latest statistics (graduates from 2000-2004), Laurea graduates are employed better than students from any other university of applied sciences in Finland.

The curriculum process was a challenge for the whole of Laurea in that it was a dynamic and changeable process typical of an innovation environment, which could not be completely controlled or planned in advance. The process was managed through shared, target-oriented leadership, optimally achieved through the collaboration of various participants and interests. According to Ståhle, Sotara and Pöyhönen (2004), shared leadership means that several players together direct the development activities and influence other players in many ways. Shared leadership always requires the skill to combine different competences and forms of authority. The curriculum process can also be seen as a reflection of Laurea's innovation ability, based on the organisation's capacity to renew itself. As a renewable organisation, Laurea maintains its current success

factors while also creating reforms that will improve competitiveness in the future.

Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow (2000) looked at knowledge-production and its dynamics in modern society and science in their book *The New Production of Knowledge*. The concepts and views described in the work regarding the dynamic change of knowledge production are highly applicable to examining the knowledge generated in the development processes related to Laurea's core curriculum. Gibbons et al. (2000, 3-6) examined the knowledge generated in applied research in transdisciplinary frameworks. The knowledge produced in applied, processual studies sprang from broad-based joint reasoning between the participants. Knowledge and new competence are generated through continuous discussion; they cannot be generated without involving the active participants' interests. This is a good description of the importance of authenticity and partnership in development projects, the principles on which Learning by Developing is based.

Knowledge produced in applied research is also characterised by interdisciplinarity, heterogeneity, organisational heterarchy and transdisciplinarity, social responsibility, reflection and quality assessment, with a marked dependence on context and application. Knowledge is the result of the parallel growth of knowledge producers and users in society (Gibbons et al. 2000, 167).

Research and development work carried out in the transdisciplinary framework has four noteworthy characteristics, which are also visible in the practical implementations of Laurea's core curriculum:

- 1) The research and development work leads to a developing framework for directing problem-solving efforts.
- 2) Knowledge produced at the meeting points of different expertise sectors develops its own theoretical structures, research methods and practices, which may not be applicable to the traditional scientific field.
- 3) The research outcomes are transmitted to the participants of the process and may be disseminated as soon as they have been produced. The outcomes are circulated and developed in new problem-solving situations rather than through professional journals or conferences.
- 4) Transdisciplinarity arises from dynamic motion at the intersection of various expertise sectors. It consists of active problem-solving ability in which interaction networks are maintained through both official and unofficial means. Maintaining

the mobility of information and predicting the next area of application are also very difficult (Gibbons et al. 2000, 3-6).

This curriculum publication describes both the process and its outcomes in a rich and multidimensional way. Chapter I, Building the competence-based Curriculum, focuses on describing the strategic choices made in the curriculum reform, on the reform as a development process, and on future expertise. Chapter II, Generic Competences in the Laurea Curriculum, examines the creation of the generic competences and describes the theoretical framework behind each competence. The generic competences are also compared to general Finnish and European competence descriptions. Chapter III, From Competence Areas to Themes, describes degree programme curricula, while Chapter IV, Learning by Developing as an Operating Model, discusses the development of the Laurea Library and the practical implementation of the new curriculum using the LbD model.

The publication provides a fairly comprehensive view of the new curricula, but is ultimately only able to reveal the tip of an iceberg that contains huge amounts of shared, object-oriented contemplation and action. This new curriculum did not make the world final, but it provides an excellent springboard for future development. We hope that this publication will serve as a useful account of development in pedagogy for universities of applied sciences.

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REFERENCES

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P. & Trow, M. 2000 (1st ed. 1994). *The New Production of Knowledge. The Dynamics of Science and Research in Contemporary Societies*. London: Sage.

Stähle, P. & Sotarauta, M. & Pöyhönen, A. 2004. Innovatiivisten ympäristöjen ja organisaatioiden johtaminen. Teknologian arviointeja 19. Publications of the Parliamentary Office 6/2004. Helsinki.

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I BUILDING THE COMPETENCE-BASED CURRICULUM

Chapter I describes the strategic choices made in the competence-based curriculum, the curriculum reform as a development process, and future expertise.

The Competence-Based Core Curriculum as Laurea's Choice

In recent years, Finnish universities of applied sciences have undergone an opportune period of curriculum reform. Having passed the organisational restructuring phase of the early twenty-first century, they could move on to developing the content and methods of their operations. A significant catalyst to this endeavour has been the development of the European Higher Education Area through the Bologna Process (ARENE 2007, 21).

Laurea was one of the first universities of applied sciences to start the curriculum reform process in Finland. This was partly due to its staff's strong interest in and motivation for improving the content of Laurea's operations, legacies of the institution's long establishment process. Laurea has received recognition for its pioneering position by being appointed a centre of excellence in regional development for a second and third time in 2003-2004 and 2006-2007. Success was harder to come by in the evaluations for centres of excellence in education, as Laurea was not selected until the third round, in 2005. When it came, the appointment applied to the whole institution; that is the only time so far that an entire Finnish university of applied sciences has been appointed as a centre of excellence. This could be considered as a recognition of the cohesiveness of the culture at Laurea, and a good response to the doubts aired in the 1990s regarding the workability of what was then the Espoo-Vantaa Polytechnic. Laurea's practical development efforts have also been influenced by its interest in pedagogical research, both internal and external. This was reflected in the selection of professional development as one of the broader areas of focus when these were first defined in the late 1990s.

The far-reaching approach of Laurea's Board to strategic leadership of the University of Applied Sciences has from the beginning worked towards integrating education, research and development, and regional development. That was the guiding light of the first pedagogical strategy published in 2002.

In this decade, the curriculum reform process has been fuelled by joint development efforts conducted by higher education institutions in order to fulfil the requirements of the European Higher Education Area. Feedback received from the labour market, such as a general critique regarding the failure of universities of applied sciences to provide enough practical competence, has also led to education being developed in order to meet requirements coming from that direction. The Learning by Developing model, thanks to which Laurea received the appointment as centre of excellence, is Laurea's answer to this challenge.

Below is a more detailed look at the various factors that make up the foundations of the curriculum reform carried out at Laurea in the first decade of the twenty-first century.

Basis in Laurea's overall strategic thinking

The concept of learning and knowledge implied by Laurea's strategic intent was defined in a pedagogical strategy approved by the Board on 28 October 2002. According to the strategy, learning at Laurea takes place through teaching, research and development. Learning is a gradually progressing research process, in which the students act as partners and the lecturer acts as the students' tutor and a supporter of professional growth. The three tasks of a university of applied sciences – education, research and development, and regional development – become integrated into a single entity. In the early twenty-first century it was not yet common for universities of applied sciences to have a pedagogical strategy.

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. Consequently the problem arose of how to fit projects into the curricula used at the time without letting them dominate too much. The theory was not to be based on a set of curriculum-stipulated study units that must be turned into project work. In implementing the pedagogical strategy, Laurea's practical developers refined the idea of 'learning in projects' into the Learning by Developing model. Its development was influenced not only by Laurea's own pedagogical research but also by the theory of research-oriented learning expounded by Hakkarainen, Lonka and Lipponen, and on other ideas based on a pragmatic theory of knowledge (Fränti & Pirinen 2005; Raji 2000, 2003, 2006; Suomala 2003).

Basis in pedagogy and philosophy of education

Pedagogical research and its applications have played a central role in Laurea's core curriculum reform work. The first pedagogical strategy was based on Katariina Raji's definition of the relationship between theoretical and practical

teaching and learning. Raij (2000, 142; 2003, 45, 51) defines the competence produced in a university of applied sciences as the sum of four factors: evidence-based knowledge; understanding the context and its phenomena; skills in doing; and the ability to manage various situations. The competence environment is composed of the knowledge environment, the skill environment, the experiential environment and the value environment. The main aim of Laurea's pedagogical development efforts was to find a workable model for workplace-oriented learning.

In terms of the philosophy of education, Laurea's pedagogical thinking arises from concepts rooted in John Dewey's pragmatism, according to which professional education must not consist simply of learning the technical skills required for routine employment, but of active scientific research on materials, processes and principles. According to Dewey, separating the active doing phase from passive reasoning eliminates the essential significance of an experience (Dewey 1984, 452-479, 505).

Recent public debates, which have attempted to redefine universities of applied sciences as higher vocational institutions (polytechnics) by demanding that degrees be shortened and focused on learning practical skills, have forgotten the principles of Deweyian philosophy. Academic researchers, on the other hand, have proposed the adoption of a pragmatic-naturalistic philosophy of education for universities of applied sciences without knowing much about the current situation at the institutions in question (Pihlström 2004, 52).

Habermas's knowledge interests are technical, practical and emancipatory. Technical knowledge interest refers to a typical scientific interest that strives to find out how things are. Practical knowledge interest refers to the endeavour to understand things that is typical of the humanities and the behavioural sciences. Emancipatory knowledge interest refers to knowledge with which society can be developed and reformed. It is a complementary concept to the pragmatic philosophy of education, on the basis of which we could think that the most valuable learning is learning that helps us cope with highly demanding tasks (Audi 1999, 325).

A significant crystallisation for Laurea's pedagogical thinking was provided by the investigative learning model proposed by Hakkarainen, Lonka and Lipponen (2004). Investigative learning sees learning from three perspectives: the information gathering metaphor, the participation metaphor and the knowledge creation metaphor. The investigative learning approach has helped to create an understanding of the learner's thought and learning processes in R&D projects, and to

create work methods and practices by which R&D skills can be developed in specially formed integrative learning environments (Hakkarainen, Lonka & Lipponen 2004, 18-24; Fränti & Pirinen 2005, 46).

Raij (2006, 30-31) explains that Laurea's Learning by Developing is different from investigative learning in that it also includes knowledge required in the workplace and the integration of the three tasks of a university of applied sciences.

Basis in higher education curriculum models

The curriculum models defined by the Teaching Development Unit of the University of Oulu (Karjalainen 2003, 50-53) are:

1. *The study-unit-based curriculum*, in which studies leading to a degree are listed by subject as courses. The internal classification of each subject area is used as the principle for grouping courses together.
2. *The module model*, in which study units are grouped into compulsory or optional modules. Each module forms a cohesive competence area, which must be completed as a whole.
3. *The competence-based core curriculum*, in which modules are not defined as single study units or competence areas, but as core competence modules consisting of various subjects and progressing throughout the degree.
4. *The project-based curriculum*, in which generic competences are operationalised into functional work entities – projects – for which students achieve concrete outcomes.
5. *The block model*, in which the studies for each semester form a fixed block of studies.

I became familiar with these curriculum models in 2003, when working with Asko Karjalainen in a team that was to evaluate the workability of the teaching development and feedback system used at the Turku University of Applied Sciences. Out of the models defined by Karjalainen, the competence-based core curriculum model seemed to provide a solution to the problems related to the practical implementation of Laurea's pedagogical strategy. Initially, Laurea's pedagogical developers wanted to create a unique curriculum model for Laurea, but I considered it to be more appropriate to form links with development work carried out elsewhere in the higher education field. This would initiate a more fruitful interaction between Laurea and other higher education pedagogical developers.

In early 2004, Laurea decided it would transfer to a competence-based core curriculum at the start of the 2006-2007 academic year. In a survey conducted of Laurea's lecturers, 90 per cent believed the reform to have been initiated by Laurea's Board. Forty per cent believed that the lecturers' opinions had influenced the decision. This interim review of the curriculum process considered the improvement proposals made by students to have been of little import (Auvinen et al. 2006, 36). Most would agree that a radical innovation such as this should be initiated in just such a way. If the starting points had lain just in development requests made by students or lecturers, there would be improvements to existing structures, but no major changes.

Basis in the objectives of the European Higher Education Area

In 2005, Finland's higher education institutions adopted the European Credit Transfer System for measuring the scope of studies, replacing the earlier Finnish credit system. This was not just a technical change, but it involved shifting to a student-oriented and learning- and competence-based system. Teaching and learning was now directed by target-oriented competence development rather than just the completion of study units required for a degree. In terms of the recognition and comparability of international degrees, it is important to link learning outcomes to concrete competence requirements and definitions in the labour market. Consequently, curricula move away from a focus on plans based on individual subjects and teaching requirements, and towards a competence-based core curriculum model that observes the holistic development of students and supports professional growth (ARENE 2007, 21-22).

A shared vision for the curricula of universities of applied sciences in 2010 was built in regional seminars held as part of the ECTS Project of the Rectors' Conference of Finnish Universities of Applied Sciences (ARENE). The vision was:

In 2010, universities of applied sciences will have a workable curriculum derived from a good shared process. The curriculum supports the attainment of the university of applied sciences' strategic intent and the target-oriented learning of all parties involved. The curriculum clearly and intelligibly brings forward the plan for the students' learning and professional growth. It is future-oriented and based on the needs of the labour market and its development in the university of applied sciences' area of operation, on a realistic evaluation of the students' starting points and circumstances, and on the demands of international cooperation (ARENE 2007, 26).

A proposal regarding a national qualifications framework for higher education degrees prepared by a Ministry of Education committee in 2004 was also rooted

in a competence-based orientation. The proposal was intended to act as a foundation for a government decision on a national qualifications framework that is compatible with the European framework. The decision has now been delayed in waiting for the completion of the European qualifications framework. In future, the international comparability of degrees will be based on a comparison not of completed courses, contents or durations, but of required competences (Ministry of Education 2005; ARENE 2007, 27).

The generic competences defined in Laurea's competence-based core curriculum are the same, theoretically if not verbally, 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. 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). The interim review of Laurea's competence-based core curriculum (Auvinen et al. 2006) criticised this separation between knowledge-based and skill-based competence, and in a way it can be said to be contrary to the principles of Laurea's pedagogical strategy. On the other hand, Laurea's generic competences could be considered more progressive in that they are not based on current degree programme structures, as the ECTS Project's competences are. Thus Laurea's theory is better at promoting multidisciplinary assessment and the comparability of shared competence targets of different degree programmes (ARENE 2007, 30).

Basis in the needs of the employment sector

A typical difficulty in the cooperation with employment sector representatives in developing curricula has been the lack of a holistic vision of the employment sector. There are often criticisms of individual competences, but a constructive and in-depth holistic vision is seldom seen. A gratifying 79 per cent of the lecturers surveyed as part of the interim review of Laurea's curriculum considered the comprehensive curriculum reform to have sprung from needs for change voiced by workplace representatives. However, the reviewers considered the creation of diverse and well-functioning employment sector partnerships to be a significant challenge for the implementation of the reform (Auvinen et al. 2006, 37, 68).

In recent years, the Confederation of Finnish Industries EK has tried to create a holistic vision of the development of the employment sector's competence requirements. The latest competence-related Future Probe was published in au-

turn 2006. The report defines the following competence areas as being crucial for the competitiveness of businesses in 2015: business competence, technology competence, specialist competence or multiple competence/multidisciplinarity, creativity and innovation, network competence, service competence, corporate responsibility, multiculturalism and design competence (EK 2006, 5). The theoretical correspondence with Laurea's generic competences – knowledge-based professional competence, skill-based professional competence, ethical competence, innovative competence, network competence, reflective competence and globalisation competence – is remarkable.

At the time of writing, the most recent report examining the general requirements for education placed by the employment sector and by society is a report of the Ministry of Labour's Globalisation Committee. The report describes three competence development requirements of the economic operating environment:

1. The need to invest heavily in a relatively narrow area of top expertise, which will allow Finland to stay at the forefront of global competence;
2. The need to look after the capacity of various aspects of the economy (particularly service functions) to utilise new knowledge, most of which is generated outside Finland;
3. The need to be able to quickly develop new competences in the workforce, whose competence becomes out of date in relation to demand.

The Globalisation Committee draws the following conclusions regarding educational development needs:

1. Increased significance of basic skills;
2. Modularisation and sufficient generalisation of education; ensuring the presence of progress channels;
3. The quality of education is more important than the level;
4. Comprehensive adult education system and a financing scheme that creates powerful incentives;
5. Support is needed from abroad for top-level expertise.

If Laurea's curriculum reform is evaluated from the point of view of these factors we may be safe in concluding that Laurea's generic competence theory may respond better to future challenges than ARENE's ECTS Project's more conservative recommendation regarding core competence areas.

Conclusion

The structural development of the higher education field has again become a focal point of higher education policy, after the preparation of the performance agreement for 2007-2009, the memo of the Ministry of Education of 8 February 2006, and a government review of educational policy. It remains to be seen to what extent content development efforts, which have ceased in the twenty-first century, will be reinitiated now that structural reforms are taking up resources and causing unrest among staff. In the 1990s, the staff of universities of applied sciences traversed a difficult path towards a cohesive, established university of applied sciences. Once that objective was met, a strategically led journey towards the strategic intent for 2010 – ‘a fully authorised and international university of applied sciences participating in innovation activities’ – began. At times, members of staff have felt that the objectives were too elevated to correspond to everyday realism. However, it appears that the selected *modus operandi* has led development very consistently and profitably. Today’s world is very demanding. Universities of applied sciences are still looking to claim their rightful place in the higher education arena. Mediocrity is not acceptable; we must aim for the top.

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References

- ARENE 2007. *The Bologna Process and Finnish Universities of Applied Sciences. Participation of Finnish Universities of Applied Sciences in the European Higher Education Area*. Helsinki: ARENE ry.
- Audi, R. 1999. *The Cambridge Dictionary of Philosophy*. 2nd ed. Cambridge University Press.
- Auvinen, P. & Mäkelä, J. & Peisa, S. 2006. *Laurea-ammattikorkeakoulun ope-*
tussuunnitelmatyön arviointi. Laurea Publications B15.

Confederation of Finnish Industries EK 2006. Future Probe. *Verkostoitumisesta voimaa osaamiseen*. Final report.

Dewey, J. 1984. *The Philosophy of John Dewey. Two Volumes in One. 1 The Structure of Experience, 2 The Lived Experience*. John J. McDermott (Ed.). Chicago & London: University of Chicago Press.

Fränti, M. & Pirinen, R. 2005. *Tutkiva oppiminen integratiivisissa oppimisympäristöissä*. Laurea Publications B10. Helsinki: Edita Prima.

Hakkarainen, K. & Lonka, K. & Lipponen, L. 2004. *Tutkiva oppiminen. Järki, tunteet ja kulttuuri oppimisen sytyttäjinä*. Porvoo: WSOY.

Karjalainen, A. 2003. "Curriculum academicum". In Karjalainen, A. (Ed.) *Akateeminen opetussuunnitelmatyö*. University of Oulu, Teaching Development Unit. <<http://www.Oulu.fi/tutkintorakenne/tyokalut/akatops305>>

Ministry of Education 2005. *Qualifications Framework. Description of Finnish Higher Education Qualifications*. Committee Records and Reports 4. Helsinki: Yliopistopaino.

Pihlström, S. 2004. "Tiede ja toiminta, teoria ja käytäntö – yliopistot ja ammattikorkeakoulut pragmatismien näkökulmasta." In Friman, M., Lampinen, O., Nummela, P. & Volanen M.V. (Eds.) *Ammattikorkeakouluetiikka*. Publications of the Ministry of Education 2004:30. Ministry of Education, Finland. Department for Education and Science Policy, pp. 49-60.

Raij, K. 2000. *Toward a Profession. Clinical Learning in a Hospital Environment as Described by Student Nurses*. University of Helsinki. Department of Education. Research Report 166.

Raij, K. 2003. "Osaamisen tuottaminen ammattikorkeakoulun päämääränä". In Kotila, H. (Ed.) *Ammattikorkeakoulupedagogiikka*. Helsinki: Edita, pp. 42-58.

Raij, K. 2006. "Kehittämispohjainen oppiminen ammattikorkeakouluosaamisen mahdollistajana – Learning by Developing ammattikorkeakoulukontekstissa." In Erkamo, M., Haapa, S., Kukkonen, M.-L., Lepistö, L., Pulli, M. & Rinne, T. (Eds.) *Uudistuvaa opettajuutta etsimässä*. Laurea Publications B11. Helsinki: Edita Prima, pp. 17-31.

Suomala, J. 2003. "Tutkimus- ja kehittämisprojektit opiskelijoiden oppimisympäristönä." In Kotila, H. (Ed.) *Ammattikorkeakoulupedagogiikka*. Helsinki: Edita, pp. 95-108.

Office of the Council of State 2006. *Suomen vastaus globalisaation haasteeseen. Talousneuvoston sihteeristön globalisaatioselvitys. Osa II*. Publications of the Office of the Council of State 17/2006.

Laurea's Competence-Based Curriculum as a Development Process

In recent years, many universities of applied sciences have carried out curriculum work. This is partly due to the standardisation efforts of the European Higher Education Area and the shift to the European Credit Transfer System. Most institutions have striven to develop their curricula with a basis in competences, starting from the predicted competence requirements of the employment sector (cf. e.g. Auvinen, Dal Maso, Kallberg, Putkuri, Suomalainen 2005). The transfer to the ECTS system signified different processes of varying durations for each university of applied sciences (Liljander 2005). Laurea started the change as a purely technical conversion calculation, and investigated the curriculum reform carefully. The objective was to adopt new curricula throughout Laurea in autumn 2006 (Laurea Curriculum Reform Project Plan 2004).

Various stages can roughly be distinguished in the curriculum reform process carried out at Laurea in 2004-2006. In spring 2004, the focus was on project planning, whereas between late 2004 and January 2005 the emphasis was on creating Laurea's competence-based curriculum model. At these early stages, the central operator was the curriculum reform project team. The actual curriculum development work took place between March 2005 and March 2006. This work involved all Laurea lecturers, with a focus on degree-programme-specific efforts. The management group and the generic competence team also played an important part. Since April 2006, the process has focused on planning teaching implementations and learning evaluation processes, among other things. Process reviews have formed an important part of the process since autumn 2005.

This article describes Laurea's curriculum reform process using the documentation created during the process. The description focuses particularly on the early stages of the process; the process of defining generic competences and degree

programme curricula will be examined in further detail elsewhere in this publication. The article is written especially from the point of view of the development project's management group and project team.

Perspectives into the curriculum process

Laurea's curriculum reform was a multi-level development process. Firstly, the reform can be seen as a part of Laurea's strategic development. One of Laurea's major strategic choices has for a long time been the integration of the three tasks of a university of applied sciences. Initially, a central tool for achieving this integration was known as project-based teaching (Laurea Pedagogical Strategy 2002), but from 2004 onwards the operating model has been known as Learning by Developing (Evaluation of Universities of Applied Sciences as Centres of Excellence in Education 2004). The importance of the strategic viewpoint is evident in the process, above all in the central status of the project management group.

Secondly, the curriculum reform can be seen as a collaborative development process carried out by lecturers. The triple task integration and the LbD model have brought about fundamental changes to the work of teachers, shifting from traditional, classroom-based teaching and the evaluation of assignments, to guidance and development work carried out in authentic workplace situations. This also leads to increased cooperation between teachers. In this sense, the curriculum reform is closely linked to the development of teaching. Support for this teaching change process has come in the form of a PD course on innovative teaching and of the efforts of the management development team. The teachers' collaborative process is evident particularly at the level of the degree programme curricula.

Thirdly, the curriculum reform can also be seen as a development process with a clear research-oriented element (cf. Rantanen & Toikko 2005). A theoretical foundation was sought for the development work, and it made use of research-style questioning and empirical data gathering. Evaluation has been made a central part of the development process and was invested in by commissioning an external review of the process. Therefore this could be called research-aided development (cf. Alasoini 2006). The perspective of research-oriented development has arisen especially in the process of defining generic competences.

Development projects can be structured in different ways. Tuomo Alasoini (2006, 40) distinguishes between planning-oriented and process-oriented approaches. Laurea's curriculum reform process started with exhaustive planning. However, during the process, the focus shifted to the interaction of participants, and the planned structures and processes changed. Thus, in retrospect, the pro-

ject was more process-oriented than planning-oriented, although its basic principles and objectives remained the same throughout.

Initiation of the curriculum reform

Laurea's curriculum reform was initiated by the President in January 2004. He had analysed the concept of the curriculum and compared diverse curriculum models (Rauhala 2004). The analysis was based on curriculum development work carried out at the University of Oulu (Karjalainen 2003). The President concluded that the competence-based core curriculum model was most suitable for Laurea.

A project team was set up for carrying out the curriculum reform, and it began working in March 2004. The project team was chaired by the Development Director, and had eight degree programme directors as members, and two principal lecturers as secretaries. Later, the team was complemented by staff and student representatives, an international affairs director, a quality team representative and a management development team representative. One of the principal lecturers resigned from the post of secretary in January 2005. The development director who had led the project moved on to other duties in autumn 2004, and a new director started in early 2005.

At the project team's first meeting in March 2004, the development director described the pillars of the curriculum reform, starting with the tasks of a university of applied sciences as defined in the Polytechnics Act (351/2004, Section 4), with Laurea's strategic choices and with the changes implied by the European Higher Education Area (international degree comparability, quality assurance and adoption of the ECTS system). At this stage, the objectives of the curriculum reform were defined as follows:

- Tying our curriculum ideas to the vanguard of higher education curriculum development, in order to integrate the three tasks.
- Creating a curriculum model that safeguards the implementation of Laurea's strategies.
- Moving from a study-unit-oriented approach to broader professional core competences.
- Linking expertise sector networks and R&D work to the contentual development of curricula → future perspective, needs arising from the innovation system, predictive approach and continuous development.
- Impact on regional development of initiatives used in competence production.

(Antikainen 2004)

At this stage the objectives did not include transferring to a competence-based core curriculum; instead, the starting point was choosing a curriculum model by analysing and refining various models.

As its first task in spring 2004, the project team drew up a project plan (Laurea Curriculum Reform Project Plan 2004). It structured the curriculum reform process with a basis in a structure proposed by Karjalainen (2003) for the curriculum process. However, the focus was always on creating a shared curriculum for the whole university of applied sciences, not on defining competences for individual degree programmes.

In the project plan (2004) the main structures of the project were defined as the project team, degree programme committees, Laurea's Steering Group and Extended Steering Group, Laurea's expertise sector networks, and the Winha committee. Contrary to the project plan, the expertise sector networks were closed down during the process, and a Winha committee was never established in the form described in the plan. The planning stage did not yet recognise the importance of the development of generic competence and of the generic competence team.

The curriculum process continued in the form of familiarisation with various curriculum models through literature and field trips. One of the most important trips in terms of the curriculum process was the project team's visit to the University of Oulu's curriculum project in May 2004. This visit supported the notion of the benefits of the competence-based core curriculum model. In spring 2004, however, there was some debate on workload reviews (cf. e.g. Karjalainen, Alha & Jutila 2003) and on core subject analyses. The project team had certain reservations regarding the importance of these factors:

"It was noted that the core subject analysis and workload review can easily lead us back to existing curricula. If we start from existing curricula, we end up just developing. If we want to reform and renew, we have to adopt a new approach."
(Minutes of a curriculum reform project team meeting, 27 May 2004)

Choosing and structuring the competence-based core curriculum process

In a seminar held in September 2004, Laurea's Extended Steering Group discussed the cornerstones of the future curriculum on the basis of certain presentations. The group reached consensus on the fact that Laurea would create a new kind of curriculum rooted in the competence-based core curriculum model. The starting point would be Laurea's shared generic competences, which relate to core competences. At the same time, the main orientation was defined as a vision of the future, as well as a shift from study-unit orientation to competence

orientation. There was also an emphasis on the broader social significance of the generic competences: “The generic competences aim to create a vital and competitive Finland.” (“Morning Presentations – Main Outcomes”. Seminar of Laurea’s Extended Steering Group, September 2004.)

An initial definition of Laurea’s shared generic competences was made in autumn 2004. This was done using theoretical analysis, a welfare competence survey conducted in spring 2004, and a competence survey conducted on the development day held on 28 October 2004 (cf. the article by Rajj & Rantanen in this book). The project team continued to work on the curriculum model, defining it as a two-dimensional model in December 2004:

Laurea’s curricula could be presented as a two-dimensional model (or matrix), with generic competences on the vertical axis and degree-programme-specific themes on the horizontal axis.

The curriculum must be based on descriptions of the skills and knowledge required for each generic competence. The competence must be measurable. The starting point should lie in Laurea’s shared competence descriptions (at least for generic competences nos. 3-8). These can then be specified for each degree programme. In addition, there must be theme descriptions and competence targets for each theme. For each theme it must be defined what competences are expected to be acquired within each generic competence through completion of the theme.

Study units refer to a theme or a part of a theme that can be completed in one semester. Most study units are ten credits in scope; in some cases there can be five-credit study units. Thus, in one semester, students take 3-6 themes.

Each theme can include basic studies as well as professional studies. The concepts of basic and professional studies are not, however, central to the structure of the curriculum. Although the themes and study units are degree-programme-specific, some programmes may also share study units. (Structure of the Competence-Based Core Curriculum 2004)

Laurea’s competence-based curriculum was defined according to this structure.

Expansion of the curriculum reform process

In January 2005, the curriculum project team had completed the preliminary definitions and turned into the management group. Fifteen degree programme curriculum teams were appointed to carry out the practical curriculum development

work. In addition, a generic competence team was appointed for defining the generic competences.

During 2005 and early 2006, the curriculum management group focused on leading and coordinating the process. Its main tasks included organising curriculum seminars, clarifying the ways in which the curriculum should be written, deciding on various small details, and organising the evaluation of the curriculum. The management group interacted regularly with Laurea's Steering Group, particularly through the mediation of the development director.

The generic competence team experts created descriptions of each generic competence. These were condensed further and used to create level descriptions, so that each generic competence progressed through three levels. In summer and autumn 2005, five generic competences shared by all of Laurea's degree programmes and two degree-programme-specific generic competences (knowledge-based and skill-based professional competence) were defined.

The issue of how to evaluate competence according to the generic competences led to extensive debates from late 2004 onwards. The generic competence team concluded that the generic competences should be evaluated using an electronic portfolio. The practical details of portfolio evaluation received very little attention at the planning stage, however, being left for the planning of the implementation of study units and themes.

The writing of actual curricula took place separately for each degree programme. For this purpose, degree programme curriculum teams were set up in March 2005. Their main task was to create a curriculum for each degree programme by the end of February 2006. The teams consisted of senior lecturers and principal lecturers from the relevant field of study. Each team appointed its own chairman and invited student and workplace representatives to join. Certain degree programmes did not appoint a separate workplace representative, but took into account the voice of the employment sector through workplace interviews or seminars.

The degree programme teams began by analysing the future competence needed in the field by working with the employment sector and students, and by using available predictive data. To ensure that the processes progressed uniformly, four curriculum seminars were organised in 2005 and two in spring 2006 for all degree programmes. Poster presentations and short general presentations were made to invite discussion on the degree programmes' competence requirements. The work progressed such that by the curriculum seminar held on 28 September 2005, the degree programme teams had carried out analyses of

the operating environment, future competence requirements and competence areas of the sector in question, and drafted preliminary themes. There was then time for describing theme objectives and defining the targets and contents of the study units included in the themes between October and December 2005, and a period for final refinement between January and March 2006.

One of the risks identified in the project plan was the fear that lecturers would fail to commit to the process due to the limited time resources. This was addressed by making a Laurea-wide decision on budgeting for the development work and for the lecturers' work inputs. Staff commitment was also fostered by focusing on the curriculum reform and the LbD model during the Laurea-wide development sessions held in 2005. A curriculum reform workspace was created in Laurea's online environment (Optima) to improve communication by storing all materials related to the process in the same folder. The Optima environment was an excellent communication channel throughout the process, although very little free-form discussion took place on the platform.

The relationship between themes and generic competences generated some confusion in the degree programme teams. The first drafts for theme objectives (autumn 2005) focused on traditional subject-specific competence areas. After a seminar on the evaluation of degree programme curricula and some refining work, the approach of the curricula was finally more clearly competence-based.

Evaluating the process

An interim review conducted by an external evaluator concluded in January 2006. The report contained development proposals related to improving shared understanding, strengthening the focus on the learning process in the curriculum implementations, and ensuring that the new curricula were adopted (Auvinen, Mäkelä & Peisa 2006). The review was issued during the refinement phase of the degree programme curricula, but its recommendations were taken into account where possible. Attention was paid for instance to communication on the competence-based core curriculum. In addition, another month was allowed for the refinement process (Curriculum Reform Management Group memo 27 January 2006).

From the point of view of the curriculum management group, the process was an overall success, with the central objectives having been met. The process was clearly collaborative and interactive, as well as research-oriented (particularly in terms of the development of generic competences). Certain structures (e.g. the degree programme teams, the generic competence team and the interim seminars) were found to be useful. LbD training was organised in spring 2006, which

meant that the concrete planning stage was reached on schedule (Curriculum Reform Management Group memo 23 May 2006).

However, the development process also had clear problems from the management group's point of view. Specific issues were the delays to the schedule, the haste with which events had to be planned, and the lack of a detailed overall plan. Irregularities were also noted in the generic competence development work and in staff commitment. Cooperation between degree programmes and trans-disciplinary work were also fairly limited in the curriculum process (Curriculum Reform Management Group memo 23 May 2006).

Overall, Laurea's curriculum reform has been a very extensive process. In addition to the project management group, the degree programme teams and the generic competence team, the process involved numerous short- or long-term committees and groups (e.g. management development team, curriculum writing team, management competence team, entrepreneurship competence team, research and development competence team, customer relationship competence team, chairs of the degree programme, language teachers). The process would probably have been impossible without the strong commitment of Laurea's top-level management. The fact that all degree programme directors were represented in the management group made the process easier. However, from the point of view of the workability of the reform, the most important factor was the extensive commitment of staff to the competence-based core curriculum and the LbD model.

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References

"Morning Presentations – Main Outcomes". Seminar of Laurea's Extended Steering Group, September 2004.

Alasoini, T. 2006. "Osallistava ohjelmallinen kehittäminen tietoyhteiskunnassa." In Seppänen-Järvelä, R. & Karjalainen, V. (Eds.), *Kehittämistyön risteyksiä*. National Research and Development Centre for Welfare and Health: Vaajakoski.

Evaluation of Universities of Applied Sciences as Centres of Excellence in Education 2004. Laurea University of Applied Sciences.

Antikainen, E.-L. 2004. "The Curriculum Reform". Presentation at a curriculum reform project team meeting, 8 March 2004.

Auvinen, P. et al. 2005. *Opetussuunnitelma ammattikorkeakoulussa*. Publications of the North Karelia University of Applied Sciences B: Descriptions and Teaching Materials 9. Joensuu.

Auvinen, P. & Mäkelä, J. & Peisa, S. 2006. *Laurea-ammattikorkeakoulun opetussuunnitelmatyön arviointi*. Interim Review, 27 January 2006. Laurea Publications B 15. Helsinki: Edita Prima.

"Structure of the Competence-Based Core Curriculum". 2004. Presentation to the Extended Steering Group, 3 December 2004. Curriculum Reform Management Group.

Karjalainen, A. 2003. *Akateeminen opetussuunnitelmatyö*. University of Oulu, Teaching Development Unit, Publications 7.

Karjalainen, A., Alha, K. & Jutila, S. 2003. *Anna aikaa ajatella. Suomalainen yliopistojen mitoitusjärjestelmä*. University of Oulu, Teaching Development Unit.

Qualifications Framework. 2005. *Description of Finnish Higher Education Qualifications*.

Project Plan for the Laurea Curriculum Reform Process. 2004. Drafted on 11 May 2004.

Laurea Pedagogical Strategy. 2002. Laurea University of Applied Sciences.

Liljander, J.P. 2005. *Tilannekatsaus ammattikorkeakoulujen etenemisestä eurooppalaiselle korkeakoulutusalueelle. Opintopisteet ja tutkintotodistuksen liite käytössä; tutkintojen viitekehys rakentumassa*.

The Bologna Process and Finnish Universities of Applied Sciences. Summary of Questionnaire Answers. ARENE ry.

Curriculum Reform Management Group, memo of 27 January 2006.

Curriculum Reform Management Group, memo of 23 May 2006.

Curriculum Reform Project Team, memo of 27 May 2004.

Rantanen, T. & Toikko, T. 2005. "Miten raportoida tutkimuksellista kehittämiss-hanketta?". In Vanhanen-Nuutinen & Lambert (Eds.), *Hankkeesta julkaisuksi. Kirjoittaminen ammattikorkeakoulun ja työelämän yhteishankkeissa*. Helsinki: Edita.

Rauhala, P. 2004. *Yliopiston opetussuunnitelmauudistuksen lähtökohtia Oulun yliopiston pilottihankkeessa*. Unpublished summary made by the President on 19 January 2004.

Salminen, H. & Kajaste, M. 2005. *Laatua, innovatiivisuutta ja proaktiivisuutta. Ammattikorkeakoulujen koulutuksen laatuyksiköt 2005–2006*. Finnish Higher Education Evaluation Council. Tampere: Tammer-Paino.

Future Expertise in Laurea's Competence-Based Curriculum

This article examines future expertise and related competence requirements from the point of view of Laurea's curriculum reform. In future, working will be increasingly challenging because competence requirements change so fast that educational institutions will find it nearly impossible to ensure that new graduates have all the necessary competence. Universities of applied sciences' curricula are constantly reviewed in cooperation with employment sector representatives, but there has perhaps not been sufficient emphasis on future forecasting as yet. Competence in forecasting and anticipation is also often lacking. The most dynamic educational institutions have taken this challenge seriously, however, and this is reflected in the quality of the competence they produce and in the level of employment their graduates find in fields relevant to their training.

The expertise needed in each organisation is determined on the basis of the organisation's core competences. The core competences are in-depth and crucial competences developed over a long period of time, which distinguish the company from its competitors and on which the company can rely for further development and the creation of new products, services, processes, etc. Diverse production skills and technologies can also be combined and coordinated using core competence. The core competences facilitate access to an expanding market, so defining and identifying them is critical for an organisation's success and profitability – although they cannot really be defined objectively. (Sydänmaanlakka 2004, 147.)

An organisation's vision can be used to derive core competences that are:

- essential to the implementation of the vision and the making of strategic decisions
- essential for producing core products
- essential for the company to survive in the long run
- competences that exist within the organisation and are unique for the company

- invisible to competitors, difficult to copy or transfer, few in number
- a combination of skills, resources and processes
- long-lasting in the organisation
- created and developed through learning in the organisation
- marketable and containing commercial value

(Ojala 1996; Sydänmaanlakka 2004, 147.)

According to Prahalad and Hamel (1990), core competences are the interpretations of an organisation's players as to what they believe produces added value for customers. Another important characteristic of core competences is the fact that through the organisation's learning they are transformed into at least team-level competence, so they are not the result of an individual's learning. (Viitala 2005, 82). One of Laurea's core competences that produce added value for customers is innovation competence.

The organisation's operations are built on its core competences, so they must be made the target of systematic and target-oriented development, closely linked to training and management. At this point it must also be decided how to acquire non-core competences. They can be produced internally, acquired through partners or networks, or outsourced.

According to Prahalad and Hamel (1996), core competences can also be known as strategic or critical competences, and a competence maintenance process has to be set up to safeguard them. A core competence plan must be made as part of the organisation's competence management and development efforts, defining the quantity, quality, location and acquisition method of each competence. A development process, with objectives, must also be defined for core competences. This will allow the organisation to utilise its core competences optimally, to protect and to preserve them. (Viitala 2005, 82)

From the point of view of competence management it is extremely important that the organisation identify and map its experts' competence in order to persistently develop it and lead it in the direction of the vision, and to allow the organisation to recruit new experts when needed (Argyris & Schön 1995). In terms of the expertise produced by universities of applied sciences, it is very important to predict the competence needs and completely new competence combinations that will arise in the future, in order to respond to the employment market's needs for renewing, maintaining and developing core competences. It is a demanding task, but it can be accomplished by forecasting and carrying out predictive, high-quality curriculum development work together with representatives of the em-

ployment market. The generic competences in Laurea's new curriculum contain exactly the kind of general competence shared by all future experts that allows for ethical, reflective and innovative work in an increasingly networked environment and in our globalised world.

Riitta Viitala (2005) discusses different views on the concepts used in relation to expertise and professionalism. Some of the most common terms are skills, competences and capabilities. Skills refer to specialist abilities that can be taught and that are applied to practical work tasks. Competences are used more to refer to aptitudes – i.e. proficiency in a certain job. The concept of competence is also linked to professionalism; the highly advanced, confident and skilful work of an expert in a field. Capabilities are usually linked to prowess, but prowess and ability are often confused conceptually in speech. (Garavan & McGuire 2001; Viitala 2005, 113.)

Ruohotie (2002) has discussed the meanings given to professional competence on the basis of definitions made by Ellström (2001), indicating that the professional competence that an individual can genuinely utilise in his or her work receives meaning from four very different perspectives:

- Professional competence means the skill and proficiency requirements made by the employment market, by professional organisations, etc.
- Professional competence means the skills required by the workplace for the successful completion of a job.
- Professional competence means an individual's proficiency and eligibility for further study, indicated by curricula, degree requirements and degree certificates. Professional competence means the individual's actual and potential proficiency, i.e. individual and personal capacity.

According to Räsänen (1996), professionalism implies a varied and comprehensive ability to complete job tasks, which encompasses both broad capabilities and the capacity to develop. Good control over tasks leads to the ability to complete tasks independently, implies responsibility over one's own performance and work outcomes, and produces success in changing circumstances.

According to Ruohotie (2002), the performance of professionally skilled individuals can vary greatly depending on what they consider to be core competences or strategies in their jobs, and what meaning they impart to different competences. The transfer of competences from one context to another is not spontaneous, which creates challenges when providing orientation for new workers or experts.

From the point of view of key qualifications, universities of applied sciences should plan the learning process so that the teaching and development of general skills is also linked to a genuine workplace context. The definition of each competence should be socially localisable (Ruohotie 2002; 2006). The Learning by Developing operating model allows for the development of new professional competence in authentic workplace contexts, which creates an understanding of expertise as a holistic entity rather than as a series of competences.

Expertise as described in Laurea's curricula

Expertise is a highly challenging phenomenon, especially when trying to create future forecasts. In research, it can be seen from different perspectives. According to Hakkarainen, Palonen and Paavola (2002), research on expertise can be classified as assuming one of three viewpoints:

- expertise as information gathering (cognitive view);
- expertise as participation in an operational culture (participatory view); or
- expertise as knowledge creation (creative view).

These perspectives are complementary, but according to Tynjälä (2004), the creative view is a new kind of approach that combines the best parts of the cognitive and participatory views and adds to them the idea that expertise contains a strong creative element that allows for competent, situation-appropriate actions in a renewable context. Experts work flexibly and intuitively and do not need to stop and think what theory should be applied to each task. (Tynjälä 2004, 175-178.)

In theories that emphasise the knowledge creation aspect of expertise, Bereiter & Scardamalia (1993) combine the individual and social points of view, whereas Nonaka & Takeuchi (1995) focus more on the social approach. According to Hakkarainen et al. (2002), a shared operating culture could be called an innovative information society. (Tynjälä 2004, 175-176.)

Below are some descriptions of expertise taken from the competence-based curricula of certain degree programmes. Each degree programme created its own definition of expertise during the curriculum development process, crystallised from the point of view of the changes in the operating environment of the sector. Various methods were used to carry out operating environment analyses, including employer interviews, doctoral thesis analyses, reviews and stakeholder meetings. Each degree programme curriculum team was free to form the expertise description it wanted; the only limitation given was for the length of the text. The descriptions below are cited almost in full in order to present the degree

programme teams' visions as they were, without summarising or interpreting. In the Study Guide, these expertise descriptions are then used for defining competences, on the basis of which the curriculum's themes and study units are formed.

Expertise in business management, Bachelor of Business Administration

A changing business environment requires innovation, the ability to anticipate changes and change management skills. The ability to analyse and develop business operations is essential. Business Management graduates have the required professional knowledge and skills to act as innovators in their fields. Working in a dynamic and networked business environment requires versatile communication skills, ethically sustainable management, attention to weak signals, and the ability to utilise the potential offered by information technology. As economic growth will in future be increasingly based on intangible assets, service production has to be seen as part of all business operations. Expertise in the field relates increasingly to redefining entire value-generating systems. Value generated for customers is examined from the perspective of a broad selection of services produced by an entire network, in which innovations are increasingly important.

The expertise of a Bachelor of Business Administration is based on varied business theories. The recent great paradigms of business theory development can be divided into the periods of industrial and transitional economies and the period of information economy. The industrial and transitional economies were characterised by contingency theory thinking, according to which a company or organisation must adjust its activities to respond to outside influences. During the period of information economy, on the other hand, capability theory thinking has taken ground. According to the capability theory, companies and organisations can influence their own surroundings by utilising their capabilities. Capability theories began being widely accepted in the twenty-first century and form the basis for the professional and knowledge-based competence of graduates in Business Management. (Laurea Study Guide 2006-2007)

Expertise in physiotherapy, Bachelor of Health Care

A physiotherapist is a legally qualified health care professional who works in the fields of rehabilitation, social services, health care, education, fitness and culture, independently or as an employee. Physiotherapy seeks to evaluate, guide, support and foster human movement, mobility, functional ability and activity. Physiotherapists apply suitable physiotherapeutic methods and strive to work with customers to improve their capabilities in various situations and environ-

ments. *Physiotherapy customers are individuals, communities, companies or organisations seeking a physiotherapist's advice and professional assistance. The profession is based on physiotherapy as a science, which centres on human movement, mobility and functional ability, and the relationships of these factors with individual actions. Physiotherapy applies research and data from many other sciences.*

Physiotherapists work as employees or entrepreneurs in environments including hospitals, health centres, research and care institutions, rehabilitation centres, health resorts, occupational health care, public health organisations, fitness organisations, associations for the disabled, old people's homes, day-care centres and educational institutions. Physiotherapists actively participate in producing and developing physiotherapy services, and in raising their quality, taking into account the changing needs of the users and the national and international development challenges in the field. (Laurea Study Guide 2006-2007)

Expertise in social services, Bachelor of Social Services

The aim of the Degree Programme in Social Services is to train experts in social services. This means providing training in issues related to education, rehabilitation, prevention and the maintenance of abilities, from the points of view of relationships between people, social situations and the society as a whole. The value base of social services is founded in respect for people and social justice. Bachelors of Social Services are experts in everyday life, supporters of ordinary people in various situations and problems that they encounter.

The field of social services and health care consists of working with people. Skills in interpersonal work, interaction, empathy, responsibility, individual and group management, and holistic encounters with people form the core of competence in the field. Social services also emphasise the societal nature of problems, resources and support. Work in the field is closely linked to the structures of the welfare society. The operating environments of the sector are built on the basis of social policy decisions. Bachelors of Social Services must be prepared to work in the public, private and third sectors alike. The relationships of an expert in social services with the society are twofold: on the one hand, Bachelors of Social Services are executors of social policy decisions, providing guidance to customers in the use of welfare services; on the other hand, their core competence includes providing social influence and supporting citizens through social change processes.

The Degree Programme in Social Services trains experts for the broad field of social services. Different areas of the field require different skills; challenges and

opportunities related to population, legislative, technological and methodological developments create a need for specialist skills. The main areas of specialisation are related to the aging population, supporting children and families, marginalisation, social rehabilitation, and increasing participation.

Competence in existing social service methodology and a deep understanding of the social viewpoint form an essential part of expertise in social services. However, work with customers living in different conditions and with changing social situations emphasises the need for an investigative and developmental approach instead of one where ready-made solutions are adopted. Also needed is a constant self-evaluation of one's own work and learning, i.e. reflective professionalism. Social efficiency requirements and a focus on citizens' rights and the effectiveness of social service work have brought about an emphasis on evaluating services and work methods, on quality and on leadership. (Laurea Study Guide 2006-2007)

Expertise in the hospitality sector, Bachelor of Hospitality Management

The theoretical basis of the sector is multidisciplinary. Knowledge is founded on service concepts and specialist competence arising from behavioural, economic, humanist, environmental and food-related sciences.

An area of core competence is the ability to predict changes in the operating environment. Those working in the sector must be able to analyse existing trends and recognise even weak signals coming from the industry in order to predict the future of the field and their company. Expertise lies particularly in the ability to renew and update services. Business-to-business cooperation must be developed to counter the continuous changes in the operating environment. The most important thing is to find core partners, and to manage competence and change.

In addition to knowledge, skills and abilities, expertise in the field involves values, attitudes, ethics, motivation, critical thinking, flexible operations, understanding the links between different functions, and intuition. In order to be useful, the different areas and functions of expertise must be integrated. (Laurea Study Guide 2006-2007)

Business management competence, Bachelor of Business Administration (Security Management)

The security management sector operates as part of a networked, changing community. Its effectiveness is based on competence, competence management, and the ability to be a forerunner, to influence others and to follow things through. The competence of an expert in security management is that of a de-

veloper. It is based on research, on the ability to participate in a social value network, and on competence in an enriching community. Experts are skilled in discerning the significance of new solutions and services from the point of view of success, and in committing and being motivated to be influential in a work community or relevant value network.

Experts in security management must be able to respond to the challenges caused by changing risks and threats in a globalised operating environment. Competence is evident as tolerance and the ability to accept and value diversity. Constant changes in the operating environment emphasise the need for anticipation and preparation. Commitment to competence development and the ability to change are essential characteristics of an expert in the field. The most important thing is the ability to manage and develop issues in the area of security.

Security and safety form part of safeguarding the well-being of the society and its people and communities. Experts in security management understand the structure of the sector and its clusters, and can analyse, develop and merge security into company operations and processes. They can predict the financial aspects of various security risks and determine the financial effects of security measures. Experts must also master the sale and purchasing of security-related products and services.

In future, the maintenance of safe living and operating environments will increasingly be achieved through cooperation, combining the resources of the authorities and of other operators. Experts in security management can form partnerships, act as partners and participate in enriching communities and multidisciplinary environments. It is critical to understand the legal aspects of human behaviour, and to be able to communicate and interact. Expertise is reflected in the ability to take an organisation in a chosen strategic direction while making use of individuals' and communities' competence in management and development. In everyday operations it is seen as competence in planning, implementing and evaluating security measures, and in leadership-related skills. Decision-making skills are also important in an expert's work.

Increasingly complex and long operational chains and logistical networks place further demands on security. Security experts must be able to anticipate and resolve threats related to people, operations, operating environments, logistics and information security, and to minimise the damages caused by the fulfilment of such threats. The increasing complexity of operating environments leads to more normative regulation of security issues. In the work of a security expert,

this means the ability to apply new regulations in ways which are lawful and which respect people's basic human rights.

Success is determined by commitment to development. Experts in security management know how to develop the field of security management and its work communities, by generating new competence using the methods of applied R&D. They can identify development targets, as well as acquire, evaluate and use competence to generate new plans and solutions. They also understand the effect of their actions on the value networks of the field, and can promote creativity through their work. (Laurea Study Guide 2006-2007)

In all of Laurea's degree programmes, the curriculum is based on theoretical knowledge and the context of the field, upon which expertise and competence development can be built. In some degree programmes, the expertise descriptions are provided for reference, as a kind of opening, and the concrete competences are defined in the competence area descriptions. Some expertise descriptions naturally reflect Laurea's generic competences.

Expertise aims for competence that will carry us to and in the future. The expertise descriptions particularly emphasise shared activity, anticipation, readiness for change, multiple skills, continuous learning, development and self-evaluation. These factors lead to the development of the abilities listed by Anderson and Marshall (1994) as making up the third stage of competence needed in working life, i.e. abilities leading to an organisation's maximal performance. The use of these competences is linked to systematic reasoning, and they are essential for a learning organisation that utilises both hidden and explicit learning processes in its development. (Ruohotie 2002)

When expertise is produced in a development-oriented learning process (Learning by Developing), it can respond to the challenge described by Tynjälä (2004) regarding the fact that the experts of the future should participate in social knowledge-building and a culture of knowledge creation already during their education. Bereiter (2002) agrees in that quickly developed and developing professions are distinguished from other professions in that they form knowledge-building communities that produce, disseminate and apply knowledge (Tynjälä 2004, 186). Learning by Developing contains the essential elements for linking the latest research data to the development challenges encountered in the workplace, and for Laurea's graduates to be experts who can develop the world of work. Then it is also possible to produce new knowledge and innovations. Learning by Developing focuses strongly on producing and disseminating new

knowledge, as well as on the efficiency and quality of applying the knowledge. These aspects are also emphasised by the OECD in its report (2002).

The production of actual expertise in accordance with the new curriculum is currently under way in relation to nearly 1,500 students who started at Laurea in 2006. In a few years' time it will be very interesting to investigate how expertise has been attained in the different degree programmes, and what its impact is on the graduates' employment.

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REFERENCES

- Anderson, A. & Marshall, V. 1994. *Core Versus Occupation-Specific Skills*. Hørsham: The HOST Consultancy. Labour Market Intelligence Unit.
- Argyris, C. & Schön, D.A. 1995. *Organizational Learning II: Theory, Method, and Practice*. 2nd ed. USA: Addison-Wesley Publishing Co.
- Bereiter, C. 2002. *Education and Mind in the Knowledge Age*. Mahwah, NJ: Erlbaum.
- Bereiter, C. & Scardamalia, M. 1993. *Surpassing Ourselves: An Inquiry into the Nature of Expertise*. Chicago: Open Court.
- Ellström, P.-E. 2001. "The Many Meanings of Occupational Competence and Qualification". In Nijhof, W.J. & Streumer, J.N. (Eds.) *Key Qualifications in Work and Education*. Dordrecht: Kluwer Academic Publishers.
- Garavan, T.N. & McGuire, D. 2001. "Competencies and Workplace Learning: Some Reflections on the Rhetoric and the Reality". *Journal of Workplace Learning* 13:4, pp. 144-163.
- Hakkarainen, K., Palonen, T. & Paavola, S. 2002. "Kolme näkökulmaa asiantuntijuuden tutkimiseen". *Psykologia* 37 (6), pp. 448-464.

Nonaka, I. & Takeuchi, H. 1995. *The Knowledge-Creating Company. How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.

OECD. 2000. *Knowledge Management in the Learning Society. Education and Skills*. Paris: OECD.

Otala, L. 1996. *Oppimisen etu – kilpailukykyä muutoksessa*. Porvoo: WSOY.

Prahalad, C.K. & Hamel, G. 1990. "The Core Competence of the Corporation". *Harvard Business Review* (May-June), pp. 79-91.

Ruohotie, P. 2002. "Kvalifikaatioiden ja kompetenssien kehittäminen ammatikorkeakoulun tavoitteena." In Liljander, J.-P. (Ed.) *Omalla tiellä. Ammatikorkeakoulut kymmenen vuotta*. ARENE. Helsinki: Edita.

Ruohotie, P. 2006. "Key Qualifications in Work and Education". In Ruohotie, P. & Maclean, R. (Eds.) *Communication and Learning in the Multicultural World*. Saarijärvi: Saarijärven Offset.

Räsänen, J. 1996. *Kehityksen ulottuvuuksia. Kehityssuuntautunut oppiminen ja arviointi*. Publications of the Continuing Education Centre of the University of Jyväskylä, Management Training, 8

Sydänmaanlakka, P. 2004. *Älykäs organisaatio*. Jyväskylä: Gummerus.

Tynjälä, P. 2004. "Asiantuntijuus ja työkulttuurit opettajan ammatissa." *Kasvatus* 35(2), pp. 174-190.

Viitala, R. 2005. *Johda osaamista*. Keuruu: Otava.

II GENERIC COMPETENCES IN THE LAUREA CURRICULUM

Chapter II examines the creation of the generic competences and describes the theoretical framework behind each competence. The generic competences are also compared to general Finnish and European competence descriptions.

Process of Defining the Generic Competences

Background

Debates on Finnish higher education institutions' curricula often include the concepts of 'generic competence' and 'competence-based core curriculum'. There are various interpretations of these concepts. According to Karjalainen (e.g. 2003, 50-51), in the competence-based core curriculum, modules are not defined as single study units or competence areas, but as core expertise modules that are multidisciplinary or consist of various subjects, and that progress throughout the degree. Generic competences are seen as areas of expertise on which the competence-based core curriculum is based (e.g. Campbell 2001). Karjalainen cites the Finnish degree of Licentiate in Medicine as an example of a competence-based core curriculum, as it can consist of generic competences and for example one hundred cases to be solved in small teams. Another way to look at the competence-based core curriculum is to define generic competences as core competences (e.g. Skilbeck 1984). Laurea's core curriculum contains aspects from both perspectives. The generic competences are defined as core competences that correspond to the needs of the workplace. The competence-based core curriculum is structured as a matrix, in which these core competences run throughout the degree. The horizontal axis of the matrix is made up of themes representing the degree programmes' own competence descriptions.

This article describes the process of defining the generic competences as a part of Laurea's curriculum reform. We start by looking at how preliminary generic competences were identified and appointed using a survey analysis. We then describe the work of the generic competence team established for refining the competences. Finally, we compare the completed generic competence descriptions to the outcomes of the work of a committee consisting of representatives from European higher education institutions.

Welfare competence questionnaire

Laurea's strategies emphasise the development of the university of applied sciences from the point of view of anticipating the future (e.g. Regional Development Strategy 2002). In accordance with this principle, the development of generic competences also adopted a future-oriented perspective. In defining the generic competences, Laurea wanted to utilise the research competence and experience of its own experts. Instead of following ready-made classifications or theoretical definitions, they decided to define the generic competences using a research approach and expert visions.

As part of the curriculum reform, Laurea's strategy had awarded the main responsibility for forecasting work to four expertise sector networks (Regional Development Strategy 2002, 8) created on the basis of recognised areas of focus: the welfare competence network, the ICT competence network, the sustainable development network and the business competence network. The networks consisted of experts from Laurea, chaired by principal lecturers.

The generic competence definition process started with a determination of core competences in the welfare network (Rantanen 2004a). The starting points were staff expertise, experience-based knowledge acquired through projects, and research data on welfare competence. Expertise in the social services and health care sector, as well as challenges related to service systems and the population were examined in literature. At the next stage, a written questionnaire was sent out to Laurea's full-time lecturers (n=91, response rate 36 per cent). The questionnaire was sent by email and contained three questions: 'What do you understand by the concept of welfare?' 'What kind of competence must the workers of the future have to support people's welfare?' 'What will the focal points of welfare competence and development be in the future?'

The answers were analysed one question at a time, using a data-oriented content analysis process. At this point, the concept of welfare could be classified into 38 content classes, welfare competence into 45 classes and future challenges into 28 classes. After this, the data were analysed systematically and the frequencies of observations related to each class were calculated. At the same time, new classifications were added, some of the original classes were broken down, and some contents were specified. The main broader topics were then identified on the basis of the frequencies. The main aspects of welfare competence that were found are described in Table 1 (Rantanen 2004a).

Table 1. Main aspects of welfare competence as indicated by a survey of Laurea lectures

Class	Frequency
Interaction, social skills	19
Creative, research-, evaluation- and development-oriented approach	18
Cooperation skills	17
Ethics, ethical competence	16
Subject-specific competence	13
Multidisciplinary competence	11
Network competence	10
Skills in supporting day-to-day coping / reinforcing resources	10
Technical competence	10
Interpersonal skills	9
Empathy/caring/emotional intelligence	9
Leadership/organisational skills	9
Ability to recognise the requirements/resources/realities of welfare	8
Theory-related competence	7
Spirituality-related competence	7
Ability to work in a community	6
Information management	6
Ability to give guidance/advice	6
Entrepreneurship competence	6
Looking after one's own well-being	6
Team-working skills	6
Knowledge of the human physique and psyche	6
Self-management	6
Health promotion	5
Listening skills	5
Presence/encounters	5
Language skills	5
Multicultural knowledge	5

Identifying shared core competences

On the basis of the welfare questionnaire, an initial vision of what the generic competences could comprise was presented at a curriculum seminar for Laurea's Extended Steering Group in October 2004 (Rantanen 2004b):

- interaction skills
- ethical competence
- network and team-working competence
- research and development competence
- subject-specific competence
- leadership competence
- technical competence

- international competence
- business and entrepreneurship competence

The presentation was initially based solely on the welfare analysis. In the discussion held at the seminar it became apparent that similar generic competences could be used to structure competence in all degree programmes. The method used was also found to be appropriate.

Consequently, similar questionnaires were sent out to all Laurea staff in relation to sustainable development, ICT and business competence. The questions were in line with those of the welfare questionnaire. Respondents were also asked to name the field of study they represented. Two final questions were selected for further analysis: 'What kind of competence in business / sustainable development / ICT will be required of the workers of the future?' 'What will the focal points of business / sustainable development / ICT and its development be in the future?' The survey was conducted at two regional units during a regional unit development day in October 2004 (n=86) and at the third regional unit later, in writing.

The answers were first analysed quantitatively using content analysis, separately for the areas of business competence, sustainable development and ICT. After this, shared, repeated classifications were identified between the areas. Finally, the classifications drawn from the data to describe competence were combined into broader classifications. The broader classes thus achieved were named on the basis of the data, also taking into account Laurea's strategic choices. This resulted in six preliminary generic competences (Raij & Rantanen 2004):

- ethical competence (ethics, values, responsibility)
- reflective competence (reflection, change management, human skills, learning skills)
- globalisation competence (understanding globalisation, cultural and social competence, multicultural competence and international competence)
- network competence (social skills, interaction, communication, networking, co-operation, service-mindedness, customer orientation)
- leadership competence (management, business, entrepreneurship competence)
- innovative competence (research-oriented and developmental approach, R&D skills, information management, IT, innovation, forecasting, future competence)

Describing the generic competences

A generic competence team was established at Laurea on 8 March 2005 to refine the generic competences that had been identified. The team consisted of generic competence experts and two representatives of the management group. The generic competence experts were principal lecturers, most with PhDs, who had examined one of the competences in depth in their research.

The team continued the work on the generic competences from where the project team had left off. A closer analysis showed that leadership competence was different from the other competences, which were seen more as meta-skills. It was concluded that leadership was not its own generic competence but formed a subject-specific theme at the level required for each degree programme. This resulted in five generic competences shared by all programmes. There was still debate on the names of the competences from various expert sources. On the basis of preparatory work and a presentation carried out by the generic competence team, in the spring of 2005 the President of Laurea named the five generic competences shared by all Laurea degree programmes. They corresponded to abilities that develop the future world of work. The generic competence team was also aware that the competence produced at a university of applied sciences must include professional skills specific to each degree programme. Thus, in the autumn of 2005, two degree-programme- and subject-specific generic competences were added: knowledge-based professional competence and skill-based professional competence. These names were also discussed with a basis in research. The generic competence team wanted to avoid making the traditional distinction between theory and practice in professional education. Despite their differentiation, the knowledge-based and skill-based professional competences are seen as complementary dimensions of the same competence.

Generic competence levels and their evaluation

The generic competence experts created descriptions of each generic competence based on existing research. These initially very broad descriptions were critically reviewed by the team. It was considered important that the concepts used in the descriptions be defined and explained. As the work progressed, the team found that it was necessary to identify a shared structure that would allow the competences to be described in similar ways. At this stage, the team also predicted some of the challenges that would arise in relation to evaluating the generic competences.

The competence descriptions were synthesised into three levels of competence requirements. For each generic competence, a basic level (Level 1), an interme-

diate level (Level 2) and an advanced level (Level 3) were identified. The levels reflect the vision of students progressing, through their studies, from the personal competence level to the organisational developer level, and, from there, to the most advanced social reformer level. As a starting point it was decided that every Laurea student should reach at least Level 1 in all generic competences. From there on, each degree programme would have its own requirements. This means that some degree programmes require students to reach either Level 2 or Level 3 in some generic competences.

The generic competence team also carefully considered the evaluation of the generic competences. Discussions resulted in a two-level evaluation system. It was deemed important that the generic competences be evaluated as a part of the professional growth process that takes place during the studies, as well as in relation to the degree-programme-specific themes. The idea is that the progress of generic competences be considered in conjunction with the evaluation of study units to the extent that each generic competence is linked to each study unit's learning outcomes. Discussions on the methodology of generic competence evaluation resulted in the adoption of a portfolio. The portfolio is seen as the students' tool for identifying, evaluating and demonstrating their competence. It allows lecturers to assess the students' competence as a learning process and a professional growth process, and provides a means of guiding the students.

Considerations

Above is a description of how Laurea's competence-based core curriculum was developed. The concept of generic competences was challenging from the start. Laurea's definition of generic competences is somewhat similar to the Tuning Project's definition, but the concepts differ on a more detailed level. Similarly, the concept of competence as defined in the higher education Qualifications Framework (2005) is not directly equatable to Laurea's generic competences. Laurea's curriculum reform was based on curriculum development work carried out at the University of Oulu, and particularly on an explanation of the competence-based core curriculum made by Karjalainen (2003). However, the Laurea model is characterised particularly by its comprehensive nature. Laurea decided to define generic competences as the kind of core competences that are shared by all skilled professionals on their way to becoming experts. Another important characteristic is the fact that instead of developing the existing curriculum, Laurea started by creating a whole new future-oriented curriculum. In practice this means that the reform process could not start with an analysis of the core subjects and workloads of the existing curriculum, but had to make an analysis of future competence requirements.

According to Auvinen et al. (2005, 46), the aim of the competence-based core curriculum is to allow learning to be more closely linked to the professional context than it is in traditional study-unit-based curricula. Auvinen cites as an example the competence-based curriculum of the Degree Programme in Forest Products Marketing at the North Karelia University of Applied Sciences, which consists of twelve generic competences, e.g. confidence in professional skills, commitment to the work community's objectives and values, learning to learn, and managing people and tasks (Auvinen et al. 2005, 47). At Laurea, the competence-based core curriculum is described as a matrix in which the core competences included in the generic competences and the degree-programme-specific themes intersect. Thus there is a merger of the core curriculum shared by all degree programmes, and the subject-specific competence (competence-based curriculum) of each degree programme.

Ruohotie (2002) defines the objectives of a university of applied sciences on the basis of qualifications needed in the workplace and the competences produced by education. He structures the skill profile of an expert by distinguishing between profession-specific skills and knowledge, general workplace skills, and self-management skills needed for professional development. According to Ruohotie, general workplace skills include cognitive skills, social skills, media competence, creativity, innovation and people- and task-management skills. This structure is also behind Laurea's pedagogical strategy (Laurea 2002, 4). However, in the course of the curriculum reform process, the competence needed in the workplace was defined slightly differently. Of Laurea's generic competences, innovative competence and network competence are closest to Ruohotie's workplace qualifications. Leadership skills were considered to be much more concrete than these. Laurea also departs from Ruohotie's definition by emphasising ethical and globalisation competence. Laurea also made clear choices in identifying the generic competences, deciding to do it by gathering analysis materials broadly from Laurea staff, to ensure that the classifications were widely applicable. The process proved a success. Core competences could be identified easily from the list of competences due to their popularity. Comparisons with other competence definitions (e.g. the Tuning report) were carried out after the analysis was completed. Similarities could be found between Laurea's and the Tuning Project's generic competence descriptions.

The generic competence descriptions were based on relevant evidence-based data. The broad conceptual definitions and descriptions made by the generic competence experts were then condensed into more compact definitions that are understandable by all and therefore easy to disseminate. It was deemed im-

portant to identify different levels of progress in the competences, in order to facilitate evaluation and the identification of the competence acquired. These levels are those of the personal, organisational and social developer. One challenge has arisen in how to disseminate the generic competences to become the intellectual capital of lecturers, in order to make it easier for them to guide students and support their professional growth. The portfolio work method closely linked to the generic competences supports the students in identifying, evaluating and increasing their own competence (cf. Linnankylä 1995). For lecturers, the portfolio is seen as a tutoring and evaluation tool. The generic competence development work continues. Systematically gathered feedback is used to evaluate the scope of the competences and in following the building of the relevant abilities.

The abilities included in the generic competences can also be seen from the point of view of the types of knowledge involved in professional competence (cf. Raji 2000, 42; 2003, 50-51), identifying the knowledge, skills and abilities encompassed by each generic competence, as well as the values on which it is founded. The accrual of the students' own experiential knowledge can be followed in the portfolio that corresponds to each generic competence.

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References

Regional Development Strategy. 2002. Laurea University of Applied Sciences.

Auvinen, P. et al. 2005. *Opetussuunnitelma ammattikorkeakoulussa*. Publications of the North Karelia University of Applied Sciences B: Descriptions and Teaching Materials 9. Joensuu.

Campbell, D.C. 2001. "Dilemmas in Family Medicine Education." *Family Medicine* Vol. 33 (9), pp. 652-654.

"Structure of the Competence-Based Core Curriculum". 2004. Presentation to the Extended Steering Group, 3 December 2004. Curriculum Reform Management Group.

Karjalainen, A. 2003. *Akateeminen opetussuunnitelmatyö*. University of Oulu, Teaching Development Unit, Publications 7.

Qualifications Framework. 2005. *Description of Finnish Higher Education Qualifications*.

Project Plan for the Laurea Curriculum Reform Process. 2004. Drafted on 16 April 2004.

Laurea Pedagogical Strategy. 2002. Laurea University of Applied Sciences.

Linnankylä, P. 1995. "Mikä ihmeen portfolio? Arvioinnin ja oppimisen liitto". In Linnankylä, P., Pollari P., & Takala S. (Eds.), *Portfolio arvioinnin ja oppimisen tukena*. Jyväskylä: Jyväskylä University Press.

Raij, K. 2000. *Toward a Profession*. Research report. University of Helsinki, Department of Education.

Raij, K. 2003. "Osaamisen tuottaminen ammattikorkeakoulun päämääränä". In Kotila, H.(Ed.), *Ammattikorkeakoulupedagogiikka*. Helsinki: Edita.

Raij, K. & Rantanen, T. 2004. "Yhteisen ydiosaamisen määrittäminen". Unpublished report on the competence surveys, 8 November 2004.

Rantanen, T. 2004a. "Hyvinvointiosaamisen ydinalueet". Unpublished manuscript. Laurea Extended Steering Group, 24 May 2004.

Rantanen, T. 2004b. "Hyvinvointiosaamisen painopistealueet ops:n juonteina?". Presentation to the Laurea Extended Steering Group's curriculum seminar on 4 October 2004.

Ruohotie, P. 2002. "Kvalifikaatioiden ja kompetenssien kehittäminen ammatikorkeakoulun tavoitteena". In Liljander, J.-P. (Ed.), *Omalla tiellä. Ammatikorkeakoulut kymmenen vuotta*. ARENE. Helsinki: Edita.

Skilbeck, M. 1984. *School-Based Curriculum Development*. London: Sage Publication Inc.

Ethical Competence

The concept of morals generally refers to an individual's conception of right and wrong, whereas ethics refers to moral choices to which the individual is consciously committed. Ethics is a systematic attempt to understand moral concepts, ethical rules and principles, virtues and values. Professional ethics looks at what is right and wrong, obligated and justified, good and bad, desirable and to be avoided in professional activities. Interestingly, the word ethics derives from *ethikos*, which means having a moral character or mind, and from *ethos*, which means a commonly accepted custom.

Thus, ethics has both private and social dimensions. In Laurea's ethical competence, the private dimension is embodied in the student's self-reflection. In this process, students examine their own concepts of right and wrong. Professional ethics refers to a professional code, i.e. a number of ethical principles and rules agreed for a specific trade, which direct individual professionals' actions. They include considerations of what is ethically acceptable and advisable when carrying out the trade (Räikkä, Kotkanvirta & Sajama 1995). Knowledge of the professional code of ethics represents the social dimension of the basic level of ethical competence. At the intermediate and advanced levels, the social nature of ethical competence becomes more central. Laurea graduates are professional experts and, as such, holders of public social positions, so optimally their ethical competence should be evident as the assumption of communal and social responsibility, the identification and solving of complex ethical problems, and the ability to work in practice while promoting long-term sustainable development.

Ethical competence is a challenging choice for a generic curriculum competence. Ethics has not been a very common subject at universities of applied sciences in Finland, with the exception of the welfare field, where 91 per cent of degree programmes contained studies in professional ethics in 2003-2004. Of all the other degree programmes, only 25 per cent contained compulsory studies in the ethics of the sector or the profession (Nummela 2004). For some Laurea degree programmes, the inclusion of ethical questions in the curriculum is new. In order for ethical competence to form an appropriate part of every degree pro-

gramme, the value objectives, social responsibility, current professional ethics and main ethical questions of each sector must be analysed. The ethical generic competence also involves acquiring abilities that have not traditionally been included in professional ethics teaching. Optimally, the students' progression through the ethical generic competence creates an ethical base for new expertise generated at Laurea. Just like old professions, new professions need ethical guidelines in order to maintain the legitimacy of the profession, to support individual workers' ethical activities, and to determine responsibilities in multidisciplinary partnerships (Honkonen & Korander 2004).

Four components of ethical competence

Laurea's ethical generic competence is based on a four-component model developed by James Rest and his colleagues. This is currently the leading research paradigm for moral psychology (Rest, Narvaez, Thoma & Bebeau 1999). The model was originally based on an extensive literary review in moral philosophy and psychology carried out by Rest in the 1980s, which demonstrated the conceptual and theoretical confusion of ethical discourse at the time. Rest wanted to describe morality in a way that would be more suited to the complexity of the phenomenon. So he posed the following question: 'What psychological processes are needed for actions to be moral?' On the basis of his review of existing literature, he concluded that firstly the situation must be recognized and *interpreted* as a moral or ethical problem. Secondly, one must *decide* which of the alternative actions that are available is the right one. Thirdly, one must be *motivated to act morally*, for example by prioritising professional ethics above other values. Fourthly, one must have *moral character*, i.e. the ability to take action and the courage to act according to one's principles even in difficult situations. Later empirical studies have supported this model (Walker 2002).

Although logically the interpretation of the situation comes before moral decision-making, according to Rest their components do not follow one another linearly; they may involve complex relationships. For example, a student's moral problem-solving ability may affect his or her way of interpreting ethical conflicts. It is noteworthy that each of these components is needed in order to achieve ethical actions; failure in one component causes the failure of the actions as a whole. From the point of view of professional ethics, it is not usually a question of not knowing what is right and what is wrong; it is that ethical problems are not identified or that personal benefits (e.g. comfort or financial values) direct decision-making and actions more than ethics. Individuals may also be adept at some of the components but bad at others (Juujärvi & Myyry 2005). For exam-

ple, an employee may be highly motivated to help a customer, but simultaneously be biased towards this customer at the expense of other customers.

The ethical generic competence consists of four components: (1) ethical sensitivity; (2) ethical motivation; (3) moral-ethical problem-solving; and (4) ethical implementation skills. In contrast to Rest's model, ethical motivation takes second place, before the problem-solving component. In professional education it is justifiable to assume that students have the will to work according to ethical values, and that this value guides the solving of ethical problems. The realisation of each component into learning outcomes is founded on evidence-based data, which is most abundant in the area of moral-ethical problem-solving and least abundant in the area of ethical implementation skills. Ethical sensitivity and motivation are in between these extremes (Walker 2002). Below is a description of the components of ethical competence from the point of view of educational objectives. The objectives are indicated in line with competence levels in Table 1.

The first requirement for ethical actions is sensitivity to identifying the ethical perspectives or problems involved in a situation. *Ethical sensitivity refers to the ability to recognise the special characteristics, needs, rights and responsibilities of each person involved in the situation.* It includes consideration of how one's own actions affect other people's well-being. It also involves imagining and anticipating various action plans and their consequences for each party. Ethical sensitivity essentially involves recognising and respecting the differences between people and reflecting on one's own attitudes and stereotypes. This is particularly important when encountering people from different cultural backgrounds.

Empathy and the ability to put oneself in another's position form the core of ethical sensitivity. The basic level involves listening to customers and adopting a customer-oriented way of working, whereas at the intermediate level, students can consciously construct customer-oriented interaction. They can bring out their feelings and come up with professional objectives in dialogue with another person. At the advanced level students can create empathetic interactions, in which feelings are consciously processed and used as part of the interaction. Therefore the connecting thread in ethical sensitivity is formed of professional interaction skills, which are a target for active development throughout the education. From the moral perspective, the core of development lies in role-playing skills – i.e. the ability to put oneself in another's position (Hoffman 2000).

Interaction skills in themselves are not enough to create ethical sensitivity, however. In order for students to identify customers' and employees' rights and re-

sponsibilities, they must have knowledge of them. This requires knowledge for example of human rights and the main legislation related to the profession. Students also need to know the special characteristics of major customer groups and the main or typical ethical problems of the sector. This knowledge helps them to identify ethical questions in ambiguous or unclear day-to-day situations.

Ethical motivation refers to committing to moral-ethical values and assuming responsibility for one's own actions. Students must be familiar with the value base of their profession and with related debates on social responsibility and sustainable development. They should recognise their own values and examine them in relation to the profession's values. The students' ability to assume responsibility grows from the personal level to the organisational and social levels during the degree. The development of ethical motivation requires shared discussion of values and their fulfilment in the learning community, in work placements and in the work community. Dialogue is the key to improving ethical motivation.

Moral-ethical problem-solving refers to the ability to solve ethical problems through critical argumentation. It relates to the thought process by which we decide which alternative course of action is the (most) correct one. Moral and ethical problems are typically dilemmatic, i.e. they do not have a self-evident right answer. This means that students must consider arguments for and against each option. They learn to justify *why* one course of action is better than another. The process is called moral-ethical because in solving them, the employee's own values, ethical norms and principles are interwoven with professional values, norms and principles. For example, social justice is a professional value whose meaning is interpreted by employees from their own points of view. The sophistication of moral thought is connected to how professionals solve the ethical problems they encounter in their work.

Moral-ethical problem-solving requires consideration of various possible solutions, as well as knowledge and application of the ethical norms and approaches of the field. Continuously developing competence involves the skill to solve problems in interpersonal relationships (basic level), in work communities and in an organisation (intermediate level), and more broadly in society and the global environment (advanced level), as well as the ability to justify these solutions. Development is based on the growth of so-called sociomoral perspective, which is defined in Kohlberg's (1984) theory of moral reasoning. Each development stage is characterised by a particular holistic approach to ethical problems (cf. Table 2), based on the sociomoral perspective.

Problems related to professional ethics are understood in different ways, depending on the student's level of development. For example, at the level of the morality of good relationships (basic level of the generic competence description), it seems important to respond to customer needs and expectations, to be trustworthy and to work in accordance with the professional role; at the level of social systems and conscience (intermediate level) it is important to promote the common good of the work community, to respect shared agreements and legislation, and to act according to one's own, internalised values. The students see their professional actions as part of a broader social context. They ponder issues related to the company's or organisation's social responsibility. On the other hand, critical evaluation of the (work) community's, institution's and society's values and practices, and the examination of global ethical problems are linked to the stage of the morality of social contract, utility and individual rights (advanced level). The broader the sociomoral perspective, the more comprehensive and diverse the moral-ethical problem-solving can be, because it also includes views related to previous perspectives.

The target level description for moral-ethical problem-solving describes the development of a sociomoral perspective (individual-interpersonal level, organisational level and social level), as well as the ethical knowledge that is necessary from the point of view of the development of reasoning skills. At the basic level the main content consists of the field's ethical code (ethical norms and instructions, public values) and the legislation that governs work. At the intermediate level, the perspective is broadened with ethical approaches and theories that include a social point of view and that may be specific to the profession. Understanding problems of professional ethics with a basis in diverse moral philosophies and ethical theories is useful, because most of them represent a socially critical point of view. The most important thing, however, is not to know the content as such, but to apply and justify it in moral-ethical problem-solving. Research has shown that moral-ethical problem-solving aptitudes vary greatly among students and that the most effective way to develop them is to use argumentative debate on typical and genuine ethical problems that arise in the field (Rest & Narvaez 1994; King & Mayhew 2002). Moral-ethical problem-solving is the component on which there is most research data. For example, there are indications that advanced moral reasoning predicts ethical actions from students in practical case work (Duckett & Ryden 1994).

Above is a description of the moral-ethical perspective from the point of view of Kohlberg's theory, according to which the core of moral development consists of an evolving understanding of interpersonal cooperation and justice. In contem-

porary research, another central mode of moral reasoning is the ethic of care, which is based on responding to the needs of another person (Gilligan 1982; Skoe 1998). Moral-ethical problem-solving based on the ethic of care is a critical competence area in professions centred around caring– such as nursing or social services. Taking care of the customer produces quality in any service profession. The ethic of care includes development stages that describe an increasing understanding of the dynamics and responsibilities of human relationships, such as the relationship between customer and employee (Juujärvi 2006a; 2006b; 2006c). Without knowledge and application of the ethic of care, ethical problems related to assistance and nursing tasks cannot be solved fully. However, this aspect is not included in Laurea's moral-ethical problem-solving, because ethical problems related to caring are not central to all fields of study. The ethic of care is apparent in the generic competence description in the component of ethical sensitivity.

Ethical implementation skills refer to the ability to take target-oriented action to solve ethical problems, as well as the willpower and courage to act in accordance with ethical values in practical situations. This is the most complex and ambiguous component in Rest's model (Walker 2002). Genuine ethical problems are often linked to powerful conflicts of interest, emotions or risks to oneself or others. If a situation poses a significant risk to oneself, in particular, it is human nature to give up and to compromise one's principles. However, ethical implementation skills may prove to be the most important part of moral actions: failure to take moral actions implies that success in the other components did not produce the expected result (Juujärvi & Myyry 2005). Ethical implementation skills often require the ability to cope with conflicts of opinion and social pressure. Other important skills include the ability to justify one's opinion, as well as negotiation, conflict-solving, argumentation and influencing skills. In terms of the student's role it is particularly difficult to develop moral implementation skills, because it requires the ability to express one's own justified, divergent opinion and argue for it. The development of implementation skills is characterised by a feeling of one's ability to encounter and handle increasingly complex and challenging situations.

In evaluating ethical implementation skills, it is important to check that the skills are put into action in practice. At the basic level, the objective should be for students to strive towards object-oriented short-term ethical actions. This involves the immediate implementation of ordinary ethical solutions – e.g. resisting temptation and following ethical norms and general guidelines. Students should particularly strive to keep promises and comply with agreements. They should be

able to justify their actions verbally and in writing. They should also comply with research ethics in their theses. At the intermediate level, students can implement ethical actions in the medium-length term, for instance resolving conflicts in a community. This implies managing basic professional interaction skills (e.g. active listening) as well as negotiation skills (e.g. the ability to see a problem from different perspectives and to summarise discussions). They have persistence, character and the ability to work independently. At the advanced level, students can set long-term ethical objectives such as actively promoting social change. Their essential implementation competences are conflict-resolution and influencing skills, which are in turn based on varied argumentation (moral-ethical problem-solving).

Challenges of implementing generic competence

Rest's model has proven to be a useful tool in studying professional ethics and planning educational interventions. It is known that ethical sensitivity and moral-ethical problem-solving in particular can be developed through education (Rest & Narvaez 1994). The model offers a comprehensive, scientifically proven vision of ethical competence. It broadens the context of traditional professional ethics from thinking about values to taking practical action. On the other hand, its developmental approach towards moral-ethical problem-solving has been criticised for rating people according to their moral reasoning. The proponents of the approach have emphasised that the object of the evaluation is not the individual but his or her reasoning. Research has shown that people consider the arguments of the higher levels to be better and more convincing than those of the lower levels, even if they are not on the same level themselves (cf. Rest 1994). As a counter-argument it can also be noted that the students' development takes place regardless of the curriculum. The structures of the students' reasoning form a framework to which teaching in professional ethics fits or doesn't fit. For example, teaching containing abstract philosophical concepts will not get through to students who are at the stage of the morality of good relationships. The objectives given in curricula generally describe moral-ethical problem-solving at the advanced level. However, only about 15 per cent of the population ever reaches the fifth stage of Kohlberg's development theory, the level of social contract, and they reach it only after the age of 30. The sixth level of universal moral principles is very rare (Colby, Kohlberg & al. 1987). Describing the stages of development in reasoning makes objectives more defined and realistic. The full utilisation of the model requires sensitivity on the teacher's part towards the students' moral-ethical reasoning structures.

According to research, effective teaching requires that ethics be 1) a clearly defined part of the curriculum, which 2) is integrated into the teaching of professional subjects, and 3) is implemented in cooperation with experts in the profession and in ethics (Rest & Narvaez 1994). The competence-based core curriculum has made it possible to give a definite role to ethical competence. However, the integration of ethical competence into the teaching of subject-specific units is challenging particularly in terms of ethical sensitivity and moral-ethical problem-solving. The inclusion of ethical sensitivity implies a need for specific objectives in interaction skills. Developing moral-ethical problem-solving skills, on the other hand, requires that the teaching naturally include the consideration of professional problems from ethical points of view. This implies making ethical contents parallel to other contents, such as legal issues. By ethical contents I mean various ethical theories and approach applications, the consideration and questioning of the social responsibilities of companies and organisations, and knowledge of justice-building legislation (e.g. equality and non-discrimination laws). From this point of view, the creation of the curriculum has only just begun.

Another major challenge in developing the core curriculum was creating objectives that took into account the dialogic nature of the development of ethical competence. This is because almost all the objectives of ethical competence can only be fulfilled in interaction with others. However, there are few objectives related to dialogue or argumentation in the curricula. The tool for teaching ethical competence is the message. The effectiveness of traditional lectures has been found to be low. Effectiveness in this case is linked to diverse pedagogical solutions, such as role-play, simulations, film analyses, interaction skills, dilemma discussions, reflective journals, professional mentors and projects related to ethical issues (cf. Rest & Narvaez 1994). Guided online discussions on genuine ethical problems could be one suitable method for promoting the development of the students' moral-ethical problem-solving skills (Juujärvi & Pessa 2006).

Generally speaking, the ethical generic competence is well suited to Laurea's practically oriented Learning by Developing operating model, on the condition that it involves sufficiently detailed feedback and tutoring. The development of ethical competence requires stepping back and reflecting in addition to taking action. Encountering ethical problems in the Learning by Developing model is one of the topics of the 'Miten kansallinen identiteetti muuttuu' (*Changing Moral and National Identities*) research project funded by the Academy of Finland. One of the objectives of the project is to evaluate the effectiveness of Laurea's ethical generic competence between 2007 and 2010.

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References

Colby, A., Kohlberg, L. et al. 1987. *The Measurement of Moral Judgment, Vol. I. Theoretical Foundations and Research Validation*. New York: Cambridge University Press.

Duckett, L.J. & Ryden, M.B. 1994. "Education for Ethical Nursing Practice." In Rest, J.R. & Narváez, D. (Eds.) *Moral Development in the Professions: Psychology and Applied Ethics*. Hillsdale: Erlbaum, pp. 51-69.

Gilligan, C. 1982. *In a Different Voice: Psychological Theory and Women's Development*. Cambridge: Harvard University Press.

Hoffman, M. L. 2000. *Empathy and Moral Development: Implications for Caring and Justice*. New York: Cambridge University Press.

Honkonen, R. & Korander, T. 2004. "Miksi uudetkin professiot ja moniammatilliset verkostot tarvitsevat ammattietiikkaa?" In Friman, M. et al. (Eds.) *Ammattikorkeakouluetiikka*. Publications of the Ministry of Education 2004:30. Helsinki: Ministry of Education, Finland, pp. 94-109.

Juujärvi, S. 2006a. "Care Reasoning in Real-Life Moral Conflicts". *Journal of Moral Education* 35(2), pp. 197-212.

Juujärvi, S. 2006b. "The Ethic of Care Development. A longitudinal study of moral reasoning among practical nurse, social-work and law enforcement students". *Scandinavian Journal of Psychology* 47, pp. 193-202.

Juujärvi, S. 2006c. "Huolenpidon etiikka – moraalin toinen ääni. Katsaus Carol Gilliganin teorian pohjalta tehtyyn empiiriseen tutkimukseen". *Psykologia* 41(6), pp. 420-426.

Juujärvi, S. & Myyry, L. 2005. "Ammatillisen moraaliajattelun kehitys: Oikeudenmukaisuudesta huolenpitoon?". In Pirttilä-Backman, A.-M., Ahokas, M., Myyry, L. & Lähteenoja, S. (Eds.) *Arvot, moraalit ja yhteiskunta*. Helsinki: Gaudeamus, pp. 70-94.

Juujärvi, S. & Pesso, K. 2006. "Promoting Moral Reasoning: Three Teaching Strategies". A poster presented at the Annual Association for Moral Education Conference, Fribourg, Switzerland, on 18 July 2006.

Kohlberg, L. 1984. *Essays on Moral Development. The Psychology of Moral Development. The Nature and Validity of Moral Stages* Vol. 2. San Francisco: Harper & Row.

Nummela, P. 2004. "Ammattietiikan, etiikan ja filosofian opetus ammattikorkeakouluissa vuosina 1994-2004". Presentation at the National Conference of Vocational Education and its Research, Jyväskylä, Finland, 1 December 2004.

King P.M. & Mayhew, M.J. 2002. "Moral Judgment Development in Higher Education: Insights from the Defining Issues Test". *Journal of Moral Education* 31, pp. 247-270.

Rest, J. 1994. "Background: Theory and Research". In Rest, J.R. & Narváez, D. (Eds.) *Moral Development in the Professions: Psychology and Applied Ethics*. Hillsdale: Erlbaum, pp. 1-26.

Rest, J., Narvaez, D., Bebeau, M.J., & Thoma, S.J. 1999. *Postconventional Moral Thinking. A Neo-Kohlbergian Approach*. Mahwah: Erlbaum.

Rest, J.R. & Narváez, D. (Eds.) 1994. *Moral Development in the Professions: Psychology and Applied Ethics*. Hillsdale: Erlbaum.

Räikkä, J., Kotkanvirta, J. & Sajama, S. 1995. *Hyvä ammattilainen – johdatus ammattietiikkaan*. Painatuskeskus.

Skoe, E.E. 1998. "Ethic of Care: Issues in Moral Development". In Skoe, E.E. & von der Lippe, A.L. (Eds.) *Personality Development in Adolescence: A Cross-National and Life-Span Perspective*. London: Routledge, pp. 143-171.

Walker, L.J. 2002. "The Model and the Measure: an Appraisal of the Minnesota Approach to Moral Development". *Journal of Moral Education* 3, pp. 353-367.

Appendices

Table 1. Levels of ethical competence.

	Ethical sensitivity	Ethical motivation	Moral-ethical problem-solving	Ethical implementation
Advanced level	<p>Sensitivity to perceive moral aspects in unclear situations</p> <p>Building empathetic relationships based on interaction</p> <p>Critical reflection on one's own attitudes and stereotypes</p>	<p>Active participation in value discussions in a learning environment</p> <p>Assuming responsibility at social and global levels</p>	<p>Critical reflection on various ethical approaches and on the values behind operations</p> <p>Making arguments in favour of social and global changes</p>	<p>Long-term target-oriented ethical operations (e.g. promoting social and global change)</p> <p>Conflict-solving and influencing skills</p>
Intermediate level	<p>Knowledge of major customer group special characteristics, interests and rights</p> <p>Multicultural awareness and sensitivity</p> <p>Building a customer-oriented interactive relationship</p> <p>Dialogic reflection on emotions and objectives in interaction</p>	<p>Investigating the links between personal and professional values in dialogue with a learning community</p> <p>Assuming responsibility for the welfare and ethics of a community</p>	<p>Knowledge of the main ethical approaches and theories in the field, and applying them to ethical problem-solving</p> <p>Examining ethical problems from the perspective of an organisation and a community</p> <p>Understanding the significance of fair practices in leadership</p>	<p>Medium-term target-oriented ethical operations (e.g. solving conflicts)</p> <p>Negotiation skills</p>
Basic level	<p>Knowledge of the typical ethical problems of the sector and ability to recognise them in real-life situations</p> <p>Striving to examine situations from different parties' perspectives</p> <p>Recognising one's own emotions</p> <p>Reflecting on the consequences of one's own actions</p>	<p>Knowledge of the significance of values and of the sector's value base</p> <p>Prioritising ethical values at work</p> <p>Assuming responsibility for one's own actions</p>	<p>Knowledge and ability to apply the ethical norms of one's own field in problem-solving</p> <p>Striving to examine problems from different parties' perspectives</p> <p>Understanding the importance of confidentiality and keeping promises</p> <p>Knowledge of the basics of research ethics</p>	<p>Short-term target-oriented ethical operations (e.g. avoiding deceit, keeping promises)</p> <p>Complying with contracts</p> <p>Justifying one's own ethical actions verbally and in writing</p> <p>Applying research ethics in the thesis</p>

Table 2. Stages of development of moral reasoning according to Kohlberg

Sociomoral perspective	What is right?
PUNISHMENT AND OBEDIENCE MORALITY	
<p>Egocentric perspective.</p> <p>Does not take into account others' interests or notice that they are different from the subject's own. Actions are evaluated on physical rather than psychological grounds. Confuses the perspective of the authorities with the subject's own.</p>	<p>Avoiding breaking rules because it leads to punishment. Obedience in itself is right. Damage to people and property.</p>
FAIR EXCHANGE MORALITY	
<p>Concretely individualistic perspective.</p> <p>Aware of the fact that each person has her own interests to work towards and that this creates conflicts.</p>	<p>Compliance with rules when this is immediately beneficial. Satisfying one's own needs and looking after one's own interests, and allowing others to do the same.</p> <p>Justice, fair exchanges and sharing are also right.</p>
PERSONAL RELATIONSHIP MORALITY	
<p>The individual's perspective in interaction with others.</p> <p>Aware of shared emotions, personal contracts and others' expectations, which are prioritised. Concrete application of the golden rule by putting oneself in the other's position.</p>	<p>Responding to the expectations of those close to the subject. Responding to general role-related expectations (e.g. roles of employee and friend). It is important to be a good person with good motives and caring for others. It is important to maintain mutual relationships, and demonstrate trust, loyalty, respect and gratitude.</p>
SOCIAL SYSTEM AND CONSCIENCE MORALITY	
<p>Social perspective.</p> <p>The social perspective is distinguished from personal contracts and motives.</p> <p>System perspective that defines roles and rules. Personal relationships seen as a part of the system.</p>	<p>Fulfilling the duties one agreed to when taking on the position or role.</p> <p>Laws must be obeyed in all but extreme cases where they conflict with other people's binding social responsibilities. It is right to contribute on behalf of one's society, group and institution.</p>
SOCIAL CONTRACT, COMMON BENEFIT AND INDIVIDUAL RIGHTS MORALITY	
<p>Perspective preceding that of the society.</p> <p>Perspective of the rational individual, awareness of the values and rights on which social contracts and relationships are based.</p> <p>Applies contracts, objective impartiality and just processes.</p> <p>Distinguishes between the perspectives of law and morality, identifies their conflicts and finds them difficult to integrate.</p>	<p>Awareness of the fact that people have different opinions and values, of which most are relativistic (right within a specific group). These relativist rules must usually be obeyed because they are impartial social contracts. Some non-relativistic values exist, such as the right to life and freedom, which should be obeyed in all societies regardless of the majority's opinion.</p>
UNIVERSAL MORAL PRINCIPLES MORALITY	
<p>Perspective of the morals from which social contracts are derived.</p> <p>According to the perspective, every rational individual understands the nature of morality or the fact that people are ends in themselves and must be treated as such.</p>	<p>Compliance with self-appointed moral principles. Most laws and social contracts are acceptable because they are based on moral principles. When the laws go against these principles, it is right to act according to one's principles. Moral principles are universal principles of justice, such as equal rights, respect for human dignity and respect for people as they are.</p>

Source: Colby, Kohlberg et al. 1987

Reflective Competence

Expertise in various fields in changing international contexts, societies, communities and human circumstances also reflective competence. A growing expert's competence includes recognising one's own abilities, understanding earlier developments, having the courage to participate, and leading innovative development. The growth of an expert involves rethinking one's own reasoning and actions, evaluating, and researching and developing the area of expertise. Delayed interaction, text-based communication and new ways of thinking about oneself, reflecting the student's society, communities and circumstances, create some of the necessary conditions for growth.

One of the main objectives of contemporary education at universities of applied sciences is to produce critically reflective experts and discerning learners who strive to bring about renewal and change (Karvinen 2000, 11). Reflection is an essential aspect of professional growth and competence (Schön 1987; Järvinen et al. 2000), directed by human metacognitive abilities (Ojanen 2000, 27-28). Critical reflection relates to both defining individual operators' thoughts and experiences, and to identifying and evaluating our reasoning, the concepts that direct our operations, psychological reactions, and the social and cultural processes that affect them. Swift changes in the employment market create a need for self-directed learning. For individuals to take responsibility for their own management, they need reflective competence – i.e. the ability to critically evaluate their work (Koro 1992, 46). Together with self-directedness, reflection makes up the content of the research-oriented and developmental approach described in higher education pedagogy (Rissanen 2003).

The LbD theory is based on Dewey's thoughts. Dewey was the first to divide reflectiveness into three elements: universal knowledge, individual feeling and the will that joins them. According to Dewey, reflection is an active, liberating cognitive process that brings together knowledge and beliefs. Knowledge is an awareness of something; feeling is a connection to the knowledge. Will is embodied as both coming from within (in-going will) and being expressed externally (out-going will), assuming a specific content and giving it significance in reality

(Zedler 1960). Dewey (1963) considers humans to live in a harmonious world, not in chaos. Thus reflectiveness forms a bridge between experience and learning, and seeing things anew allows us to change direction. Reflection is an opportunity to assimilate new knowledge, where teaching, as the redirection of the student's experience, produces learning in the learner (Dewey 1963).

Reflection consists of critically analysing the principles, bases and consequences of one's own actions. It means awarding deep thought to earlier experiences or meanings to past events. Development is possible when new meanings are produced, which are strong enough to change attitudes towards competence. Imitation and verbatim replication do not produce learning (Jarvis 1999; Benner, Tanner & Chesla 1999). Learning requires deepening and broadening reflection. Critical reflection is a principle of renewing learning, in which the aim is to achieve insight into the principles of change, and to develop understanding and operating principles. Reflection offers opportunities for acting in different ways (Mezirow 1991, 167).

Structure of reflective competence

Reflection can be seen as consisting of four separate but interlinked strands (Hatton & Smith 1995). Firstly, it is linked to the **process of thought**, which refers to the skill of evaluating one's own actions and developing as a person. Secondly, it is linked to a certain **systematic time**. Thirdly, reflection **broadens into an understanding of the self in relation to other** people, theories and practices. Reflection forms part of the ability to process and present things and thus to influence communities, societies or governments. This ability is produced communally. Fourthly, reflection is linked to **problem-solving**. The regional development task assigned to universities of applied sciences emphasises the importance of reflection in students' problem-solving efforts. Reflective competence intersects with each degree programme's contentual themes, their questions and solutions (Barnagle 2004).

Temporally, reflection takes place either during actions (reflection in action) or after them (reflection on action) (Schön 1987). This temporal differentiation adds a further dimension to reflection. Reflection in action is more spontaneous than reflection on action, which is more considered and possible to deepen and broaden in various dialogues with people, literature and theories. Critical reflection is only possible after actions have taken place, which allows us linguistically to go back to an experience, action or process.

The third strand of reflection is a **broadened understanding of the self**. Development requires learning containing self-examination, critical evaluation of oth-

ers (Mezirow 2000, 22) and analyses of one's own resources (Brookfield 2000, 139). Critical reasoning can be divided into six levels of thought. At the first level of reflection there is no change in actions; the activity continues as it was, routinely. The second level implies recognising that one's own thinking is separate from other people's thinking. At the third level meanings change and require the identification of others as separate beings; interest is awakened towards this different other. Interest can also change the significance of its object for the person experiencing the interest, who is then ready to re-evaluate and rethink the subject. However, a change in meanings does not necessarily imply a change in attitude. It is not until the fifth and sixth levels with their conceptual re-evaluation that concepts and points of view broaden, causing a change in meaning perspectives and resulting in reasoned critical reflection (Mezirow 1991, 93-97). For experts to think and act in new ways, they must carry out reflection at the fifth and sixth levels. This kind of conceptual rethinking allows the individual's point of view to broaden.

Currently, reflection is a challenge particularly in problem-solving, as expertise development is tied to a time, place, circumstance and context. Reflection and critical analysis of one's own work can build new expertise. The role of the active subject is central to building the conditions for actions and thought, for redefining professional operating systems, and for reflective social change. Ideas of change based on reflection are also central to research (Karvinen, 2000, 11-14). Interpretations of evolution and development are created in problem-solving collaboration between different participants. The interpretive paradigm in knowledge building challenges experts to grow and develop interpretive problem-solving using research methods (Karvinen 2000, 24-26; Denzin & Lincoln 2003, 30-38). Research and development work requires: 1) a multicultural researcher; 2) a theoretical perspective; 3) a research strategy; 4) data acquisition and analysis; and 5) the art, practice and politics of interpretation and presentation (Denzin & Lincoln 2003, 30-38). Reflection as problem-solving is an essential part of every stage of research and development.

Levels of reflective competence

Laurea's reflective competence is a synthesis of the temporal process of change in reasoning, of broadened self-understanding and of problem-solving.

Expanding reflection on our own activities to include others allows us to test our thoughts, to share them with others and to develop our fields. The ideal conditions for this dialogue are the required data, self-recognition, the objective

evaluation of arguments, and opportunities for equal participation (Mezirow 2000, 14).

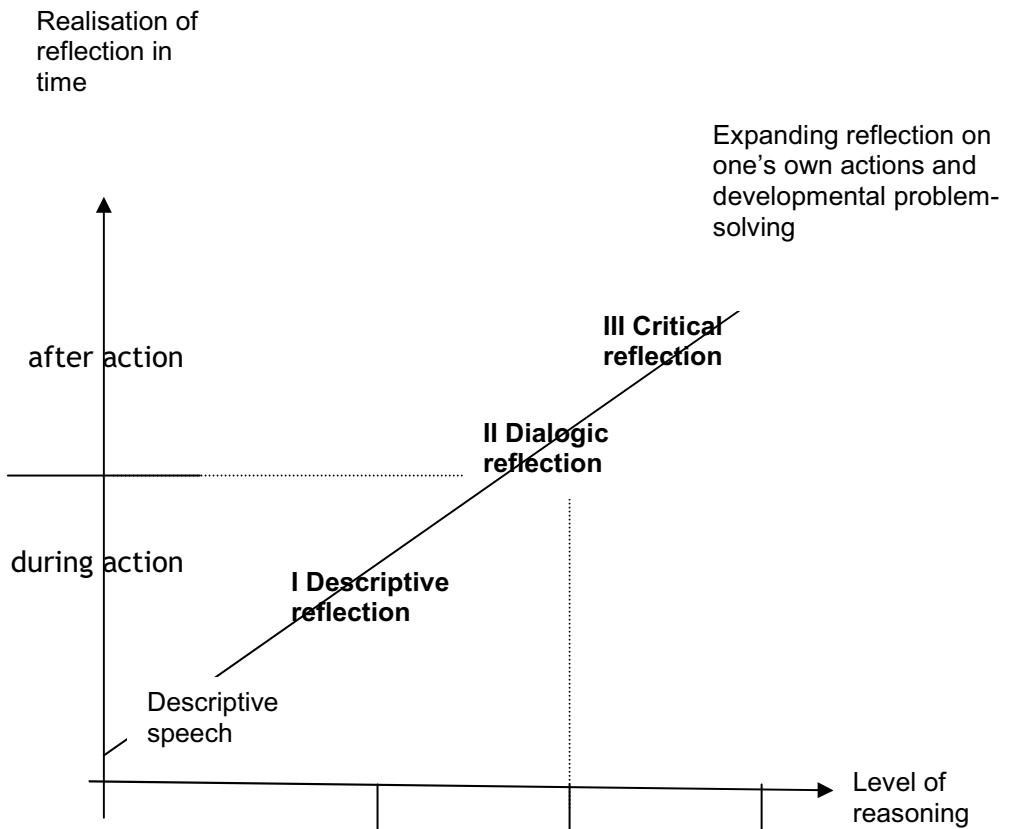


Figure 1. Levels I-III of reflective competence at Laurea

Dialogic reasoning is a half-way house for the development process (cf. Belenky & Stanton 2000, 73). Together with others, we can create new thinking and thus develop our actions. Shared reflective reasoning generates new competence through new questioning (Merriam 2004). Critical reflection brings a research-oriented approach to development and makes the learner commit to solving the

developmental problem together with others (Karvinen 2000; Denzin & Lincoln 2003).

Laurea's reflective generic competence progresses through three levels: descriptive, dialogic and critical reflection. The levels were derived from the demands for reflection as facilitators of the expert's growth and as a synthesis of the reflection strands. The names of the levels describe the development of reflection from descriptive to critical (cf. Figure 2).

1. At the descriptive reflection level there is a focus on tacit, cultural knowledge. Actions are described verbally and through representation. Temporally, reflection takes place during or immediately after actions. Descriptive reflection solves simple problems, providing rationalisations. Students broaden their understanding of themselves in relation to others by identifying their ways of learning and distinguishing their presumptions and understandings of things.

2. At the dialogic reflection level, speeches, texts and presentations are open to discussion with new people and things. The participants in the dialogue are able to handle differences of opinion without conflict and are ready to investigate opposing views. Through the cultural understanding of experience, students receive new kinds of visions of themselves and their cultures in dialogue with others. Dialogic reflected speeches and texts are well-founded, thought-through or conceptual. Reflection takes place after the actions, which means that the participants start by identifying and understanding what they experienced and can then apply it to new situations. At the dialogic reflection level, participants can question their own and other people's views in problem-solving and justify their opinions in dialogue. They can also rationalise solutions.

3. At the critical reflection level, participants can question their preconceptions of issues and verify their beliefs. Their actions are different from before and they can justify them by taking into account the needs of their colleagues, communities and society. The participants' conceptions of themselves change, as new interpretations modify their understanding of their competence and field of study. They can systematically acquire information, alone or in groups, in relation to relevant problems they have identified in their fields. They innovate and create new things together with employers and they can define the principles of development. They can take into account different cultures and adapt to work and influence other people in order to achieve a well-founded change in actions. When necessary, they can manage selected actions in global matters, situations and long-term projects.

Reflective competence is linked to the other generic competences, particularly in terms of evaluation. Students can progress further in some reflection strands than in others. The generic competences intersect in different ways with reflective competence. The table below shows the levels of reflective competence divided into evaluation, cooperation and development strands. Links to other generic competences are shown in italics (cf. Table 1).

Table 1. Levels of reflective competence, divided into evaluation, cooperation and development/renewal strands.

	Evaluating own reasoning	Broadening understanding of self in work with others	Development/renewal
III Critical reflection	Evaluating expert competence Evaluating self-management <i>Evaluating projects</i> <i>cf. ethical competence (Level 3)</i>	<i>Evaluating and developing the functionality of regional operating methods and models</i> <i>cf. ethical, innovative and network competence (Level 3)</i>	Reflecting on the systematic analysis, production and written presentation of information, and developing these activities <i>cf. network, innovative and globalisation competence (Level 3)</i>
II Dialogic reflection	Making critical arguments for starting points Self-evaluation <i>cf. ethical competence (Level 2)</i>	Collaboration Dialogue Peer evaluation <i>cf. network competence (Level 2)</i>	Conceptualising the development challenge, systematically acquiring information and analysing materials <i>cf. innovative competence (Level 2)</i>
I Descriptive reflection	Bases of learning and their evaluation Development process <i>Development plan</i> <i>cf. Network competence (Level 1)</i>	Role in a group/team Teamwork Acquiring information <i>cf. ethical competence (Level 1)</i>	Identifying development challenges and perceiving problems <i>cf. Innovative competence (Level 1)</i>

Evaluating reflective competence

The minimum level specified for reflective competence at Laurea cannot be reached without the descriptive speech level (cf. Figure 1). Evaluation of the first level focuses on individual development, whereas at the second level the emphasis is on organisational development and at the third level, on national and international issues and problems. Below are the evaluation criteria for each level, according to which students can evaluate their competence, for instance for their portfolios.

1. Descriptive reflection requires descriptive speech, in which the students can describe a situation and their experiences of it. The descriptive reflection level implies that students must identify their own competence and the most common concepts in their fields. They can recognise earlier competences and interpret them in new situations. They can recognise concepts and pose wondering questions (what?, how?), seeking answers to them alone and in groups. Information gathering is national and cultural in terms of language and content. Students recognise themselves as separate from others and pay attention to the structuring of their own thoughts and actions. They take others into account and commit to cooperation.

2. At the dialogic reflection level, students understand concepts as a part of their own actions and can use them with others, understanding different viewpoints. They can acquire relevant information using systematic data acquisition methods. They can pose constructive questions in various types of dialogue. They structure their experiences and can direct their actions accordingly. They recognise their own time resources. They comprehend new things as additions to or modifiers of previously learnt things. They understand that collaboration and teamwork are necessary for development. They can take others into account through observation and development together with other experts. They can pose constructive questions to group or team members and respond responsibly to challenges. They can explain the concepts of the field together with others and are prepared to question their own views and those of others. As active members of a team, they commit to producing new knowledge together with their employers and colleagues.

3. At the critical reflection level, students can fluently use different analyses in different situations, and find several solutions to problems. They can systematically investigate and develop their actions with others. They can pose well-founded questions and gather information in order to provide alternative answers. They can work systematically according to the chosen principles, recog-

nising needs for development in themselves, other people, communities and organisations. They work with others and assume responsibility for their own actions and for developing operations. They can organise their time and resources in ways required by each task. They are prepared to question their own views and to develop them with others. They are prepared to lead activities when necessary. They structure operations using relevant concepts and the links between them. They understand the defects in earlier concepts, questioning their own competence and seeking diverse answers to questions that have arisen, using systematic information gathering and data analysis. They find several solutions and alternatives to problems. They can make decisions, taking into account the views of other people and communities. They adopt well-founded views according to criteria that are evident to others, and can present these views clearly in writing and graphical form in national and international contexts.

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References

Barnagle, B. 2004. "Reflection on Lived Experience in Educational Research". *Educational Philosophy and Theory* (1), pp. 36, 57-67.

Belenky, M.F. & Stanton, A.V. 2004. "Inequality, Development and Connected Knowing". In Mezirow, J. & associates (Eds.) *Learning as Transformation*. San Francisco: Jossey-Bass, pp. 71-102.

Benner, P., Tanner, C., Chesla, C. 1999. *Asiantuntijuus hoitotyössä. Hoitotyö, päättelykyky ja etiikka*. Juva: WSOY.

Brookfield, S.D. 2000. "Transformative Learning as Ideology Critique". In Mezirow, J. & associates (Eds.) *Learning as Transformation*. San Francisco: Jossey-Bass, pp. 125-150.

Denzin, N.K. & Lincoln, Y.S. 2003. "The Discipline and Practice of Qualitative Research". In Denzin, N.K. & Lincoln, Y.S. *The Landscape of Qualitative Research. Theories and Issues*. California: Sage Publications.

Dewey, J. 1963. *Experience & Education*. New York. Collier Books, Macmillan Publishing Company. First published in 1938.

Hatton, N. & Smith D. 1995. *Reflection in Teacher Education: Towards Definition and Implementation*.

Jarvis, P. 1999. *The Practitioner-Researcher, Developing Theory from Practice*. San Francisco: Jossey-Bass.

Järvinen, A., Koivisto, T. & Poikela, E. 2000. *Oppiminen työssä ja työyhteisössä*. Porvoo: WSOY.

Karvinen, S. 2000. "Sosiaalityön tutkimuksen metodologiset jännitteet". In Karvinen, S., Pösö, T. and Satka, M. (Eds.) *Sosiaalityöntutkimus*. Jyväskylä: Jyväskylä University Press, pp. 9-31.

Koro, J. 1992. "Itseohjautuvuuteen perustuva oppiminen". In Ekola, J. (Ed.) *Johdatus ammattikorkeakoulupedagogiikkaan*. Juva: WSOY, pp. 43-56.

Merriam, S.B. 2004. "The Role of Cognitive Development in Mezirow's Transformational Learning Theory". *Adult Educational Quarterly*, Nov, pp. 60-68.

Mezirow, J. 1991. *Transformative Dimensions of Adult Learning*. The Jossey-Bass Higher and Adult Education Series. California.

Mezirow, J. 2000. "Learning to Think Like an Adult: Core Concepts of Transformation Theory". In Mezirow, J. & associates (Eds.) *Learning as Transformation*. San Francisco: Jossey-Bass, pp. 3-34.

Ojanen, S. 2000. *Ohjauksesta oivallukseen, Ohjausteorian kehittelyä*. Saarijärvi: University of Helsinki, Palmenia Centre for Continuing Education.

Rissanen, R. 2003. *Työelämälähtöinen opinnäytetyö oppimisen kontekstina. Fenomenologisia näkökulmia tradenomin opinnäytetyöhön*. Academic doctoral thesis. *Acta Universitatis Tampereensis* 970. Tampere: University of Tampere.

Schön, D.A. 1987. *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey-Bass.

Zedler, B. 1960. "Dewey's Theory of Knowledge". In Blewett, J. (Ed.) *John Dewey. His Thought and Influence*. New York. Fordham University Press, pp. 59-84.

Network Competence

Introduction

The concept of network competence encompasses a broad range of phenomena, ranging from individual communication skills to organisational networking and strategic network leadership. Communication is an essential requirement of communality and social activity (Viherä 2000). The significance of communication competence is particularly marked in today's global networks. Dialogue and interaction are essential resources of the network society (cf. Isaacs 2001). In order for social and economic structures to become networked, new kinds of skills and attitudes are needed in the network's participants (cf. Castells 2000; Viherä 2000).

This requirement for good communication skills does not apply just to communication professionals; operating in a work community or any other social network calls for good interaction and communication skills from all participants. Regardless of the sector, employees need diverse social skills to complete their tasks. In all customer service situations, interaction skills are at the core of the customer encounter, and even within a work community the social skills of members are significant to the success of the group as a whole. Communication skills and success in working life are linked to one another. For instance an analysis by Payne (2005) found good communication skills and motivation for social interaction to correlate with high performance at work.

The need for communication competence has been recognised in various sectors. For instance in a survey of its members by the Finnish Association of Graduate Engineers TEK, more than 90 per cent of respondents reported that they needed interpersonal skills in their jobs constantly or often. Other important competences mentioned included writing, presentation and negotiation skills (TEK 2004). In a mapping of the most important qualifications of the twenty-first century, communication skills, interpersonal skills and speaking several foreign languages were included in the top 15 professional requirements (Confederation of Finnish Industry and Employers 1997). Communication competence is also an

essential part of the qualification descriptions of various professions (cf. e.g. Chen et al. 2004; Crosling & Ward 2002; Katz, Woods, Cameron & Milan 2004).

The importance of partnerships based on networking and strategic networks is also evident. Some of the main operating principles of today's organisations are mobility and flexibility, and a networked organisation model is appropriate to this. Organisation operating environments change quickly, so the organisational solutions and structures used must facilitate not only working in the changing field but also change management and the innovative development of the environment to foster the organisation's success. Flexible and efficient networks bring significant competitive advantages to all of their members (Bahrami 1992; Nonaka & Takeuchi 1995; Ojala 1996).

Communication in networks

Communication: the process of transmitting and interpreting messages

Communication is the process by which messages are transmitted and received between participants. The transmission of messages is not, however, a mechanical data transfer; message interpretation is affected by many factors, including the social relationships between the participants and their cultural backgrounds, values, attitudes and advance knowledge. Communication is always tied to a specific context. Thus, communication is about awarding meaning and making interpretations. Through interaction we seek to create shared meanings (cf. e.g. Åberg 1993; 2002).

Communication can be examined at the levels of mutual communication between individuals, organisational communication, and mass communication (Puro 2002; Åberg 2002). Of these levels, particularly mutual and organisational communication are important for network competence. Communication is always object-oriented, arising from the need to transmit and share certain meanings. Skilled communicators can analyse their communication objectives and select the optimal ways of expression and channels for transmitting their messages.

Organisational communication and the related competence can be examined from the point of view of the individual, a group and the organisation as a whole. On one hand, it involves cognitive knowledge and skills (e.g. knowledge of the rules and conventions related to discussions). On the other hand, it requires a repertoire of skills that can be used in different situations. The actual activity – our communication behaviour – is built on these factors (Jablin & Sias 2001).

The model proposed by Jablin and Sias (2001) distinguishes four levels of communication behaviour. Firstly, organisations utilise communication compe-

tence at micro and macro levels. The micro level refers to communication between individuals in small groups; the macro level to the broader organisation as a whole. Additionally, communication can be seen through the concepts of the mesosystem and the exosystem. All the members of the organisation belong to several micro level groups; the mesosystem refers to the links between these. The exosystem, on the other hand, is a broader social system that contains for example the political ideologies of the organisation's operating environment, as well as its social, technical and financial structures. Recent significant changes at the exosystem level have been developments in information and communication technology and the globalised economy.

From networking to productive network competence

Networking is seen as a central and useful work method in today's society, in interaction between individuals, companies and various organisations alike. Networking refers to cooperation between companies and organisations, and to partnership models that can involve participants from many areas without necessarily including financial or other benefits. Strategic networks, on the other hand, include the perspective of value production, the idea being that the more demanding the strategic network, the greater the expectations as to the added value it produces. Network competence refers to temporally managing internal and external efficiency to achieve a way of operating that is significantly more efficient than traditional methods. Network competence can include networking and network leadership. Network competence can be considered to form a part of strategic networks. Network leadership is the model used to manage a network (Pirnes 2002; Möller & Svahn 2004).

The main difference between networking and network competence is a striving for productivity. By acquiring network competence we aim to achieve significantly greater productivity than that which individuals can achieve by themselves. Networking can consist of any kind of cooperation, whereas network competence implies that each member of the network contributes added value to the whole. Network competence is significantly more demanding and disciplined than networking.

In terms of theory, network competence pertains to so-called capability theory, which is currently replacing the earlier mainstream theory – contingency theory – particularly in business economics. The main difference between these theories is that according to contingency theory, organisations adapt to external factors (changing outside-in), whereas in capability theory, organisations can affect their environment with their actions (inside-out). Well-known corporate users of capa-

bility theories include Nokia, Dell, Aker, H&M and Toyota – companies that have clearly beaten their competitors. Capability theories can be expected to spread significantly in the future. Networking ability is becoming an increasingly important source of competitiveness. The diversity of strategic networks under development, and identifying the competence required by them are some of the main challenges of the future (Pirnes 1996; 2002).

Network competence as an organisation's strategic resource

Speed and flexibility through network competence

Network competence aims to maximise speed and flexibility, and to minimise friction simultaneously. It makes it easier to respond to the target group's needs and it reduces mistakes. Network competence also allows for the adoption of a cheaper operating model than traditional models. In addition, strategic networks promote the creation of innovations (Pirnes 1996; 2002).

Network competence also refers to the opportunity of acquiring new and different competences, as well as increased capacity through networks. It includes critical evaluation of the organisation's operations, which is necessary for development.

Networks as an organisational operating model

The network model is completely different from the traditional operating model. Traditionally, organisations aimed to produce all functions centrally, in the same location, from start to finish. The network competence model combines different functions from different locations appropriately to achieve the best configuration for the situation at hand. In the network competence model, core competences are subdivided into production factors, which are then combined as needed. The production process is constantly adjusted on the basis of new feedback. The production process is bidirectional where before it was unidirectional, with all functions being carried out in an internal hierarchy within the organisation.

The network competence organisation also diverges from the traditional organisation model. Earlier organisation charts were hierarchical, which minimised speed and flexibility and maximised friction. A hierarchical structure can therefore be a significant obstacle to an organisation's success. The network competence organisation is function-led. This means that it allows each individual to be innovative and take initiatives, while operating according to strict shared rules and regulations. Routines are handled by the rule book, which frees up time for creative activities. Flexibility arises from the fact that the members of the organisation can change their status depending on their task. The network compe-

tence organisation therefore combines strict routine task completion by the rules with individual freedom of action (Pirnes 1996; 2002).

Communication competence

Network competence is largely based on the communication skills of the people participating in the networks in question. Without communication and interaction, there can be no functioning networks. Organisations must be able to operate flexibly in a changing operating environment and also to influence the development of the environment. A learning organisation has communication and interaction skills as a central tool for creating functioning networks and developing network competence (Ojala 1996; Nonaka & Takeuchi 1995).

Networks are social constructs, so their functionality is dependent on the people involved and their interaction skills. Communication skills can be seen as the basis for the development and adoption of other aspects of network competence. Communication competence involves several interwoven knowledge and skill areas, which combine to form communication competence. The competence profiles of different individuals can include different proportions of the various areas.

One way to structure the development of communication competence is with a four-level model leading from basic skills to broad communication expertise (Jablin & Sias 2001). Note that the levels described here are not absolute or strictly defined, but act more as a continuum. The precompetence level relates mostly to learning skills, after which the learner can move on to the threshold level (basic competence). Once communication competence becomes better than average, we can talk of the proficiency level. At this level, the communicator can utilise communication competence effectively, understanding the effects of variables arising from the context. The fourth level is the so-called overcompetence level, where communication is based on a largely subconscious choice of communication methods in specific situations. This kind of behaviour based on subconscious choices can be typical both of experts and of beginners. Communication competence cannot be measured absolutely; the success of communication should always be assessed in relation to a specific situation and context.

Verbal communication and interaction skills in social situations

The ability to express oneself clearly and intelligibly in various verbal communication situations is essential. We not only have to find a suitable verbal expression for our views, but also have to pay attention to the way we say things, to the

tone and to nonverbal communication. Situational sensitivity is an essential skill of the communicator, i.e. knowing how to communicate appropriately in each situation (cf. e.g. Kansanen 1997).

Listening is another crucial aspect of interaction (Isaacs 2001; Puro 2002). Good communication skills do not relate just to putting one's views into words; we must also be able to actively listen to others. Then we can interpret the situation and adapt our way of communicating to its needs. In various group communication situations, listening is one of the prerogatives of successful teamwork. Listening skills are also important in customer communications (Isaacs 2001; Kansanen 1997).

Group work also requires negotiation skills. In negotiations, the most important characteristics are willingness and ability to cooperate, anticipation skills, planning negotiation strategies and target-oriented verbal communication (e.g. Kansanen 2002).

Performance skills form a part of verbal communication. Public performance requires somewhat different skills than participating in conversations and group communication. Some of the main aspects of performance skills are the ability to control nonverbal communication, interaction with the audience, efficiently utilising the preparation time that is available, controlling nerves and managing the impressions caused by the performance (Isotalus 1995).

Union of writing and reading

Producing various reports and documents is an everyday task in working life. Documentation is only useful if the text produced is actually serviceable – i.e. the texts are written to meet a real need, they are correct and purposeful in terms of their expression, and their structure is clear.

The constantly increasing amount of text also creates requirements for improving literacy. We have to sift through masses of information to find the texts that are relevant to our objectives and place them appropriately in relation to our previous knowledge. Therefore, reading is not just about mechanically identifying words and sentences but about interpreting and providing meaning – i.e. interacting with the text. Reading and writing skills often go hand in hand (cf. e.g. Alasilta 2000).

Writing expertise can be seen firstly from the point of view of the process of producing text. It could be said that an expert's way of producing text is very different from a beginner's. An expert's writing is about problem-solving and creating new knowledge. Here, we can distinguish between two types of writing proc-

esses. The strategy of describing knowledge is typical of beginners' texts. Texts following this strategy may be formally correct (e.g. linguistically), but they are based on repeating known routines rather than creating anything new. Expert writers, on the other hand, follow the strategy of knowledge-building writing, where continuous problem-solving produces continuous learning (Lonka, Karvonen & Leino 1998; Ruohomäki 2003).

On the other hand, writing is always linked to a context, and therefore writing expertise can also be seen from the point of view of the genre and of the organisation or function (Ruohomäki 2003). Knowledge of genre and the ability to select the forms of expression that are best suited to the type of text and the communication situation are characteristics of an expert writer, just as much as the ability to analyse the nature of the writing task and to select the right text production strategy.

Globalisation and the increased need for foreign language skills

Working in an international and globalised environment requires good language skills. The concept of language skills is difficult to define, however, because it has several aspects and the ability to use a language can vary depending on the situation. Language skills can be seen as a kind of opportunistic resource that language users draw from when interacting with others (Pilke 2003; Sajavaara & Takala 2000).

Naturally it is important to master the grammar and vocabulary of a language, but language use is also always a social phenomenon. In addition to linguistic competence, language skills essentially involve communication competence – i.e. the ability to use language as an interaction tool. Users need to be aware for instance of the language community's linguistic conventions, practices and culture in order to communicate effectively and purposefully in diverse situations (Sajavaara & Takala 2000).

Managing different communication channels as a part of communication competence

Communication competence also involves the essential ability to utilise different channels effectively, i.e. choosing the channels that are appropriate to the objectives of the communication out of what is available. The choice of channel also affects the meaning and interpretation of the message, so it is not a neutral action. According to McLuhan (2002 [1964]), the message itself is a tool: 'The medium is the message'.

The significance of communication channel management has grown with the digitisation of communication, particularly in the form of IT networks. Digitisation has increased the importance of the technological aspects of communication. Some aspects of communication competence are the ability to effectively utilise the technical tools of communication and the capacity to learn to use new communication channels. The effective and purposeful use of communication technology does not directly follow from technical skills (e.g. skills in using email), however; we also need broader awareness of the communication-related possibilities of different tools and how technologies can be used in our own communications. Skills in data acquisition are also important when operating in electronic networks (e.g. Alasilta 2000; Viherä 2000).

Network competence implies the integration of capacities

A network is only as good as its weakest link

All the members of a network are expected to produce added value for the network. Each member must accept the common rules in order for the network to operate properly. New members should be assessed carefully and in detail before being accepted into the network. Network membership must be long-term, because short-term participation weakens the network's functionality (Möller & Svahn 2004; Pirnes 1996).

Different strategic networks require different competences and abilities. Building a strategic network and operating within it requires the integration and management of several different capacities. There is a call for both more traditional competences and the relationship and network management skills required by networked operations. Optimally, strategic networks work as well as but more flexibly than any operational unit (Möller & Svahn 2004).

Proactiveness brings strength to reform and development efforts

It is more and more common for the development and reform of established systems to take place with strategic networks. These kinds of development networks demand trust and openness from participants. Participants must have their own clear areas of expertise, as well as a sufficiently broad shared knowledge base in order to effectively renew their activities. Development networks can only be managed by professionals who have good team-working skills in addition to their own expertise. Creating development networks is like building bridges between communities of experts, and the contact persons and team leaders play an important role. In addition to possessing innovation and coop-

eration skills, the participants in the network – particularly its core unit – must be able to assess these qualities in potential development partners.

Building and managing strategic networks aiming to create all-new concepts requires several capacities that are difficult to manage. The core organisation should be really proactive, envisioning or predicting the development of the field in question. The initiative-taker should have the necessary knowledge and competence for making the network attractive to partners. Then it can convince the best partners to join and control the operations of the incipient strategic network (Möller & Svahn 2004).

Network leadership

Network leadership requires a commitment to cooperation from the whole organisation. The key personnel must internalise and support the common targets. The core group must organise a shared forum for the network, used to agree on objectives, roles, responsibilities and profit-sharing. Innovative cooperation needs coordination mechanisms and monitoring more than anything. This usually implies building multilevel, multi-function teams and an information system that supports them. Knowledge management plays a central role in strategic innovation networks. Success also depends greatly on the culture of the network; some of the key factors of networks that result in new actions are shared targets and strategic intent, openness, trust and a passion for development (Nonaka & Takeuchi 1995; Day 1994).

Orchestration abilities are often mentioned when talking about network leadership. Orchestration requires strong visioning skills. The orchestrator must be able to predict the possible directions in which a new field could develop. These directions could be highly complex. By participating in several different networks, operators acquire comprehensive knowledge, which helps in building visioning abilities. The problem is how to utilise the knowledge of different units and individuals in an integrated way (Nonaka & Takeuchi 1995; Day 1994).

In future, the ability to build and lead various strategic networks will be an increasingly critical success factor for executive managers.

Dimensions of network competence

The development of network competence can be examined from the points of view of personal competence, an organisation's operations and social influence (cf. Jablin and Sias's four-level model [2001]). The personal competence level focuses on developing communication skills and participating in networks. It is important to obtain good communication skills in order to communicate effec-

tively in various verbal and written communication situations. It is also important to examine one's own communication competence reflectively, as this can lead to conscious development of the competence. Solid, varied knowledge of the operating culture and practices of the sector forms a valuable part of personal network competence, as does the ability to use ICT tools purposefully. Network experts are cooperative and have the desire and courage to meet different people in various communication situations. In other words, they can participate in a network in an active, target-oriented role, and are committed to the operation and shared rules of the network.

In terms of organisational development, it is important to analyse and critically evaluate the organisation's activities. The level centres on understanding the strategic significance of network competence and partnerships, as well as on analysing and reflecting on one's own actions from the point of view of the organisation. The ability to identify strategic partnerships, promote the organisation's networking with one's own actions and create new network relationships is important. Also essential is a proactive, developmental approach towards network operations. One of the major aspects of communication competence is the development of negotiation and group communication skills, and particularly situational sensitivity.

The social reformer level requires the ability to analyse the operation of entire strategic networks in relation to their environment. People at this level are top experts in network competence, with the highest active and cognitive skills. They must have a broad and comprehensive understanding of the principles of the culture and economy of the network society. They reflect on the network's actions in relation to the surrounding community and they can influence the development of the organisation's operating environment. This requires the ability to lead strategic networks (orchestration) and to anticipate complex development trends in the sector and in society (visioning). Communication technology is used innovatively as a tool for developing the operations of the network. Participation in international networks also requires comprehensive cultural sensitivity.

These dimensions were used to determine the three levels of Laurea's network generic competence (cf. Table 1).

Table 1. Three levels of network competence

	Communication competence	Networking	Manifestations of competence
Level 3: Social reformer level <i>(“for practice”)</i>	Communication expertise; strategic communication planning	Strategic network leadership	Anticipation and development; influencing the operating environment
Level 2: Organisational developer level <i>(“of practice”)</i>	Negotiation and group communication skills	Proactive network development	Actions based on analysis
Level 1: Personal competence level <i>(“in practice”)</i>	Developing cooperation skills; basic communication skills	Participating in networks	Active participation; situational sensitivity

Thus network competence is a multidimensional entity whose different aspects are all linked together. Innovative network development and leadership is based on the ability to analyse the environment and predict various trends, on one hand, and on comprehensive communication competence on the other hand. Network experts must have a broad variety of knowledge and skills that they can apply flexibly to diverse situations. Network competence can help organisations to achieve significant improvements in productivity, and proactive participation can also influence the development of the operating environment.

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REFERENCES

- Alasilta, A. 2000. *Verkkooajan viestintä. Tulkinta - ilmaisu - vuorovaikutus*. Helsinki: Kauppakaari.
- Bahrami, H. 1992. "The Emerging Flexible Organization: Perspectives from Silicon Valley". In Myers, P.S. (Ed.) *Knowledge Management and Organizational Design*. Boston: Butterworth-Heinemann.
- Castells, M. 2000. *The Information Age: Economy, Society and Culture. Volume I. The Rise of the Network Society*. 2nd edition. Oxford: Blackwell Publishers.
- Day, S. 1994. "The Capabilities of Market Driven Organizations". *Journal of Marketing*, October.
- Isaacs, W. 2001. *Dialogi ja yhdessä ajattelemisen taito*. Helsinki: Kauppakaari.
- Isotalus, P. 1995. "Mitä esiintymistaito on? Puhetaiteen, yleisöpuheen ja mediaesiintymisen yhteisiä piirteitä etsimässä". In Valo, M. (Ed.) *Haasteita puheviestinnän opetukseen*. University of Jyväskylä, Department of Communication.
- Jablin, F.M. & Sias, P.M. 2001. "Communication Competence". In Jablin, F.M. & Putnam, L.L. (Ed.) *The New Handbook of Organizational Communication. Advances in Theory, Research, and Methods*. Thousand Oaks: Sage Publications.
- Kansanen, A. 1997. *Puheviestinnän perusteet*. Espoo: Weilin+Göös.
- Kansanen, A. 2002. *Neuvottelu- ja kokoustaito*. Helsinki: WSOY.
- Katz, J.R., Woods, S.L., Cameron, C.A. & Milam, S. 2004. "Essential Qualifications for Nursing Students". *Nursing Outlook* 52 (6), pp. 277-288.
- Lonka, I., Lonka, K., Karvonen, P. & Leino, P. 1998. *Taitava kirjoittaja. Opiskelijan opas. Oppimateriaaleja 54*. University of Helsinki, Lahti Research and Training Centre, Helsinki.
- McLuhan, M. 2002 [1964]. *Understanding Media. The Extensions of Man*. London: Routledge.
- Möller K. & Svahn S. 2003. "Managing Strategic Nets: A Capability Perspective". *Marketing Theory*, Vol. 3.

Nonaka, I. & Takeuchi, H. 1995. *The Knowledge-Creating Company*. New York: Oxford University Press.

Otala L.-M. 1996. *Oppimisen etu – kilpailukykyä muutoksessa*. Helsinki: WSOY.

Payne 2005. "Reconceptualizing Social Skills in Organizations: Exploring the Relationship between Communication Competence, Job Performance and Supervisory Roles". *Journal of Leadership & Organizational Studies* 11 (2), pp. 63-77.

Pilke, N. 2003. "Käytettävyys ja kielitaito". In Koskela, M. & Pilke, N. (Eds.) *Kieli ja asiantuntijuus. AFinLA Yearbook 2003*. Publications of the Finnish Association of Applied Linguistics 61. Jyväskylä, pp. 159-176.

Pirnes, H. 1996. *Managing Efficiency and Effectiveness from a Time-Based Action Perspective. Time-Based Action in Fashion Clothing Retailing and Manufacturing*. Helsinki: Helsinki School of Economics.

Pirnes, H. 2002. *Verkostoylivoimaa*. Helsinki: WSOY.

Puro, J.-P. 2002. *Esimiehen viestintätaidot. Ekonomia-sarja*. Helsinki: WSOY.

Ruohomäki, K. 2003. "Uutiskirjoittamisen asiantuntijuus". In Koskela, M. & Pilke, N. (Eds.) *Kieli ja asiantuntijuus. AFinLA Yearbook 2003*. Publications of the Finnish Association of Applied Linguistics 61. Jyväskylä, pp. 37–54.

Sajavaara, K. & Takala S. 2000. "Kielikoulutuksen vaikutus ja tulokset Suomessa". In Sajavaara, K. & Piirainen-Marsh, A. (Eds.) *Näkökulmia sovelta-vaan kielentutkimukseen*. Centre for Applied Language Studies, Jyväskylä, pp.155-230.

TEK 2004. *Ammatillisen osaamisen tutkimus 2003*. Finnish Association Of Graduate Engineers TEK, Helsinki

Confederation of Finnish Industry and Employers 1997. *Teollisuuden henkilöstön osaamistarpeet 1997–2000*. Helsinki.

Viherä, M.-L. 2000. *Digitaalisen arjen viestintä. Miksi, millä ja miten*. Helsinki: Edita.

Åberg, L. 1993. *Viestintä – tuloksen tekijä*. 4th edition. Tietopaketti.

Åberg, L. 2002. *Viestinnän johtaminen*. 2nd edition. Helsinki: Infoviestintä.

Innovation Competence

Change is the only constant in today's society. Change affects people, organisations, knowledge and the society as a whole. On the one hand, change is a desired and sought-after state, as indicated by future probes published by the EU and in Finland; on the other hand, it is a naturally occurring, constant evolutionary development, an example being the continuous active adaptation process that takes place in companies' business operations.

Responses to change include opposition, adaptation and active support. Some changes represent a return to the past; others are directed at new things. According to competitiveness reports published by the Government and by the EU, the success of the EU and of Finland in international competitiveness depends to a large extent on a well-functioning innovation system, a national and cultural operating model that constantly generates new products, processes and strategies. Thus, innovation systems and the related competence have been selected as a central national strategy in Finland, in aiming for a competitive tomorrow.

Laurea's strategic vision supports the government's views on innovations and their importance. This is clearly visible in Laurea's pedagogical strategy, which aims to guide students to become players who innovatively develop themselves and their operating environments. Laurea's innovators develop their organisations and support the continuous development of their environments. Similarly, Laurea's regional development and R&D strategies emphasise the importance of Laurea graduates as promoters of change and active innovators. In view of the constant changing of society and the strategic alignments of the EU, Finland and Laurea, it is appropriate to select innovative development as one of the generic competences in the new core curriculum.

Innovations are not created without active players – innovators who can direct change to some extent. They develop their work processes, create new work methods for organisations and provide alternative thought models for decision-making at societal level. Laurea's strategic aim is to produce innovators to work

in Finland and to provide graduates with the necessary tools for working in a constantly changing field.

Defining innovation

The term 'innovation' is difficult to define exactly, as it has recently been popularised in everyday speech and consequently acquired new meanings. In speech, the term is used freely when speaking for instance of ideas, or even potential ideas. Previously, innovations were linked to the field of technology, but nowadays they relate to all aspects of society. We speak for instance of innovative regional politics or leadership innovations. Several definitions have been proposed for the term, and most of them have some similarities.

In an innovation report published by the Finnish National Fund for Research and Development (Sitra 2005, 14), an innovation is defined as the successful production, application and utilisation of a novelty in an economy or a society. Alasoini, Liffländer, Rouhiainen and Salmenperä (2002) give a definition by which innovations are insights created through a search for new things, research and learning, which are visible in the market as new products or services or ways of producing them. Most simplistically, innovations could be seen as the practical implementation of an idea – i.e., from a company's point of view, the commercialisation of ideas (Lampikoski & Korpelainen 1997, 15). Huiban and Boushina (1998) include the concept of novelty in the term innovation, for example in the capacity of a new characteristic in a product, process or strategy. Kolehmainen (2001) defines innovation slightly more broadly, calling it a technical, organisational or functional solution developed by a company or adopted by it when it is new, using it directly or adapting it for its own products, services, production or service processes, or other contexts that are significant for its operations. According to Ståhle and Sotarauta (2002), innovation consists of creating and applying new knowledge in a way that brings economic benefits. They refined their definition further into an equation: "innovation = new idea + implementation + value-generation" (Ståhle, Sotarauta & Pöyhönen 2004, 11).

The concept of 'novelty' in innovation can refer to many different levels of newness. Grupp and Maital determine three levels of innovation based on novelty: incremental innovation is producing a new version of an old product; standard innovation refers to adding a new function to an old product; and radical innovation takes place when a whole new product is created. This view is supported by the Sitra report (2005), according to which incremental novelties can also be considered innovations. According to Nore (2002), innovation may refer to a whole new invention, but it can also be a new solution to a technical problem, ar-

rived at through product development work. Hokkanen (2001) also identifies novelty as the central concept in innovation. According to Hokkanen, novelty can be defined from the point of view of the diffusion of the innovation until it reaches a certain number of potential users; in other words, an innovation can only be considered as such until its novelty value has reduced sufficiently.

Another major aspect of innovations, in addition to novelty, is implementation. Innovation is not a synonym for idea, nor innovativeness for creativity. Einstein's old adage of '10 per cent inspiration and 90 per cent perspiration' is a good description of innovation. An idea does not become an innovation until it has been implemented in practice – and implemented in a way that brings added value (Sitra 2005, 14; Stähle, Sotarauta & Pöyhönen 2004, 11).

Innovation can be involved with different things. Stähle and Sotarauta (2002) classify all innovations as technical, economic, social or cultural. Korpelainen and Lampikoski (1997) use a traditional classification by which innovations can be divided into four types: industrial, commercial, service and social innovations. According to Miettinen, Lehenkari, Hasu and Hyvönen (1999, 2), innovation has come to mean much the same as ability for renewal, maintaining competitiveness or competence development. This definition has gone a step further in the direction of productivity, getting closer to the process than the product. The European Commission's Green Book on Innovation describes the concept with a focus on production, as a procedure and a result. The main aspect of the procedure is turning an idea into a product or service, and a production method or social service method. Innovations are seen as belonging to all sectors, including public services (i.e. the public and third sectors). According to this definition, changes in social behaviour and lifestyles lies behind innovations. Thus, innovation is not a synonym for technology; it can be seen more as a new kind of combination of several existing factors (European Commission 1995)

The innovation process can be seen to consist of three parts. Potential innovation targets are **constantly evaluated** to find development needs and ideas. Constant evaluation can equally well refer to assessing the usability of an existing product as to the continuous assessment of the operation or needs of a certain group of people in order to produce radical innovations. Optimally, this evaluation is reflective; related skills are discussed in more detail in the section on *reflective competence*.

This constant evaluation leads to the **production of innovation ideas**. The ideas in themselves, however, are not sufficient as innovations. They have to be analysed to find their main factors and to set targets for the innovation imple-

mentation project. Constant ethical reviews are needed when assessing potential ideas and objectives for change: what is the desired change? What should be avoided? Competences related to this aspect are discussed in more detail in the section on *ethical competence*.

The third phase of the cycle relates to implementing the innovation idea by **carrying out a change project**. When the change is complete, the cycle continues with a new continuous evaluation, and so on. In practice, many change processes and other phases are carried out simultaneously in an organisation.

Levels of innovativeness

Above are several ways of defining the objects of innovation. The core curriculum is meant for supporting individuals, however, so it is necessary to find definitions that are as individual-oriented as possible. In this sense, there are at least five levels at which students can implement innovations.

1. The first level consists of the **individual's** own continuous innovative renewal, encompassing both internal changes and modifications of external behaviour and contexts. Personal innovations largely come under the generic competence of *reflective competence*, so its requirements are discussed more in the relevant section.
2. The second level consists of innovations created in environments immediately surrounding the individual, i.e. **teams**. These innovations can relate for example to the team's work methods or services.
3. The third level consists of innovations produced by broader **organisations** of which the individual is a representative. These are typically product, process and strategy innovations, and are often of incremental or standard type.
4. The fourth level consists of innovations from the individual's various **operating networks**. These networks are essential in the creation of all-new, radical innovations. New companies, for instance, can be based on innovations generated by a network. The competence involved in network innovations is also discussed in the section on *network competence*.
5. The broadest level consists of **societal** innovations, which can be anything up to global in scope. Social innovations can be for example new technologies or political processes. Some of the aspects of social innovativeness are also described in the section on *globalisation competence*.

The competence requirements for the levels of innovation are not sequential in nature; in other words, individuals can work to renew one thing while actively opposing change in other areas. As a minimum, however, all working professionals should be able to assume responsibility for continuous personal innovation, and to work amidst changes in their teams. Thus the pedagogical aim is to make all Laurea students approach change as an opportunity and not as a threat.

Competence requirements in innovation

Combining the three-stage innovation process and the five individually oriented levels of innovation results in a matrix of the competences needed for innovation. Such a matrix is presented in Table 1.

Table 1: Matrix containing the individual-oriented innovation levels and the stages of the innovation process.

	Individual	Team	Organisation	Network	Society
Evaluation	Continuous analysis of own thinking, knowledge and mental models Actively gathering information Reflectively analysing one's own work	Monitoring and analysing a team's operating models Knowledge of teamwork methods Understanding the structure of people's basic motivations	Monitoring and analysing an organisation's operating processes and their outcomes Benchmarking	Monitoring and analysing network operating models	Actively monitoring and consciously analysing social events
Idea and objectives	Wealth of ideas; creativity Refining ideas Ability to concretise, circumstantial linking, setting targets	Team ideation methods, dialogue, shared analyses Setting shared targets, selling ideas	Gathering ideas from the organisation and from customers Selling ideas within an organisation Understanding an organisation's strategic targets and linking innovations to them	Gathering ideas from a network and selling them to the network Open and public dialogue, multilogue, argumentation Motivating commitment to objectives	Linking ideas to the social framework Public discussion, open argumentation Ensuring sufficient commitment Working in the media
Implementation	Self-discipline, implementation skills, determination Self-management, working during change	Teamwork models, team leadership Project work	Change management Project management Process management	Continuously motivating project leadership Network leadership	Guiding active players; sparring

The main competence requirements of each point of intersection are listed in the matrix. The table is colour-coded according to the levels of generic competence to facilitate reading. GREEN represents the levels of personal innovation, which should be reached by all Laurea students. YELLOW describes the organisational innovator level, while BLUE is the social innovator level. The implementation of social innovations is left in white, because that level of competence exceeds the requirements set for Bachelor-level graduates at Laurea.

Table 2: Personal innovation level

	Evaluation	Idea and objectives	Implementation
Personal innovator	Continuous analysis of own thinking, knowledge and mental models. Actively gathering information. Reflectively analysing one's own work.	Wealth of ideas; creativity. Refining ideas. Ability to concretise, circumstantial linking, setting targets. Team ideation methods, dialogue, shared analyses. Setting shared targets, selling ideas.	Self-discipline, implementation skills, determination. Self-management, working during change. Teamwork models, team leadership. Project work.

Students who graduate from Laurea as basic professionals in their fields understand the importance of innovative renewal at personal and professional level. In addition they should be able to participate in or implement change initiatives in their immediate work environments. Therefore the minimum level involves internalising the personal aspects described in the matrix, as well as understanding the ideas, objectives and implementation of the team-related aspects.

The competence requirements of this level are closely linked to those of *reflective competence* and *ethical competence*.

The main competence requirements at the level of personal innovation are:

- Evaluating one's own work reflectively.
- Acquiring the knowledge needed in one's work from various sources.
- Developing new ideas.
- Managing oneself and one's work, and setting personal targets.
- Assuming responsibility for one's own work and purposefully attaining the set targets.

- Working in constant change.
- Encouraging a team to develop new ideas.
- Conducting a dialogue to achieve development.
- Working in a team and developing the team's activities.
- Presenting and selling one's ideas to a peer group.
- Leading a team's activities.
- Working in projects.

Table 3: Organisational innovation level

	Evaluation	Idea and objectives	Implementation
Organisational innovator	Monitoring and analysing a team's operating models. Knowledge of teamwork methods. Understanding the structure of people's basic motivations. Monitoring and analysing an organisation's operating processes and their outcomes. Benchmarking.	Gathering ideas from the organisation and from customers. Selling ideas within an organisation. Understanding an organisation's strategic targets and linking innovations to them.	Change management. Continuously motivating project leadership. Process management. Network leadership.

At the organisational innovator level, students should have mastered the basic level and be able to start up innovation work in their own teams and use all the innovation tools that exist in the organisation's framework. In the increasingly network-oriented operating models of the future, organisational innovators should also support active reforms as part of more informal networks.

The competence requirements of this level are closely linked to those of *network competence*.

In addition to the competences listed above for basic-level professionals, the requirements for organisational innovators include:

- Monitoring and analysing a team's operating models and work methods.
- Evaluating people's basic motivation levels and influencing them.

- Measuring, benchmarking and analysing processes.
- Leading with processes and managing a process organisation.
- Gathering information on an organisation and enriching it into a concrete plan.
- Presenting and selling one's ideas at an organisation-wide level.
- Planning and communicating an organisation's strategy.
- Implementing change projects using the tools of change management.
- Leading projects in traditional organisations and network organisations.

Table 4. Societal innovator level.

	Evaluation	Idea and objectives	Implementation
Societal innovator	Monitoring and analysing networks' operating models. Actively monitoring and consciously analysing events in society.	Gathering ideas from a network and selling them to the network. Open and public dialogue, multilogue, argumentation. Motivating commitment to objectives. Linking ideas to the social framework. Ensuring sufficient commitment. Working in the media.	Guiding active players; sparring.

At the highest level attained at Laurea, students can complete the tasks of the previous levels, as well as continuously monitoring and analysing the operation of networks and the society. They can take larger contexts into account in all change processes, and motivate people to work towards shared goals. The competence requirements of this level are closely linked to those of *network competence*, *globalisation competence* and *ethical competence*. The competence requirements of the social innovator include those mentioned above, as well as:

- Participating in networks and leading networks according to one's own objectives.
- Conducting open, public discussions at the media level.
- Arguing and counter-arguing in public debates.
- Working in the media.
- Inspiring various groups of people to commit to shared goals.
- Monitoring and analysing events in society.

- Linking events in one's own area of expertise to the social context.

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References

Alasoini, T., Liffländer, T. Rouhiainen, N. & Salmenperä, M. 2002. *Innovaatioiden lähteillä. Miksi ja miten suomalaista työelämää kannattaa kehittää?* Ministry of Labour, Finland: Helsinki.

European Commission. 1995. *Green Book on Innovation*. Brussels 20,12 1995 COM (95) 688 final. Vol. I.

European Commission. 2002. *Productivity: The Key to Competitiveness of European Economies and Enterprises*. COM(2002) 262.

European Commission. 2003. *Innovation policy: updating the Union's approach in the context of the Lisbon strategy*. COM(2003) 112.

Harris, L., Coles, A.-M. & Dickson, K. 2000. "Building Innovation Networks: Issues of Strategy and Expertise". *Technology Analysis & Strategic Management*, Vol. 12, No. 2, 2000. Brunel University: Taylor & Francis Ltd., pp. 229-241.

Hokkanen, S. 2001. *The Factors Contributing to the Profile of an Innovative Learning Community*. Jyväskylä: University of Jyväskylä.

Hokkanen, S. 2001. "Innovatiivisen oppimisyhteisön profiili". *Jyväskylä Studies in Business and Economics* no. 15 (242 p.). Jyväskylä.

Huiban, J.P., Boushina, Z. 1998. "Innovation and the Quality of Labour Factor". *Small Business Economics*, Vol. 10, pp.,389-400.

Kolehmainen, J. 2001. *Yritykset ja alueet tietointensiivisessä globaalitaloudessa. Kilpailukyky kohtalonyhteytenä*. University of Tampere. Publications of the Re-

search Unit for Urban and Regional Development Studies (Sente) 12/2001. Tampere.

Lampikoski, K & Korpelainen, K. 1997. *Innovatiivisuus-muutosvoima*. WSOY.

Kautonen, M., Kolehmainen, J. & Koski, P. 2001. "Yritysten innovaatioympäristöt. Tutkimus yritysten innovaatiotoiminnasta ja alueellisesta innovaatiopolitiikasta Pirkanmaalla ja Keski-Suomessa". *Teknologiakatsaus* 120/2002. Finnish Funding Agency for Technology and Innovation: Helsinki.

Miettinen, R., Lehenkari, J., Hasu, M. & Hyvönen, J. *Knowhow and creativity in innovation networks. A study of six Finnish innovations*. Helsinki: Taloustieto.

Suomi innovaatiotoiminnan kärkimaaksi. 2005. Final report of the "Kilpailukykyinen innovaatioympäristö" development programme. Finnish National Fund for Research and Development (Sitra), Helsinki.

Stähle, P. & Sotarauta, M. 2002. *Tulevaisuusvaliokunta. Teknologian arviointeja 13. Alueellisen innovaatiotoiminnan tila, merkitys ja kehityshaasteet Suomessa*. Preliminary report. Publications of the Parliamentary Office 8/2002.

Stähle, P. & Sotarauta, M. & Pöyhönen, A. 2004. *Tulevaisuusvaliokunta. Teknologian arviointeja 19. Innovatiivisten ympäristöjen ja organisaatioiden johtaminen*. Publications of the Parliamentary Office 6/2004.

Table 4. Levels of innovative competence (Laurea Study Guide 2006)

Levels of innovative competence			
	Evaluation	Idea and objectives	Implementation
Social innovator level (Advanced)	<p>Monitoring and analysing networks' operating models.</p> <p>Actively monitoring and consciously analysing social events.</p>	<p>Gathering ideas from a network and selling them to the network.</p> <p>Open and public dialogue, multilogue, argumentation.</p> <p>Motivating commitment to objectives.</p> <p>Linking ideas to the social framework.</p> <p>Ensuring sufficient commitment.</p> <p>Working in the media.</p>	<p>Guiding active players; sparring.</p>
Organisational innovator level (Intermediate)	<p>Monitoring and analysing a team's operating models.</p> <p>Knowledge of teamwork methods.</p> <p>Understanding the structure of people's basic motivations.</p> <p>Monitoring and analysing an organisation's operating processes and their outcomes.</p> <p>Benchmarking.</p>	<p>Gathering ideas from the organisation and from customers.</p> <p>Selling ideas within an organisation.</p> <p>Understanding an organisation's strategic targets and linking innovations to them.</p>	<p>Change management.</p> <p>Continuously motivating project leadership.</p> <p>Process management.</p> <p>Network leadership.</p>
Personal innovator level (Basic)	<p>Continuous analysis of own thinking, knowledge and mental models.</p> <p>Actively gathering information.</p> <p>Reflectively analysing one's own work.</p>	<p>Wealth of ideas; creativity. Refining ideas.</p> <p>Ability to concretise, circumstantial linking, setting targets.</p> <p>Team ideation methods, dialogue, shared analyses.</p> <p>Setting shared targets, selling ideas.</p>	<p>Self-discipline, implementation skills, determination.</p> <p>Self-management, working during change.</p> <p>Teamwork models, team leadership.</p> <p>Project work.</p>

Globalisation Competence

Introduction

Public discourse and political programmes tend to focus on a few central topics, contentious issues or objectives, as if the matters under discussion were the most important aspects of reality itself. A topic known as 'globalisation' has become one of the buzzwords in the media, among politicians and in social science since the early 1990s. We have all heard of increasing global economic competition, outsourcing to China, multiculturalism, global environmental problems, the threat of disappearing national identities, and the beneficial and detrimental effects of the Internet. Indeed, in the last fifteen years the very topic of globalisation has become globalised, spreading throughout the world.

Laurea has adopted globalisation as one of the generic competences in its new curriculum. This competence actually also involves the theme of sustainable development (which is a global issue), but because sustainable development is discussed elsewhere in this publication, this article will only refer to it in passing.

This article comprises three sections. The first section presents some basic definitions related to globalisation; the main aim of this section is to broaden the primarily economic perspective on globalisation that is often used in public contexts. This is why the section approaches globalisation as a multidimensional phenomenon with historic depth. The second section defines in further detail the forms of human interaction that make up globalisation, and the last section looks at the status of globalisation competence at Laurea.

What is globalisation?

The word 'global' refers to things that encompass a whole group of objects, that is comprehensive or complete, or that involves the whole world (globe) (Brown 1993, 1011). This is a good working definition when we look at globalisation as the series of events and processes that cause the world to merge into a single, all-encompassing social system (cf. Robertson 1992, 53; Waters 1995, 3). In other words, here 'globalisation' refers to the processes by which phenomena

acquire worldwide scope. 'Global' refers to worldwide phenomena and the outcomes of the globalisation process – a fully integrated world.

In this definition it is important not to understand globalisation as a subject or active entity that can come and change the world. Globalisation is a common name for the processes and operators that cause an increase in worldwide social integration. The actual actors are individuals and groups (cf. George & Wilding 2002, 2).

As the above definition shows, the meaning of 'global' is identical to the older social science concept of 'universal'. The classics of social science used the term 'universal' (or another similar term) rather than 'global' (cf. Moore 1966, 476-477; Waters 1995, 5-7). The foundations of today's social sciences were laid by researchers who wrote their works at a time of expanding international integration in the late nineteenth century, and their social visions were often cosmopolitan.

As nation-states became stronger in the twentieth century, a narrower approach based on the national state and its differentiation became more popular. In the 1990s and early twenty-first century, when global integration appears to have progressed and be progressing faster than ever, globalisation has become the most salient and unquestionable buzzword. Therefore the concept itself can be said to have become globalised (Waters 1995, 2), and globalisation seems to be a more widely accepted interpretation of the contemporary world than post-Modernism. Just like the nineteenth century's concept of universal social phenomena, today's globalisation discourse gives opportunities for a new rising of the cosmopolitan¹ perspective.

It is important to see the links between the concepts of 'global' and 'universal'. Many of the phenomena that we now understand as manifestations of globalisation were not included under that term until the mid-1980s; instead, writers spoke of their universal nature (Waters 1995, 2). Therefore earlier research and theoretical trends may be useful in studying globalisation, even if they do not include the term 'global'. An example could be the debates conducted in the 1960s and 1970s on such worldwide topics as armament, non-renewable resources (critiques of unlimited economic growth), environmental destruction, underdevelopment and unbridled population growth (cf. Sandkühler 1990, 464).

¹ 'Cosmopolitan' refers to a political and social system that covers the whole world – even the whole Universe. The term springs from the words *kosmos* (universe) and *polis* (state).

So what distinguishes a global social system from all other social systems? What is special about globalisation? The answer to this lies in the comprehensiveness of the global system. If the processes of globalisation continued all the way to their theoretical end point, the world would become a single social system. In a completely globalised world, all social systems would be linked in one way or another. In other words, a completely globalised world would form a single closed social system (cf. Luhmann 1987, 555-557, 585). This means that the global system no longer has a social environment, but includes all human interactions within itself.² This could be called the global society.

That does not mean, however, that the globalised world would be a homogeneous entity. On the contrary, a powerfully integrated world can consist of complementary, sometimes very different sociocultural groups or economies. The various parts of the global society can live fairly independently despite their links to the global entity.

This is a revolutionary state compared with previous history, because it would mean that no social, economic or other costs can be outsourced to be borne by other social groups; instead, humanity would have to solve its problems together, or suffer the consequences together.

The broad definition of globalisation given above contains at least four subdefinitions of 'global' or 'universal':

1. Universal moral codes apply to all people in the same ways. The existence of global codes does not mean that a global society based on concrete interaction has already been created. The requirements of universal morals apply in the same way to everyone, whether they have concrete interactions or not. According to Kimminich, the ideas of a unified world, world power and a single religion can be found in all cultures (Ritter 1974, 675).
2. The universal can refer to internal characteristics of the human race, such as the need for food, shelter, autonomy and social fellowship, rationality, and basic human nature as good or evil. External circumstances can also create contexts for action that are comparable to our internal being in their peremptory nature. Together these factors make up the universal anthropological constants that define humanity.

² This does not mean that even in a global social system certain groups, such as criminals or opponents of the existing system, cannot be defined as 'outsiders' to the legitimate order.

3. The global can refer to the history of humanity as a whole. Then the development of the human race is seen as a very long series of events, including the history of settlements, the development of various cultures through history, etc. (cf. e.g. McNeill & McNeill 2006).

4. Globalisation currently refers more to global interactions. In this new conception, the process of globalisation is generally approached either from the perspective of today's political and economic actors, or temporally, in terms of written history. The study of global interactions is often also close to 'globalism', which refers to the various political agendas and ideologies that strive to promote globalisation. In fact it appears that the higher individuals and groups are located in the social hierarchy, the more prepared they are to talk of globalisation. In that sense globalism is often a neo-liberal ideology of the elite (cf. George & Wilding 2002, 56-57).

Although these four meanings of 'global' and 'universal' are conceptually separable, they are often mixed up in texts and concepts concerning globalisation.

For example in studies on the global system (e.g. Immanuel Wallerstein), universal moral codes ('do-goodism') are mixed up with empirical research. Similarly, strong anthropological background assumptions regarding the 'rational nature' of individuals or the characteristics of 'economic benefits' can be discerned in supposedly neutral studies on economic globalisation.

Probably any empirical study on global themes must always be based on certain assumptions regarding universal morals, anthropological constants and the history of humanity, even if they are not specified explicitly. In this sense, the global theoretical perspective relativises the differences between cultures, and is therefore incompatible with extreme cultural relativism (cf. requirement for multiculturalism).

Forms of global interaction

As explained above, globalisation refers here primarily to increasing global interactions. These interactions can be classified according to modern social theory as economic, cultural, political or social interactions (with regard to economics, culture and politics, cf. Waters 1995; Väyrynen 1997). In addition to social interaction, the themes of globalisation also include questions of ecology and science. The elements of globalisation could briefly be described as follows:

- 'Politics' refers mainly to the way in which the wielding of power is regulated in today's societies, organised around the machinery of government. The concept of politics used in each state defines the legitimate actors of politics

('citizens'), legitimate political operations (e.g. elections) and the matters corresponding to the field of politics (some aspects of social policy but not e.g. companies' investment decisions). On the other hand, the concept of politics can also be defined more broadly to include all civic activity that affects authority relationships and people's lifestyles ('life politics', various international social movements and ideologies). In terms of globalisation, the main political issue is naturally to what extent, at what level and how global human interactions should be controlled and regulated. The answers to this question are included in a continuum of cosmopolitan and nationalist responses.

- 'Culture' refers to the symbols, lifestyles, philosophies, fashion, habitus and other such aspects of social groups. Cultural globalisation naturally incites questions regarding the positions of different cultures in relation to each other (e.g. the idea of multiculturalism).
- 'The economy' can simply be defined as the production, distribution and consumption of goods and services (Smelser 1965, 69). In terms of economy, the main issues of globalisation question to what extent national economies should be opened to international competition, to what extent and how the global economy should be regulated, and what role national and regional (e.g. EU-wide) competitiveness plays in economic globalisation.
- 'Social interaction' refers to the sociopsychological fact that social life in groups is very important for humans. With regard to globalisation it could be thought that socially belonging to wider regional communities such as a peoples, or Europe, for instance, forms a major factor in the process of globalisation. When encounters between people from different countries is conceptualised – for example when we speak of foreigners immigrating to Finland and their status – the event is often approached as a 'cultural encounter'. This is an inopportune description, because in truth it is not the cultures that meet, but individuals and groups.
- Ecological and scientific questions relate for instance to the sufficiency of natural resources and to the sustainability of human activity in the natural environment. In addition many themes related to scientific research are global, as nature does not follow the social and cultural boundaries set by man. Many environmental and scientific questions are closely related to the various forms of global social integration. For example, the issue of sustainable development is an important theme in global politics and economy.

In using the above definitions as tools of reasoning and analysis, it must be remembered that they are not suprahistorical but strictly linked to the prevalent social practices of each time – i.e. the ways in which social lives are lived, organ-

ised, observed and represented. As historical circumstances and social practices change, so do the contents and relationships of these concepts. It is also possible for some of these concepts to fall into disuse. Below are examples of such historical changes.

If for example regional administration and integration (e.g. European Union) increase, limiting the political sovereignty of national states, this will lead to a reconstruction of the political concepts that we are used to (cf. Nieminen 2005). Similarly, cultural globalisation, for example in the form of Western popular culture or political democracy, can easily generate global ways of thinking, habitus and political demands. Thirdly, the boundary between 'politics' and 'economy' is one of the constant controversies of modern capitalist societies, which in principle separates these two arenas from each other. For instance issues related to environmentalism, workplace democracy or consumer rights continuously re-work the lines and conflicts of interest between politics and economy. In practice, new boundaries between these areas change the ways in which politics and the economy are defined and understood.

However the events and processes of globalisation may be conceptualised, it is important that in a generic competence that offers general knowledge to all Laurea students, globalisation and internationalisation be approached as diverse phenomena and questions to which there is no one correct answer (with regard to different perspectives on globalisation, cf. e.g. George & Wilding 2002; Held & McGrew 2005).

Globalisation competence at Laurea

It may seem strange at first sight to include such an all-encompassing topic as globalisation in the teaching of a university of applied sciences. However, it is closely related to international competence, which has to be included in all Finnish universities of applied sciences. International competence involves skills in at least one or two foreign languages, abilities in intercultural communication and learning to understand the effects of internationalisation in one's own field.

In addition, globalisation competence has links and overlapping areas with other generic competences at Laurea. Network competence is linked to globalisation at least in the sense that it should take into account the increased integration between organisations and societies. Ethical competence is related to globalisation in at least two ways: firstly, globalisation brings to the forefront ethical questions that transcend national boundaries; secondly, the main modern moral values are considered universal (e.g. various human rights), so many ethical issues are also global issues. Network competence is closely linked to globalisation in the

sense that many of the social relationships considered under globalisation take place in various networks that transcend organisational national and regional boundaries (cf. especially Castells 1996). The links between reflective competence and globalisation competence are evident at least in the sense that reflective competence provides an improved understanding of the self in relation to others.

It is difficult to determine whether the globalisation generic competence is more difficult than the other generic competences, but below is a brief discussion of possible problems that may arise in it. Firstly, the basic definitions of globalisation competence, discussed above, are fairly simple but also highly abstract. It may well be that they only seem simple to readers or students who are used to using general concepts for defining things and to discussing phenomena as parts of systems. In actual fact, the social theory that the above definitions of globalisation broadly represent is a very unnatural way of looking at the world. In day-to-day life we do not make abstractions from individuals and groups to form the principles and interaction laws (e.g. forms of global interaction) that regulate human relations; we look at people as independent actors who are responsible for their own actions (cf. ethical competence).

At the time of writing (July 2007), I have given some lectures on the globalisation generic competence to Laurea students. These and certain other teaching experiences have led me to believe that teaching would often be more successful if it went from the specific to the general and not vice versa. In the case of globalisation, familiarisation with globalisation competence could start with shared discussion and analysis of certain examples of global interactions and progress to locating these examples in the social theory context. For example, students could follow the stages of the global creation of a Nike product manufactured in Vietnam, starting with market research and planning in USA, passing through the acquisition of raw materials from around the world, looking at production in Vietnam and leading to the shelves of a Finnish sports store.

These kinds of empirical examples could be a very illustrative way of studying various interactions in globalisation. However, the progression from specific to general requires more face-to-face instruction time than the opposite method, because it takes more time to present and jointly analyse empirical examples than to describe an abstract framework in lectures and discussions.

Another problem in globalisation competence relates to national identity. A collective national identity leads to a strong 'us vs. them' attitude, which in turn distorts investigations of global interactions.

A third issue related to globalisation is the complexity of global interactions. The world consists of large numbers of local and regional societies and cultures, whose interactions are lively and diverse. Understanding these interactions and one's own role within them is demanding for teachers and students. These interactions are particularly difficult to analyse because there are no global rules, organisations or institutions within whose frameworks they take place. For this reason, the consequences of global interaction are often unpredictable: there is no way of knowing in advance how people in a different social setting will react to various actions. In fact, we should assume that the causal relationships governing interactions in the globalised world are much less clear than those we are used to in nationally organised societies. A topical example of the unpredictable nature of sociopolitical measures is the US invasion of Iraq. In starting a war against Saddam-led Iraq, the Americans probably didn't expect to cause a civil war, strengthen the presence of Al-Qaeda or be stuck in a conflict that appears to have no way out.

A fourth issue that makes globalisation competence more complex is the fact that globalisation is not a specific discipline such as ethics, but a concept that describes the development of the human race in history. Thus there are no commonly accepted subjects one could study in relation to globalisation. It is a highly debated topic, with a lack of consensus even on its basic definitions (cf. Held & McGrew 2005).

These problems related to studying globalisation competence do not make it impossible to cover at a university of applied sciences; on the contrary, Laurea deserves praise for selecting such a challenging and topical generic competence for its curriculum. This selection was perhaps a braver action than those who made the decision initially realised, but that is yet for us to find out.

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References

Brown, L. 1993. *The New Shorter Oxford English Dictionary on Historical Principles. Volume 1, A-M*. Oxford: Clarendon Press.

Castells, M. 1996. *The Information Age: Economy, Society and Culture. Volume I. The Rise of the Network Society*. Malden, Massachusetts: Blackwell Publishers.

George, V. & Wilding, P. 2002. *Globalization and Human Welfare*. Houndmills, Basingstoke, Hampshire: Palgrave.

Held, D. & McGrew, A. 2005. *Globalization/Anti-Globalization* (Finnish translation). Tampere: Vastapaino.

Luhmann, N. 1987. *Soziale Systeme. Grundriß einer allgemeinen Theorie*. Frankfurt am Main: Suhrkamp.

McNeill, J.R. & McNeill, W.H. 2006. *The Human Web: A Bird's-Eye View of World History* (Finnish translation). Tampere: Vastapaino.

Moore, W. 1966. "Global Sociology: The World as a Singular System". *The American Journal of Sociology* 1966, 5, pp. 475-482.

Nieminen, A. 2005. *Towards a European Society? Integration and Regulation of Capitalism*. Department of Sociology Research Reports 245. Helsinki: University of Helsinki. [online]
<<http://ethesis.Helsinki.fi/Publications/val/sosio/vk/nieminen/>>

Robertson, R. 1992. *Globalization. Social Theory and Global Culture*. London, Newbury Park, New Delhi: Sage Publications.

Sandkühler, H.J. (Ed.) 1990. *Europäische Enzyklopädie zu Philosophie und Wissenschaften*. Hamburg: Felix Meiner Verlag.

Smelser, N. 1965. *The Sociology of Economic Life*. Englewood Cliffs, New Jersey: Prentice Hall.

Ritter, J. 1974. *Historisches Wörterbuch der Philosophie*. Band 3: G H. Basel/Stuttgart: Schwabe & CO Verlag.

Waters, M. 1995. *Globalization*. London and New York: Routledge.

Väyrynen, R. 1997. *The Global Transformation: Economics, Politics, and Culture*. Sitra 161. Helsinki: Finnish National Fund for Research and Development (Sitra).

Table 1. Levels of globalisation competence (Laurea Study Guide 2006)

Levels of globalisation competence			
	Competences		
	Knowledge	Motivation and values	Implementation skills
Social reformer level (Advanced)	Recognising the global nature of social issues and the characteristics of sustainable development.	Critically evaluating social values and practices from the point of view of sustainable development, taking into account global interactions.	Making arguments using the principles of sustainable development, from the perspective of global effects, at the societal level.
Organisational developer level (Intermediate)	Knowledge of the effects of one's sector and its organisations on sustainable development, responsibility and international connections.	Striving to promote the values of environmental and social responsibility in organisations in the sector, taking into account global interactions.	Applying sustainable development responsibility in organisations in the sector, and participating in international networks.
Personal competence level (Basic)	Recognising the significance of one's professional actions in relation to global interactions and sustainable development.	Evaluating one's value bases from the point of view of sustainable development and globalisation.	Applying the principles of sustainable development in one's work in relation to global interactions.

The Generic Competences in Comparison with the European Higher Education Area's Development

Through the Bologna Process, Finland's higher education institutions have for nearly ten years been closely involved with developing a coherent European Higher Education Area (EHEA). This has been a very fruitful process, particularly from the point of view of the development of Finnish universities of applied sciences, because it has provided clear development structures and directions to this new institution. Universities of applied sciences are currently undergoing a strong and influential development phase in the Finnish higher education field and in their production of higher education competence to meet the needs of the society and the employment market. As a new organisation, universities of applied sciences have found it natural to participate in developing EHEA, as this has simultaneously reinforced their identity as higher education institutions, and linked them to similar institutions in European forums.

The aim of the Bologna process, which began in 1998, is to form a European Higher Education Area by 2010, raising the competitiveness and attractiveness of European higher education as compared to that of other continents. Some of the methods used in working towards this aim are ensuring the intelligibility and uniformity of degree structures, creating a credit system for measuring studies, and conducting quality assessments of institutions. Higher education degree systems have been developed greatly in the countries participating in the Bologna Process, and as a result these countries are now transferring to a two-cycle model for degree structures (Ministry of Education 2005, 9-10).

This article looks at how the generic competences applicable to all degree programmes included in Laurea's competence-based core curriculum (ethical competence, reflective competence, innovative competence, network competence

and globalisation competence) relate to European and national definitions. Laurea's competence-based curriculum defines three levels of competence for each generic competence, but they will be discussed here as single entities. Leadership competence and research and development competence are included in the curriculum as their own study units rather than as generic competences that permeate the whole of Laurea, so they are not discussed much in this comparison. I conducted an analysis of the comparative data and placed it in a matrix by generic competence. The contents of Laurea's generic competences are described in more detail above.

The documents/materials used for the comparative matrix were:

- European Qualification Framework (EQF): Level 6 (Bachelor),
- Tuning Generic Competences (TGC),
- Dublin Descriptors,
- Generic workplace competences as described in the Finnish ECTS project in 2006.

The **European Qualifications Framework** (EQF, COM (2006) 479 final) is structured around the competence produced by each degree, which is defined according to the competence objectives set for the degrees. The Framework also described the general outcomes and competences of degrees (European Commission 2006). In that sense it is useful to examine the competence produced by the generic competences in Laurea's new curriculum by comparing them with the objectives set in national and European frameworks. This promotes the comparability of degrees and the recognition of studies, and makes it easier to identify and reward competence.

The competence produced by a degree is defined in the EQF in terms of knowledge, skills and competences. The learning outcomes for Level 6 (Bachelor level) of this competence are defined as follows:

Knowledge (cognitive competence): In the EQF, knowledge is described as theoretical and/or factual. Students have advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.

Skills (functional competence): In the EQF, skills are described as cognitive (use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments). Students have advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study.

Competence: In the EQF, competence is described in terms of responsibility and autonomy. Students can manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts. They take responsibility for managing professional development of individuals and groups.

(European Commission 2006)

The Tuning Educational Structures Project is a project linked to the Bologna Process, funded by the European Union, which focuses particularly on issues related to the two-cycle degree structure and to the transparency of the educational system. The project represents academe and the voice of higher education institutions, and promotes the adoption of the ECTS system. The project has involved degree requirements specific to each field of study, comparisons of learning outcomes, and the development of professional profiles. Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning. Minimum performance requirements can be set according to jointly defined learning outcomes. The project is visible online at <http://www.europa.eu.int/comm/education>. (González & Wagenaar 2003; 2005; Ministry of Education 2005,12).

The Tuning Project's generic competences form a good point of comparison to Laurea's generic competences. Field-specific research on these competences also tried to find consensus on how the learning outcomes and competences should be distributed over first- and second-cycle degrees. Tuning distinguishes three types of generic competences:

1) Instrumental competences: cognitive, methodological, technological and linguistic abilities.

- These include a capacity for analysis and synthesis, organisational and planning skills, general knowledge, basic professional competence, verbal and written communication in the mother tongue, foreign language skills, basic IT skills, information management (e.g. acquiring and analysing data from various sources), problem-solving and decision-making skills.

2) Interpersonal competences: individual abilities like social skills (social interaction and co-operation).

- These include the ability to work critically and self-critically, team-working skills, social skills, a capacity for working in groups with representatives of different disciplines, the ability to communicate with experts from other

fields, respect for difference and multiculturalism, the ability to work in an international environment, and work based on ethical principles.

3) Systemic competences: abilities and skills concerning whole systems (combination of understanding, sensibility and knowledge; prior acquisition of instrumental and interpersonal competences required).

- These include the ability to apply knowledge in practice, the capacity for investigating and learning, the ability to adapt to new situations, creativity, leadership, understanding other countries' cultures and practices, the ability to work autonomously, project planning and management skills, initiative, concern for quality and the will to succeed.

(Ministry of Education 2005, 13)

The Dublin Descriptors, developed by an unofficial partnership (Joint Quality Initiative, <http://www.jointquality.org>), contain descriptors for first-, second- and third-cycle degrees, i.e. Bachelor, Master and Doctoral degrees.

1. Qualifications that signify completion of the first cycle (Bachelor's level) are awarded to students who:

- have demonstrated knowledge and understanding in a field of study that builds upon general secondary education. The education is supported by advanced textbooks and includes some aspects that will be informed by knowledge of the forefront of their field of study;
- can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study;
- have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues;
- can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;
- have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

2. Qualifications that signify completion of the second cycle (Master's level) are awarded to students who:

- have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and

that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context;

- can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;
- have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements;
- can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously;
- have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

3. Qualifications that signify completion of the third cycle (Doctoral level) are awarded to students who:

- have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field;
- have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity;
- have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication.
- are capable of critical analysis, evaluation and synthesis of new and complex ideas;
- can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise;
- can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge-based society.

(Ministry of Education 2005, 13)

Generic competences for graduates of Bachelor's and Master's degrees from universities of applied sciences were defined at the national level by a generic competence committee appointed by ARENE as part of the ECTS Project funded by the Finnish Ministry of Education. This matrix contains the generic competences for Bachelor's level degrees. The project also defined subject-

specific competences for graduates of universities of applied sciences (Rectors' Conference of Finnish Universities of Applied Sciences ARENE 2007, www.ncp.fi/ects).

Subject-specific and generic competences

According to the generic competence team's definition, competences are understood as wide-ranging combinations of know-how – composites of knowledge, skills and attitudes possessed by an individual. They illustrate the person's proficiency, capacity and ability to perform in professional tasks. Finnish universities of applied sciences have decided to use a distinction between programme- or subject-specific competences and generic competences. They are clearly distinguishable and easy to evaluate as learning outcomes.

The subject-specific competences form a base for the student's development in his/her career and expertise. The generic competences are common to different degree programmes and subject fields, but they may have different emphases and vary in importance in different professions and vocational tasks. The generic competences lay a foundation for the person's participation and collaboration in working life as well as for his/her professional development (ARENE 2007).

National generic competences for BA-level at universities of applied sciences as defined for the ECTS project:

Learning competence; students can:

- self-evaluate their competences and define their development and learning needs
- recognise their learning style orientation, conduct studies independently and develop their learning strategies
- carry out collaborative learning and sharing of knowledge in teams and working communities
- operate in changing environments and recognise and utilise available learning opportunities and scopes for action
- plan, organise and develop their own actions

Ethical competence; students can:

- apply the value systems and ethical principles of the subject field in their conduct and tasks
- take responsibility for their own actions and works according to jointly agreed principles and measures

- apply the principles of sustainable development in their actions
- take other people into account in their actions

Communication and social competence; students can:

- listen to others and communicate in writing, speech and visually using different communicative styles
- function in the communicative and interactive situations typical of the field
- understand the principles of group and teamwork and work with others in multidisciplinary teams
- utilise information and communication technology in their work

Development competence; students can:

- retrieve and analyse information of their subject field, critically evaluate it and perceive entities in a holistic way
- know the basic principles and methods of research and development and can conduct small-scale research and development projects applying the existing knowledge of the field
- know the principles of project work and work in projects
- adopt an initiative-taking and proactive approach to work and solve problems and make decisions in their work
- understand the principles of profitable and customer-focused operations, possess entrepreneurial skills

Organisational and societal competence; students can:

- know the socioeconomic interdependence of organisations in their subject field
- know the possibilities of societal influencing for the development of their fields
- know the basic principles of organisational management and leadership, have abilities for supervision tasks
- know the methods of working life and operate in work communities
- plan and organise activities

Internationalisation competence; students can:

- possess spoken and written communicative competence in at least one foreign language necessary for their work and for professional development
- understand cultural differences and work with people from different cultural backgrounds
- use international sources of information in their fields

- understand the effects and opportunities of internationalisation in their fields
 - understand the effects and opportunities of internationalisation in their fields
- (ARENE 2007).

To work successfully and productively in a work community, an expert needs a large variety of skills and competence, which have been defined in many ways in different disciplines and for various purposes. As the above descriptions indicate, the concept of expertise and the related competences is very difficult to define, so all classifications are to some degree indicative, containing concepts that can be understood in a variety of ways depending on the reader's circumstances – sometimes quite far from what the classifier intended.

The appended comparative matrix (Appendix 1), however, strives to form a comprehensive view of how well Laurea's generic competence definitions match the generic competences defined at national and European level, as well as the requirements set for Bachelor's degrees by the Joint Quality Initiative. Comparisons have shown that Laurea's network, globalisation and innovative competences in particular are unique and thus work well in profiling the competence generated at Laurea as an international university of applied sciences focused on service innovations. Laurea's innovative efforts in relation to the competence-based core curriculum are a proactive response to the challenges of international competitiveness in the Helsinki metropolitan area. Currently resources are being directed towards further enhancing the quality of the curriculum's implementations in generating new competence and innovations for Laura's operating environment.

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REFERENCES

ARENE. 2007. Rectors' Conference of Finnish Universities of Applied Sciences The Bologna Process and Finnish Universities of Applied Sciences. Participation of Finnish Universities of Applied Sciences in the European Higher Education Area. Final project report. Helsinki: ARENE.

Dublin Descriptors. 2004. Shared 'Dublin' Descriptors for Bachelor's, Master's and Doctoral Awards.

European Commission. 2006. "Proposal for a Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework for Lifelong Learning (presented by the Commission)". 2006/0163 (COD). COM(2006) 479 final.

González, J. & Wagenaar, R. (Eds.). 2003. Tuning Educational Structures in Europe. Final Report, Phase One. Bilbao: Universidad de Deusto.

González, J. & Wagenaar, R. (Eds.). 2005. Tuning Educational Structures in Europe. Universities' contribution to the Bologna Process. Final Report, Phase Two. Bilbao: Universidad de Deusto.

Ministry of Education, Finland. 2005. Qualifications Framework. Description of Finnish Higher Education Qualifications. Committee Records and Reports 4. Helsinki: Yliopistopaino.

Table 1: Laurea's generic competences compared to national and European competence descriptions (Kallioinen 2007)

LAUREA ETHICAL COMPETENCE	LAUREA REFLECTIVE COMPETENCE	LAUREA NETWORK COMPE- TENCE	LAUREA INNOVATIVE COMPETENCE	LAUREA GLOBALISATION COMPETENCE
<p>Tuning Generic Competences (TGC)</p> <p>Interpersonal competences:</p> <ul style="list-style-type: none"> - acting on the basis of ethical principles - respecting difference and multiculturalism <p>Systemic competences</p> <ul style="list-style-type: none"> - understanding the cultures and customs of other countries and cultures 	<p>TGC</p> <p>Instrumental competences:</p> <ul style="list-style-type: none"> - cognitive knowledge and skills - problem-solving and decision-making abilities <p>Personal and communication competences:</p> <ul style="list-style-type: none"> - working critically and self-critically <p>Systemic competences:</p> <ul style="list-style-type: none"> - combining knowledge, understanding and emotions; basic requirement of instrumental and interpersonal competences - ability to investigate and learn - ability to adapt to new situations - ability to work independently - will to succeed 	<p>TGC</p> <p>Instrumental competences:</p> <ul style="list-style-type: none"> - technological and language knowledge and skills - verbal and written communication in the mother tongue, foreign language skills, basic IT skills, data processing <p>Personal and communication competences:</p> <ul style="list-style-type: none"> - social interaction and cooperation - team-working skills - ability to work in a group with representatives of different fields - ability to communicate with experts from different fields - ability to work in an international environment 	<p>TGC</p> <p>Instrumental competences:</p> <ul style="list-style-type: none"> - ability to acquire and analyse information from different sources - problem-solving and decision-making skills <p>Personal and communication competences:</p> <ul style="list-style-type: none"> - team-working skills - ability to work in a group with representatives of different fields <p>Systemic competences:</p> <ul style="list-style-type: none"> - ability to produce new ideas (creativity) - ability to apply knowledge in practice - leadership - project planning and management abilities - considering quality issues 	<p>TGC</p> <p>Personal and communication competences:</p> <ul style="list-style-type: none"> - respecting difference and multiculturalism - ability to work in an international environment <p>Systemic competences:</p> <ul style="list-style-type: none"> - understanding the cultures and customs of other countries and cultures
<p>Dublin Descriptors, 1st cycle:</p> <ul style="list-style-type: none"> - ability to gather and interpret relevant data (usually within one's own field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues 	<p>Dublin Descriptors:</p> <ul style="list-style-type: none"> - having the learning skills that are necessary to continue to undertake further study with a high degree of autonomy - ability to apply one's knowledge and understanding in a manner that indicates a professional approach to one's work or vocation, and having competences typically demonstrated through devising and sustaining arguments and solving problems within one's field of study 	<p>Dublin Descriptors:</p> <ul style="list-style-type: none"> - ability to gather and interpret relevant data (usually within one's own field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues - ability to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences 		
<p>European Qualification Framework (EQF): Level 6 (Bachelor)</p> <ul style="list-style-type: none"> - responsibility and independence - taking responsibility for managing professional development of individuals and groups 	<p>European Qualification Framework (EQF): Level 6 (Bachelor)</p> <ul style="list-style-type: none"> - critically understanding theories and principles 	<p>European Qualification Framework (EQF): Level 6 (Bachelor)</p>	<p>European Qualification Framework (EQF): Level 6 (Bachelor)</p> <ul style="list-style-type: none"> - using logical, intuitive and creative reasoning - having advanced skills, demonstrating mastery and innovation required to solve complex and unpredictable problems in a specialised field of work or study - managing complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts 	<p>European Qualification Framework (EQF): Level 6 (Bachelor)</p>
<p>Generic workplace competences, national ECTS Project 2006</p> <p>- Ethical competence:</p> <ul style="list-style-type: none"> - ability to apply the value systems and ethical principles of the subject field in one's conduct and tasks - taking responsibility for one's own actions and works according to jointly agreed principles and measures - applying the principles of sustainable development in actions - taking other people into account in one's actions <p>- International competence:</p> <ul style="list-style-type: none"> - understanding cultural differences and working with people from different cultural backgrounds 	<p>Generic workplace competences</p> <p>- Learning competence:</p> <ul style="list-style-type: none"> - self-evaluating competences and defining one's development and learning needs - recognising one's learning style orientation, conducting studies independently and developing learning strategies - carrying out collaborative learning and sharing knowledge in teams and working communities - operating in changing environments and recognising and utilising available learning opportunities and scopes for action - ability to plan, organise and develop one's own actions <p>- Development competence</p> <ul style="list-style-type: none"> - adopting an initiative-taking and proactive approach to work, solving problems and making decisions in one's work 	<p>Generic workplace competences</p> <p>- Communication and social competence:</p> <ul style="list-style-type: none"> - listening to others and communicating in writing, speech and visually, using different communicative styles - functioning in the communicative and interactive situations typical of the field - understanding the principles of group and teamwork and working with others in multi-disciplinary teams - utilising information and communication technology in one's work <p>Organizational and societal competence:</p> <ul style="list-style-type: none"> - knowing the socioeconomic interdependence of organisations in one's subject field - knowing the possibilities of societal influencing for the development of one's field - knowing the methods of working life and operating in work communities <p>- International competence:</p> <ul style="list-style-type: none"> - possessing spoken and written communicative competence in at least one foreign language necessary for one's work and for professional development 	<p>Generic workplace competences</p> <p>Development competence</p> <ul style="list-style-type: none"> - retrieving and analysing information in one's subject field, critically evaluating it and perceiving entities in a holistic way - knowing the principles of project work and work in projects <p>Organisational and social competence</p> <ul style="list-style-type: none"> - knowing the basic principles of organisational management and leadership, having abilities for supervision tasks - planning and organising activities 	<p>Generic workplace competences</p> <p>- Ethical competence:</p> <ul style="list-style-type: none"> - applying the principles of sustainable development in actions <p>- International competence:</p> <ul style="list-style-type: none"> - understanding cultural differences and working with people from different cultural backgrounds - using international sources of information in one's field - understanding the effects and opportunities of internationalisation in one's field

Ethical competence	Reflective competence	Network competence	Innovative competence	Globalisation competence
1 THE PERSONAL COMPETENCE LEVEL Students are able to				
<ul style="list-style-type: none"> - reflect on their own values and the consequences of their actions on other people's well-being - work with a basis in the profession's values, following ethical principles - apply the field's ethical norms to problem-solving - examine situations from different parties' perspectives - work in a tolerant and understanding way in multicultural networks - apply ethical principles to R&D projects 	<ul style="list-style-type: none"> - evaluate their own learning and competence and formulate a personal development plan - identify development challenges and understand problems - develop their competence independently and with others, and share what they have learnt in a work community - assume a role in a group/team - acquire and analyse information systematically 	<ul style="list-style-type: none"> - present things in writing, verbally and visually using various communication styles - act in situations requiring professional communication and interaction - identify various team work models and work in teams - participate collaboratively and actively in a network - take into account cultural differences and work with people with different cultural backgrounds 	<ul style="list-style-type: none"> - analyse their own thought processes, knowledge and actions - plan, organise and develop their own work - set targets and turn them into appropriate, concrete actions - come up with new ideas, working creatively, expressing their thoughts and convincing others to participate in developing them - use various ideation methods - manage themselves, work during change and in diverse projects - conduct intermediate and final evaluations of a project 	<ul style="list-style-type: none"> - make use of international sources of information in the field - take into account the effects and opportunities of multiculturalism and internationalisation on their fields - recognise the significance of their professional actions in relation to global interactions and sustainable development - evaluate their own value bases from the point of view of sustainable development and globalisation, and apply them to their work
2 THE ORGANISATIONAL DEVELOPMENT LEVEL Students are able to				
<ul style="list-style-type: none"> - take into account the special characteristics, needs and rights of major customer groups in their work - build customer-oriented interactions and work dialogically - assume responsibility for the welfare of the community and the ethics of the work done - examine ethical issues from the point of view of the organisation and the community - develop fair methods of proceeding in their work 	<ul style="list-style-type: none"> - work dialogically, collaboratively and with self-evaluation - evaluate their self-management and professional competence as part of a community - evaluate their own work as part of a group, community or professional field - work during change, identifying and making use of various opportunities for learning and action - critically justify the principles of their work - apply the concepts of development challenges appropriately 	<ul style="list-style-type: none"> - participate in and manage negotiations - participate in group communications - communicate on topics related to their specialist fields to a lay audience - develop the networked operations of a professional organisation - take initiatives in developing a network 	<ul style="list-style-type: none"> - monitor and analyse an organisation's work processes and results - use benchmarking in developing their work - use diverse teamwork methods - lead projects, processes and networks or participate in leading them in ways that inspire commitment in others - link innovation to an organisation's strategic targets - take into account the nature and demands of innovation work 	<ul style="list-style-type: none"> - take into account the effects of their own sector and its organisations on sustainable development, responsibility and international connections - promote the values of environmental and social responsibility in organisations in the sector, taking into account global interactions - apply responsibility for sustainable development to an organisation in the sector - work in international networks
3 THE SOCIAL REFORM LEVEL Students are able to				
<ul style="list-style-type: none"> - critically reflect on their own attitudes and prejudices - actively participate in social debates on values - assume responsibility at social and global levels - make arguments in favour of fair social and global changes - solve conflicts and influence issues 	<ul style="list-style-type: none"> - analyse their own actions in relation to social and historical backgrounds - evaluate and develop the functionality of regional operating methods and models - evaluate systematic information that has been structured, produced and written, and develop social activities on the basis of it 	<ul style="list-style-type: none"> - work as experts in communication situations - plan communications from a strategic point of view, and work with the media - initiate networked operations and lead a strategic network - adopt a developmental and predictive approach to work, and influence the work environment - monitor and analyse networks' operating models 	<ul style="list-style-type: none"> - gather ideas from a network, convince others of them and link them to the social framework - ensure that participants in innovation work are sufficiently committed (guidance, encouragement) - create and commercialise innovations - participate productively in innovation networks, and identify and investigate innovation mechanisms 	<ul style="list-style-type: none"> - recognise the global nature of social issues and the characteristics of sustainable development - critically evaluate social values and practices from the point of view of sustainable development, taking into account global interactions - make arguments at social level, applying the principles of sustainable development and taking into account global effects

III FROM COMPETENCE AREAS TO THEMES

Chapter III presents some degree programme curricula.

Curriculum to Promote Innovative Business Renewal

Introduction

Major changes in the global economy, in social structures and in business have brought significant challenges for developing business degrees. This article examines these challenges and gives a practical example of a response to them. The article begins with a brief look at changes in the business world, and how education can contribute to new kinds of business competence and innovative regional development. After the introduction, there is a description of the practical implementation of Laurea's curriculum reform in the Business Management programme. Then the article presents the main aspects of the new Business Management curriculum. We end with some conclusions.

Producing innovative added value in dynamic networks

The birth of the networked, globalised and digitised society has engendered deep needs for changes in business operations. This section looks briefly at changes in the business environment, derived from the following recent foresight reports by major operators in Finnish society:

- Ruokanen, T. (2004). *Suomen menestyksen eväät. Tiekartta tulevaisuuteen* ("Finland's Recipe for Success. Road Map to the Future" [unofficial translation]). Finnish Business and Policy Forum EVA.
- Mäkinen, P. (2005). *Alueiden kilpailukyky yritysten näkökulmasta* ("Business Perspective into Regional Competitiveness" [unofficial translation]). Central Chamber of Commerce of Finland.
- *Innovaatioista hyvinvointia. Painopisteet tulevaisuuden rakentamiseksi* ("Welfare from Innovations. Focal Points for Building the Future" [unofficial translation]) (2005). Finnish Funding Agency for Technology and Innovation (Tekes).
- *Innovation Strategy for the Helsinki Region* (2005). Culminatum Oy.

- Future Probe. *Verkostoitumisesta voimaa osaamiseen* ("*Competence Strength from Networking*" [unofficial translation]) (2006). Confederation of Finnish Industries EK.
- *Services 2020. Competences in the International Service Society* (2006). Confederation of Finnish Industries EK.
- Hämäläinen, T. (2006). *Kohti hyvinvoivaa ja kilpailukykyistä yhteiskuntaa* ("*Towards a Vital and Competitive Society*" [unofficial translation]). Finnish National Fund for Research and Development (Sitra).
- *FinnSight 2015 – Science and Technology in Finland in the 2010s* (2006). Academy of Finland and Tekes.

The core resources and technologies, organisational models, and market and demand structures of the global economy have experienced thorough changes. Increased globalisation, the rapid development of information and communication technology, tougher competition, the shortening life cycle of products and services, and increasing customer demands are features of the economic environment. As a consequence, innovativeness has become a major competitive factor for companies, networks and regions. As society shifts from the first, technology-focused stage of the information society to the second phase, which is based on customer needs, the customer orientation of products and services will become another big competitive advantage. The customer-oriented innovation of products and services will begin directing companies' operations and marking their core processes. Customer values and cultural backgrounds are emphasised in productisation. The importance of environmental issues is also believed to continue growing. Competitiveness is fostered by developing the organisation's competences, by purposefully building new competences and by influencing whole value-generating systems.

The society and business operations are increasingly linked to possessing and managing information. The amount of information is growing so fast that companies need new ways of thinking. This creates completely new opportunities, so renewal is very important for existing businesses. Value chains no longer consist just of flows of physical goods; instead such chains are accompanied by information flows within and between companies. The functions of value chains are being reorganised, breaking down traditional, simple and consequential divisions. Companies must be able to operate in real time and according to the demands of the business environment, so instead of hierarchical structures they are increasingly adopting dynamic internal and external networks. More and more organisations consist of groupings of project teams brought together for various tasks – teams of varying sizes, configurations and durations.

As the structure of industry and commerce changes, small and medium-sized enterprises will increase in importance, when KIBS play a more significant role in creating new jobs, particularly in the service sector. In general, networks formed by SMEs will increase as a part of the economic system as a whole. A knowledge-intensive economy is strongly export-oriented, so companies must simultaneously master the special demands of global marketing and invest in product and service development. Through increased national and international networking, employee social and language skills will become key factors alongside technical knowledge.

The relationship between industry and services changes; we move from a production culture to a service culture, also emphasising the role that services play in competitiveness. In Laurea's area of operation, four fifths of all jobs are in services. Growth businesses play a central role in the metropolitan area's competitiveness; although they make up a small proportion of new start-up companies, they generate a lot of new jobs. Identifying growth businesses and improving the operating conditions of companies – especially ones offering knowledge- and competence-intensive business services – are essential in terms of competitiveness. There is a significant volume of public sector service production in the metropolitan area. Innovative products and methods must be utilised actively in the public sector's activities in order to develop public services.

New business competence and innovative regional development through education

In creating a Business Management curriculum, the main challenge lies not only in renewing the outcomes and contents of teaching to better respond to the future needs of the business environment; the changes in the environment are so large that the curriculum should also find new ways to facilitate the continuous development of the region and of business through R&D. The aim of the curriculum is therefore to create flexible conditions for the content of learning to arise from practical activity, rather than activity receiving its content from the curriculum.

If a curriculum is to produce new kinds of holistic business competence, learning must be built around extensive entities that correspond to reality and are tied to a genuine business environment (cf. Aurand, DeMoranville & Gordon 2001). Development projects and the business context should be included in the learning process from the very start of the studies. Students use projects to learn tasks related to the substance of the profession; knowledge is built through learning by doing and through the critical evaluation of activities. Learning in projects re-

quires an active approach, commitment, a combination of theory and practice, collaboration, the sharing of expertise in teams, problem-solving skills and reflection. During the projects, students learn about things in the contexts in which the knowledge will later be used. Students encounter problems that have not been predefined, having to face challenges bravely and work self-directedly. Proper project work requires flexibility and freedom from the curriculum. Students should have the opportunity to work on long processes, in which it is essential to understand things holistically, identify and solve problems (cf. e.g. Vesterinen 2001).

During project work, students build networks with many partners. The most intensive collaborations can lead to the creation of a networked school (cf. the 'networked business school', Moratis & van Baalen 2002) and learning alliances (cf. Makri 1999). When permanent partnerships are built, companies become learning partners: they achieve organisational learning at the same time as the students learn by solving their problems (cf. Thos 2002). One of the main benefits of the networked school is its ability to react quickly to changes in the environment (Helakorpi 2001). Increased collaboration between education and business also creates good conditions for increasing entrepreneurship (Leitch & Harrison 1999). The social networks created during studies are essential from the point of view of creating new entrepreneurship: while working in these networks, students identify new opportunities and the threshold for starting out as entrepreneurs is lowered.

The Business Management curriculum reform as a development project

Starting points of the development project

Below is a description of the curriculum development project in the Business Management degree programme, from the point of view of the committee formed for it (Business Management curriculum team). For the team, the curriculum reform was a target-oriented, time-limited development project. At the same time, it became an important interaction and learning environment for Laurea's business experts.

No separate vision was formulated as a foundation for the new curriculum, but the following were some of the viewpoints taken into account in the reform.

- The Business Management curriculum forms a part of Laurea's competence-based core curriculum. In addition to the perspectives specific to the field of business management, the curriculum must include the objectives and con-

ditions set for Laurea's competence-based core curriculum. It must also allow students to move between fields of study.

- The curriculum must support Laurea's role as a proactive regional operator. Teaching at Laurea is linked to research and development and regional influence, so the curriculum must allow for research and development in accordance with the strategy, as well as the regional focus of activities. Learning by Developing (LbD) must be used as the pedagogical operating model.
- The curriculum forms a dynamic framework. Because we cannot fully foresee the changes that will take place in the operating environment, in business models and in future competence requirements, the curriculum must not be set in stone or followed unconditionally.
- The curriculum is allowed to contain open issues. Because expertise does not consist only of subject-specific knowledge and because there is less and less use for ready-made answers, Bachelors of Business Administration must learn skills in creative, innovative and opportune renewal. Therefore the curriculum must not include an exhaustive or unambiguous list of the main contents of business, but should instead define some broad themes arising from employer needs.

Development progresses from preparation, planning and implementation to establishing a new way of working. Below is a description of the development project, primarily the implementation phase.

Implementation of the development project from the point of view of the Business Management curriculum team

The degree programme teams were asked to formulate the competence descriptions needed for their degree programmes, analyse the competences shared by all degree programmes, prepare a presentation of how the profiles of different units were to be taken into account in the curriculum and propose a curriculum for the degree programme. The Business Management team included representatives from the four Laurea units offering the programme, as well as from the different areas of business. The team had nine members.

From the point of view of the team, the only predetermined factors were the basic structure of the competence-based core curriculum and Laurea's strategies. The inclusion of generic competences in the degree programme curriculum took place in line with the identification of the subject-specific competences.

The Business Management curriculum reform was not an independent development project but a part of a larger initiative. The degree programme team did not work in a vacuum. As the project progressed, the team encountered uncertainty and decision-making demands. Interaction was essential. The team decided to accept the uncertainties related to creating the new curriculum. It was difficult to identify the most essential and important information from a large mass of data, and the programme-specific themes were being defined at the same time as the generic competences, which linked these two processes. The Business Management curriculum influenced other programmes' curricula and vice versa. The competence-based core curriculum that was being developed as a whole interacted with its parts. Various content-related limitations were reflected in unexpected ways on the solutions that were made. Within the area of Business Management, several different interpretations and perspectives on the curriculum arose, and all were correct in their own ways. Some of the best solutions were contradictory. At times the undertaking was characterised by ambiguity regarding its bases as well as its objectives.

Markku Sotarauta (e.g. 1996) mentions 'evil problems' that the programme-specific curriculum reform team encountered. Evil problems are surrounded and approached from many directions with lots of knowledge and thoughts.

At quite an early stage of the initiative, the Business Management team carried out an operating environment analysis to direct the work. In identifying competence requirements, the team made use of existing foresights and conducted a survey of businesses to find out about the future demands for Bachelors of Business Administration. A questionnaire sent to Laurea alumni asked employed Business Management graduates about their experiences regarding the ways in which the degree corresponded to real life and about the competences they thought would be needed in the future. Learning by Developing, the operating environment analysis and the generic competences formed the framework within which content-related solutions had to fit.

Uncertainty cannot be managed without collaboration. The Business Management team conducted multidirectional dialogues. Some of the counterparts found within Laurea were the curriculum reform management group, the generic competence team and the other degree programme teams. Naturally, the main support and dialogue were received from Laurea's own business experts. Before the first shared Business Management seminar day in April 2005 the team decided to contact all Business Management lecturers by email with some questions. These were: 'What knowledge and skills will be required of Bachelors of Business Administration in the future?' "What knowledge and skills will decrease in

importance?” “How does Laurea define and distinguish itself as a an educator in Business Management?” The aim of the seminar day was to use group work to define the main competence requirements in Business Management. These requirements were then refined in the Business Management curriculum team’s meetings. All the degree programme teams presented their competence requirements to the management group at the curriculum reform interim seminar in May 2005.

The competence requirements were then turned into themes. A theme describes a core competence of the degree programme at a higher and more abstract level than study units. The theme is defined as competence in relation to the workplace. The aim of a Business Management curriculum seminar organised in August 2005 was to come up with preliminary theme ideas on the basis of the competence requirements. The entity formed by different themes and the study units they contain leads to the students’ coherent professional growth, to an understanding of the broad competences needed in working life, and to a development-oriented mastery of skills.

The degree programme curriculum team continued to refine the themes using the double team method. The construction of themes was directed by the operating environment analysis, the generic competences and LbD. The themes were presented to business representatives and opened up to debate in two small-scale seminars organised in November 2005. The theme drafts were also shown to lecturers during the Business Management curriculum seminar in December 2005. The draft was very incomplete, however, and was justifiably criticised. One problem was that there was no documentation on the relationship between generic competences and themes.

The team consistently needed the support of all Business Management staff. Attention was paid to interaction and communication within Laurea. As the team included representatives from all of the related units, each member was in charge of passing on unofficial feedback and information from his or her unit to the team. The main unofficial forum involving everyone was the Optima virtual learning environment, but very little discussion took place there. However, the more refined the curriculum draft became, the more concrete feedback the team received. At the early stages of a project, it is common that the opportunities for influencing the project are at their peak but the matter at hand is too abstract for concrete feedback. Then, towards the end of the project there are more concrete things to consider, but many issues have already been decided on, so there is less scope for influence.

From early 2006, the project moved more clearly towards dialogue between the degree programme teams and the management group. The curriculum drafts were compiled into Laurea's core curriculum. All the degree programmes' curricula were up on Optima for anyone to comment on. Once the whole had been discerned, some solutions related to reconciliation had to be made. At this point, decisions were made on the themes shared by all fields of study, and alternative deepening studies for the Business Management programme were formulated.

A Business Management curriculum seminar held in April 2006 already focused on the following autumn and the implementation of the curriculum.

Reviewing the development project

The Business Management curriculum reform could be seen as a Learning by Developing process, as well as a participatory development and expansive learning process. In participatory development, the people whose work the changes will affect are involved in the planning and implementation of development measures (Lanning et al. 1999). Participatory development promotes motivation towards the reforms, the utilisation of the whole organisation's expertise, the adoption of the new system, and commitment towards the changes. Expansive learning refers to a process of learning and developing work practices in which the operators themselves develop their work by examining it in broader contexts. Managing broader entities does not follow directly from knowledge; it also requires qualitative reforms of activities (Virkkunen, Engeström, Pihlaja & Helle 2001).

For participatory development, participants must have the necessary competence for development tasks. The structure of the curriculum reform was initially seen as complex. In this sense, the circumstances were not ideal in all respects for participatory development. According to Lanning, Roiha & Salminen (1999), in participatory development the project manager cannot dictate the solutions that arise from the development work. In the curriculum reform process, the management group did not present any ready-made solutions. On the other hand, neither did the Business Management team for a long time.

In the process, the management group acted as a kind of process consultant, whereas the degree programme teams were the experts in their fields. Some Laurea staff would have liked to have clearer instructions and ready-made models. However, the process was well suited to the complex reality for which the curriculum was being formulated. Despite a wealth of data and a lot of hard work, the overtone was that not all uncertainties could or should be dispelled

from the curriculum. A flexible and empowering framework supports shared learning and allows for dynamic unit-specific tailoring.

Some of the risks of participatory development are the unpredictability of the end result and the 'privileged' status of the participants (Lanning et al. 1999). The starting points and objectives of the curriculum reform remained unchanged throughout the process. Certain adjustments had to be made, however, for instance to the schedule. Due to a lack of resources, the participation of lecturers was at times less active than what was hoped for. Internal development projects have to compete for time and interest with day-to-day operations. The Business Management team's members were privileged. Working to the combined requirements of a tight schedule and the expectations of the management group and other lecturers was a stressful but educational experience for the team.

The fact that changes become established does not imply an immediate shift to new and better things. There is often a period of discouragement between giving up the old and adopting the new. The study units of the old Business Management curriculum cannot be discerned in the new curriculum. The new structure allows for and requires new kinds of work methods. The structure of the old curriculum became supported by a tissue of habits, behavioural norms and reciprocal roles. Initially, old work methods may live on in the new structures. The opportunities of the new curriculum can be utilised fully when the shared lecturer-ship and Learning by Developing included in the curriculum have become established. Laurea's new Business Management curriculum is empowering. Now that the necessary flexibility and freedom have been achieved, our work can adapt to its new empowering and adaptable scope.

New Business Management curriculum produces new competence and develops the field

According to contemporary views, business competence is the ability to establish a company's operations in its operating environment proactively, anticipating changes in the operating environment. It is also the ability to develop the leadership and earnings principles that give the company a competitive edge in its environment, taking into account the company's strategic success factors. Also necessary is the capability of building and leading networks and processes with partners, aiming to attain shared objectives (cf. Näsi and Neilimo 2006).

The new Business Management curriculum aims to produce broad business competence, as well as some of the abilities required by a rapidly changing operating environment: innovativeness, anticipation and change management. The idea is that graduates in Business Management will have strong general compe-

tence in business and can apply it to developing and reforming the operations of various organisations. Expertise in the field relates increasingly to redefining entire value-generating systems. Value generated for customers is examined from the perspective of a broad selection of services produced by an entire network, in which innovations are increasingly important.

Business competence is built through six themes, of which the first three are compulsory for all students:

- Networked Business Operations
- Innovative Business Models
- Strategic Business Development
- Investigating and Developing Services in Projects
- Effective Business Competencies
- Innovative Value-Generating Systems

Towards the beginning of the degree programme, students acquire skills in using a number of tools needed in learning and at work. They learn to apply these skills particularly in relation to the LbD model. In addition to methodological skills in investigative learning, students receive other necessary skills in tasks such as project work methods and diverse types of communication. At the same time, they begin to familiarise themselves with the substance of business management. Knowledge-based professional challenges focus initially on describing business management and its operating environment, and on completing professional tasks. The expertise of a Bachelor of Business Administration is based on varied business theories. The recent great paradigms of business theory development can be divided into the periods of industrial and transitional economies and the period of information economy. The industrial and transitional economies were characterised by contingency theory thinking, according to which a company or organisation must adjust its activities to respond to outside influences. In the information economy, on the other hand, capability theory thinking has taken ground. According to the capability theory, companies and organisations can influence their own surroundings by utilising their capabilities. Capability theory, which began being widely accepted in the twenty-first century, forms the basis for the knowledge-based professional competence of Business Management graduates (cf. also Möller & Svahn 2003).

As the shared compulsory studies progress, the knowledge-based and skill-based professional competences acquired focus increasingly on analysing and developing business. New information is generated by solving business devel-

opment problems and creating various kinds of working theories and explanations regarding phenomena under investigation. Students test and examine various concepts and interpretations together. A core competence is strategic business development. Strategic development is based on managing networked operations and business models. Important skills related to this lie in understanding the structure of the operating environment; analysing and utilising dynamic forces; developing, commodifying and commercialising key business functions and processes; knowing about customer and partnership relations; entrepreneurship; and responsible leadership.

Optional advanced studies help students to develop into innovators in their field. Students deepen the knowledge-based and skill-based competences acquired in earlier studies in accordance with their personal study plans. They are encouraged to adopt the role of experts in developing innovative and anticipatory understanding, knowledge and working theories. The thesis works towards these same aims, giving students opportunities for refining their career paths. Graduates in Business Management understand the opportunities of continuous renewal, and see their degrees as part of a lifelong learning process. Support for professional growth is based on a holistic conception of humanity, on multidisciplinary learning environments and on learning by developing in authentic workplace projects.

A major skill related to reforming business operations lies in developing the various competences and innovative value-generating systems in business. The development of effective business competence is based on professional skills related to customer relationship management, continuous innovation, financial administration, and using and developing information technology. Business Management graduates understand value-adding chains and networks, can reform business operations through growth and internationalisation, and know how to evaluate the opportunities created by new value-generating systems. The professional growth produced by Laurea's generic competences progresses in line with knowledge-based and skill-based professional competences throughout the degree.

Conclusions

At a Laurea-wide level, the curriculum reform aimed to facilitate the integration of the three tasks and the shift from an information-sharing organisation to a knowledge-creating one. The Business Management curriculum creates favourable conditions for regional specialisation and for joining regional innovation networks. In the curriculum, learning is structured around broad entities, which

makes it easier to link to genuine business contexts. Learning by Developing and Laurea's learning environment allow students to grow professionally into research-oriented developers of their own work and of the workplace.

From the point of view of Business Management students, the core of knowledge-based and skill-based professional competence will continue to be strongly rooted in basic business skills. However, a global, networked and increasingly knowledge-intensive economy implies the need to understand more complex structures and processes than before, as well as the ability to act both as a problem-solver and as a reformer who can identify opportunities and produce added value. The research conducted as a basis for the Business Management curriculum reform found a need for comprehensive business competence with an emphasis on innovativeness, change management and anticipation skills. The integration of research and development, regional development and education is an essential starting point when developing these competences required of future graduates.

Laurea's shared generic competences are an excellent complement to the knowledge-based and skill-based professional competence of the degree programme in Business Management. Together with the Investigating and Developing Services in Projects theme, the generic competences create optimal circumstances for shared learning that transcends the boundaries of fields of study.

The curriculum provides a good setting for instruction and planning. Now that the curriculum is being implemented it is important not to see it as something set in stone, which must be complied with unconditionally. During the implementation phase, the Business Management curriculum should be evaluated openly and critically. Reality and multiple challenges cannot be subjected to a model that has been created for them; written text never has this power, even when it contains future plans. The lecturer collaboration required by the new core curriculum and the employer partnerships required by Learning by Developing provide excellent opportunities for continuously developing the curriculum and our teaching in Business Management.

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REFERENCES

- Aurand, T.W., DeMoranville, C. & Gordon, G.L. 2001. "Cross-Functional Business Programs: Critical Design and Development Considerations". *Mid-American Journal of Business* 16 (2), pp. 21-30.
- FinnSight 2015 – Science and Technology in Finland in the 2010s*. 2006. Academy of Finland and Finnish Funding Agency for Technology and Innovation.
- Helakorpi, S. 2001. *Innovatiivinen tiimi- ja verkostokoulu*. Tampere: Tammer-Paino.
- Innovation Strategy for the Helsinki Region* 2005. Culminatum.
- Hämäläinen, T. 2006. *Kohti hyvinvoivaa ja kilpailukykyistä yhteiskuntaa. Kansallisen ennakointiverkoston näkemyksiä Suomen tulevaisuudesta*. Publication of the Finnish National Fund for Research and Development (Sitra).
- Innovaatioista hyvinvointia. Painopisteet tulevaisuuden rakentamiseksi*. 2005. Publication of the Finnish Funding Agency for Technology and Innovation.
- Näsi J. & Neilimo K. 2006. *Mitä on liiketoimintaosaaminen*. Helsinki: WSOYpro.
- Lanning, H., Roiha, M. & Salminen, A. 1999. *Matkaopas muutokseen. Miten kehittää organisaatiota tehokkaasti*. Helsinki: Kauppakaari.
- Leitch, C.M. & Harrison, R.T. 1999. "A Process Model for Entrepreneurship Education and Development". *International Journal of Entrepreneurial Behaviour & Research* 5 (3), pp. 83-109.
- Makri, M. 1999. "Exploring the Dynamics of Learning Alliances". *The Academy of Management Executive* 13 (3), pp. 113-114.
- Moratis, L.T. & van Baalen, P.J. 2002. "The Radicalization of the Multiversity: the Case of the Networked Business School". *The International Journal of Educational Management*, 16 (4), pp. 160-168.
- Mäkinen, P. 2005. *Alueiden kilpailukyky yritysten näkökulmasta*. Central Chamber of Commerce of Finland and Taloustutkimus.
- Möller K. & Svahn S. 2003. "Managing Strategic Nets: A Capability Perspective". *Marketing Theory*, Vol 3(2), pp. 201-226.

Palvelut 2020, Osaaminen kansainvälisessä palveluyhteiskunnassa. 2006. Confederation of Finnish Industries.

Ruokanen, T. 2004. *Suomen menestyksen eväät. Tiekartta tulevaisuuteen.* Finnish Business and Policy Forum EVA.

Sotarauta M. 1996. *Kohti epäselvyyden hallintaa. Pehmeä strategia 2000-luvun alun suunnittelun lähtökohtana.* Finnish Society for Futures Studies. Jyväskylä: Gummerus Kirjapaino.

Thos, J.C. 2002. "Active Learning for Organizational Development Students, The Masterpiece Project". *Organizational Development Journal* 3 (3), pp. 8-17.

Future Probe. *Verkostoitumisesta voimaa osaamiseen* 2006. Confederation of Finnish Industries.

Vesterinen, P. 2001. *Projektiopiskelu ja oppiminen ammattikorkeakoulussa.* Doctoral thesis. Jyväskylä: University of Jyväskylä.

Virkkunen J., Engeström Y., Pihlaja J. & Helle M. 2001. *Muutoslaboratorio. Uusi tapa oppia ja kehittää työtä.* Helsinki: Edita.

Renewable Competence in the Nursing Curriculum Reform Process

Starting points and purpose of development in the degree programme in Nursing

Competence in the degree programme in Nursing focuses on the perspective of health promotion. According to the 1986 Ottawa Declaration, health promotion is based on the values of health care and municipal policy, which aim to increase the health of the population and to reduce inequalities in the health of different population groups. The declaration was approved at the WHO Global Conference on Health Promotion, organised in Bangkok in 2005. This means that health promotion constitutes protecting, maintaining and fostering human health using various measures. It includes increasing people's control over their own state of health and its background factors. Health promotion also involves preventing and treating illness and accidents (Ministry of Social Affairs and Health 2001).

The degree programme in Nursing has a multidisciplinary theoretical basis. The knowledge base lies in knowledge generated in the health sciences, particularly nursing science (Figure 1). Scientific data are produced to explain and, where possible, to predict states of health and changes in them, which means that they aim to identify causal relationships and their principles. A development theory approach is applied when examining human health and change periods from the points of view of the individual, the family and the society. The purpose of scientific data based on a humanistic conception of knowledge is to understand and interpret the subjective and empirical state of health and interaction of individuals, groups and communities. A critical conception of knowledge aims to produce, generate and renew developmental operating models for health promotion.

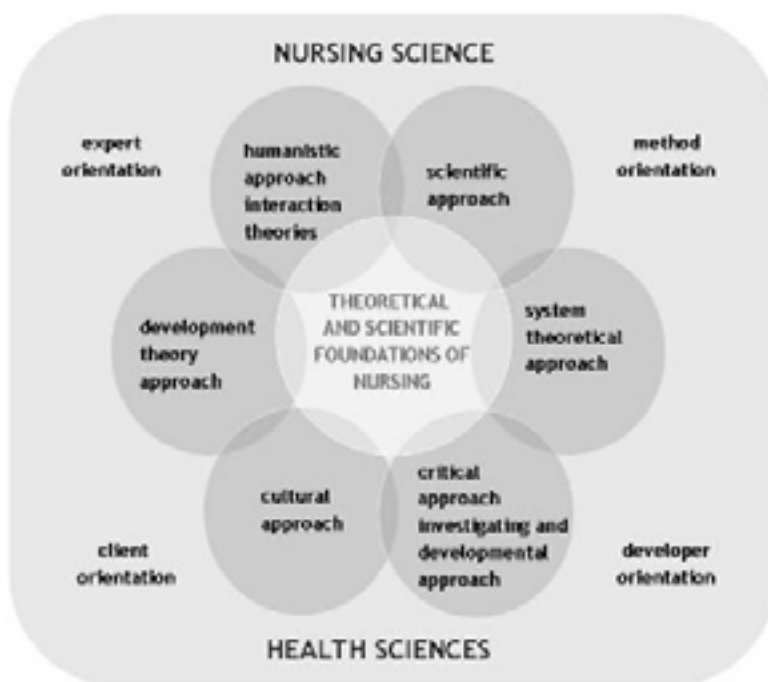


Figure 1. Theoretical basis of the degree programme in Nursing

Competence is seen as a professional growth process through the three levels of knowledge-based and skill-based professional competence. Initially competence was examined using Benner's (1984) stages of expertise development. The levels of development in the Nursing curriculum are basic competence, intermediate competence and advanced competence. The levels of competence are examined from the points of view of expert orientation, method orientation, customer orientation and developer orientation (cf. Raji 2002).

Nursing expertise contains the following areas of competence as defined in the generic competences in Laurea's core curriculum:

- responsible nursing **expertise**
- **knowledge-based and skill-based professional competence** in the field
- **ethical nature** of actions
- **Learning by Developing (LbD) approach to work**
- **innovative service competence**

- **leadership**
- **anticipating future trends** of the profession and the society
- **welfare technology**

(e.g. Ministry of Social Affairs and Health 2001)

Professional expertise comprises broad-based practical knowledge and skills for acting as an expert in the field of choice (Polytechnics Act 351/2003, Section 4). Nursing experts have a broad understanding of the position and significance of their field in society, as well as in national and international employment contexts. Thus they are able to work independently in tasks requiring expertise in the field (Polytechnics Decree 352/2003). Directive 2005/36/EC of the European Parliament and Council regulates the professional competence of nurses and the training received by nurses in charge of general practice nursing.

The themes of the Degree Programme in Nursing (210 cr) are: Investigating and Developing Nursing in Projects (30 cr); Humans and the Human Environment (30 cr); Encountering Clients and Empowerment (30 cr); Assistance Methods in Health Promotion (30 cr); Guidance and Consulting Methods in Health Promotion (30 cr); Customer-Oriented Nursing (30 cr); and Innovation and Expertise in Welfare Service Provision (30 cr) (Figure 2).

Research- and development-oriented nursing expert

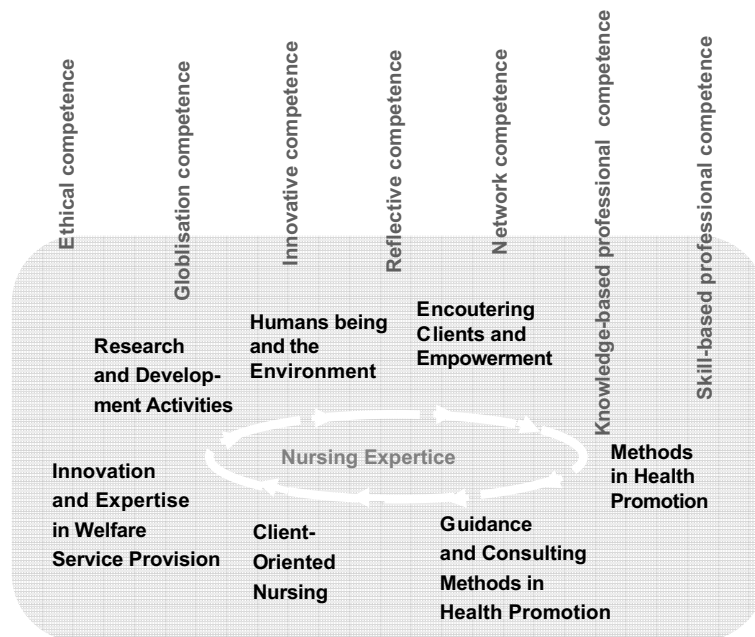


Figure 2. Structure of the Nursing curriculum.

Competence in the Nursing curriculum is concretised in themes. Students acquire content-related and methodological competence as they progress through the themes towards expertise in nursing. The competence of a developer of nursing is based on the Investigating and Developing Nursing in Projects theme and is reflected in the graduates' own work and working life. Innovation and Expertise in Welfare Service Provision includes a thesis and the development of service innovations during the programme.

Methodological progression of the Nursing curriculum process

The curriculum process was initiated in the spring of 2005 with the establishment of the Nursing curriculum team. The purpose of the team was to create a proposal for the Nursing curriculum with a basis in Laurea's competence-based core curriculum. The team consisted of senior lecturers, principal lecturers and

students from the Nursing degree programme, an expert from the world of nursing work, and a third-sector expert providing the customer's point of view.

The starting points of the Nursing curriculum project can be described from ontological, epistemological and methodological perspectives. The ontological basis was in the holistic nature of human beings, where this holistic nature or completeness is understood as a dimension of corporality, consciousness, situationality and spirituality (Rauhala 1989; 1995). In the Nursing curriculum, the holistic nature of human beings is seen from the perspectives of the customer/patient, the nurse or student and the teacher or researcher (cf. Leino-Kilpi 2003).

The holistic nature of humans is examined contextually. In the Nursing curriculum, contextuality refers for example to how the stages of human development and changes at various times of life and health affect the well-being of an individual or a family (cf. Meleis 1991). When an individual and/or a family become ill or compromised in health, specialist competence is needed. The dimension of health and sickness is built on a multidisciplinary foundation in the students' competence. Periods of change in an organisation or community require leadership, efficiency, quality and financial skills, so these must be included in the curriculum's themes.

The epistemological basis of the Nursing curriculum is both knowledge-based and health-oriented. By knowledge we mean knowledge of 'what', 'how' and 'why' (cf. Niiniluoto 2002). Knowledge of 'what' refers to knowing what a certain issue or phenomenon is. This means that for example health is seen as both a concept and a value. Knowledge of 'how' is embodied in actions, for instance the methodological nursing competence that supports the health and resources of an individual or a family. Knowledge of 'why' is needed in order to justify certain views, phenomena or actions. From a methodological point of view, evidence-based information is important because it means up-to-date, research-based information is being used in learning, practical nursing work and research and development.

The studies focus on information gathering skills right from the start. A research-oriented, developmental approach to learning nursing requires the ability to be critical, to make ethical decisions and to be innovative. Methodological competence is acquired for instance in learning health promotion assistance methods. Encountering customers in interviews or observation correspond to the data collection stage of a research and development project (Figure 3).

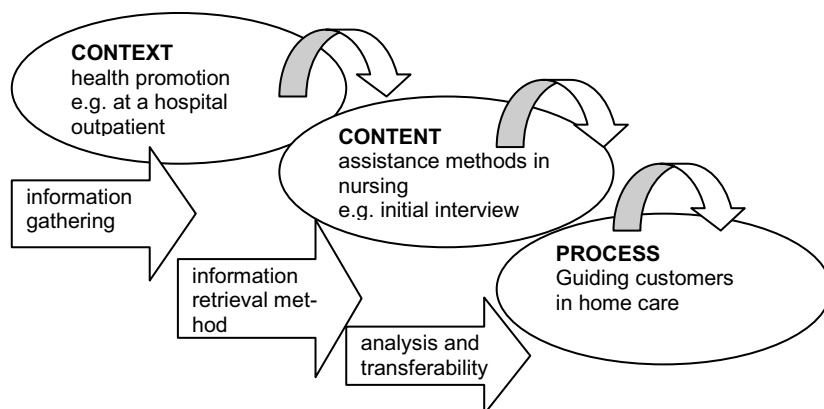


Figure 3. Example of the Assistance Methods in Health Promotion theme

Critical evaluation of information is needed in order to find and apply evidence-based data and previous literature to practical nursing decision-making (Leino-Kilpi 2001). Nursing expertise requires knowledge of basic research and development methods. New R&D methods are a challenge in developing nursing expertise, not just in professional research where the compatibility of data and methods is integrated into competence.

Applying the Learning by Developing model to the nursing curriculum process, and LbD development challenges

Below the Nursing curriculum reform process is briefly seen through the following dimensions of LbD: authenticity, research orientation, partnership, experiencing and creativity.

Authenticity refers to the fact that the curriculum, its implementation and its development take place in genuine workplace projects. Thus the implementation and the evaluation process interact continuously. The application of the content-related and methodological competence in the curriculum is immediately transferred to the workplace through LbD, when various different operators actively work together. Authenticity also means that feedback on nursing competence is

received immediately during the studies. Through research and development projects, students acquire competence in real situations.

From the point of view of themes, the competence of research orientation requires a consistent research-oriented and developmental approach. In terms of the students, research orientation demands strong information gathering skills, knowledge of R&D methods, and the initiation of thesis work as soon as possible at the beginning of the studies. In the curriculum reform process, research orientation was ensured by basing all theme and content choices on data collection. For example, achieving nursing expertise in interactive competence required familiarisation with previous studies. A search in the OVID database with the terms 'relationship' and 'nursing' brought up 576 full-text articles. The results of the information search were presented and processed in the curriculum team and in shared seminars, where participants influenced the choices of content for the curriculum to ensure that the themes and competences corresponded to each other. This also fulfilled the requirements of partnership and authenticity of the LbD model during the process.

Experiencing emphasises the active and responsible role that each participant must assume for his or her own work, as well as participation in shared activities. Shared reflection on experiences and a search for significance promote understanding of the knowledge that exists in workplace competence and the recognition of new know-how. The importance of experiencing arises particularly in relation to evaluation and knowledge-building (Raij 2006).

Experiencing is a basic principle in Nursing. The significance of nursing competence is reflected in the choices of theme contents and in methodological solutions, where learning and the development of competence are built around reflection and ethics (cf. Karseth 2004). Optimally, the parallel nature of the students' learning objectives and the learning environment's own objectives increases the students' motivation and understanding of nursing (Sarajärvi 2002; Sarajärvi & Isola 2006). The role of work placements that promote professional skills in various operating environments allows for competence development, with support from peers and mentors (cf. Coetzee, Britton & Clow 2005).

Partnership refers to collaboration, competence-sharing, learning together, sharing various roles and agreeing. The roles identified are that of the researcher, the developer and the teacher in the use of tools. Participants must be inspired to commit responsibly to the curriculum effort (Raij 2006). Encounters lead to expertise, which allows partners to evaluate information critically and share knowledge and competence proactively. Sharing experiences, testing meanings, evaluating and monitoring the process strengthen and generate

genuinely shared participation and expertise. The development of curricula together with students, workplace representatives and experts in learning also promotes the creation of a new culture of learning. The aim and duty of the curriculum team was to be in charge of evaluating and examining the curriculum, the competence it produces, solutions, contents and methods for each unit. The team held regular meetings, preparing for them in advance by agreement with other lecturers. Partnership also meant that the team and shared seminars also involved experts from the employment market and the third sector, and a student representative.

Creativity in the Nursing curriculum refers to innovative competence that generates new things. The broad themes of the curriculum and collaboration between different degree programmes allow for in-depth professional growth and development, as well as competence in producing new things in welfare. The orientation towards the future demands critical, flexible and committed professional development already during the studies (cf. Duchscher & Boychuck 2000). The broad-based themes leave room for creativity and innovation and let competence develop as a continuous process. Creativity is visible and possible particularly when learning in development projects, where new solutions, operating models or even new operating environments are sought, produced and tested in a team.

The next challenge is to evaluate the curriculum and the nursing competence produced by it, to examine the collaboration between different operators during the programme, and to develop even newer learning environments. It is essential to observe and develop the usability and process of the LbD model. There is also a very current need for focusing R&D operations on evaluating Laurea's success in competence production, on developing R&D methodologies, and on forecasting the future.

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REFERENCES

Polytechnics Act 351/2003

Benner B. 1984. *From Novice to Expert. Excellence and Power in Clinical Nursing Practice*. Menlo Park, California: Addison-Wesley Publishing Company.

Coetzee M., Britton M. & Clow S.E. 2005. "Finding the Voice of Clinical Experience: Participatory Action Research with Registered Nurses in Developing a Child Critical Care Nursing Curriculum". *Intensive and Critical Care Nursing* 21(2), pp. 110-118.

Duchscher J.E. & Boychuck 2000. "Critical Thinking: Perceptions of Newly Graduated Female Students". *Journal of Nursing Education* 42 (1), pp. 14-27.

Directive 2005/36/EC of the European Parliament and Council on recognising professional competence. [pdf file] <http://europa.eu.int/eur-lex/lex/LexUriServ/site/fi/oj/2005/l_255/l_25520050930fi00220142.pdf>

Karseth B. 2004. "Curriculum Changes and Moral Issues in Nursing Education". *Nurse Education Today* 24(8), pp. 638-643.

Koivisto T. 2006. "WHO:n Bangkokin asiakirja terveyden edistämisestä – kumppanuutta, toimintapolitiikkaa ja terveyden taustatekijöihin vaikuttamista". *Sairaanhoitaja* 1, vol 79, pp. 14-15.

Leino-Kilpi H. 2003. "Potilas hoitotieteessä". *Hoitotiede* 15(6), pp. 292-294.

Meleis, A.I. 1991. *Theoretical Nursing: Development and Progress*. Philadelphia, J. B. Libbincott Company.

Niiniluoto, I. 2002. *Johdatus tieteenfilosofiaan. Käsitteen- ja teorianmuodostus*. 3rd edition. Keuruu: Otavan Kirjapaino.

Ministry of Education, Finland, 2001. *Ammattikorkeakoulusta terveydenhuoltoon. Koulutuksesta valmistuvien ammatillinen osaaminen, keskeiset opinnot ja vähimmäisopintopistemäärät*.

Paukkunen L., Turunen H., Tossavainen K., Taskinen H. & Sinkkonen S. 2003. "Interpersoonalliset prosessit ja yhteistyöosaaminen sosiaali- ja terveydenhuollossa". *Hoitotiede* 2 (15), pp. 74-88.

Raij K. 2000. *Toward a Profession. Clinical Learning in a Hospital Environment as Described by Student Nurses*. Research Reports 16. University of Helsinki, Department of Education.

Raij, K. 2006. "Kehittämispohjainen oppiminen ammattikorkeakouluosaamisen mahdollistajana – Learning by developing ammattikorkeakoulukontekstissa". In Erkamo, M., Haapa, S., Kukkonen, M.-L., Lepistö, L., Pulli, M. & Rinne, T. (Eds.) *Uudistuvaa opettajuutta etsimässä*. Laurea Publications B11. [pdf file] <http://www.laurea.fi/net/fi/05_Julkaisutoiminta/02_Raportit/Uudistuvaa_opettajuutta_etsimaessae/B11.pdf>

Rauhala L. 1989. *Ihmisen ykseys ja moninaisuus*. Helsinki: SHKS.

Rauhala, L. 1995. *Tajunnan itsepuolustus*. Helsinki: Yliopistopaino.

Sarajärvi, A. 2002. *Sairaanhoidon opiskelijoiden hoitotyön näkemyksen muotoutuminen sairaanhoitajakoulutuksen aikana*. Acta Universitatis Oulu Medica D 674. University of Oulu, Department of Nursing Science and Health Administration, Oulu.

Sarajärvi, A. & Isola, A. 2006. "Sairaanhoidon opiskelijoiden hoitotyön toiminta ja siihen yhteydessä olevat tekijät käytännön harjoittelujaksoilla". *Hoitotiede* 5, pp. 210-221.

Ministry of Social Affairs and Health, Finland, 2001. *Health 2015 Public Health Programme*. Publications 2001:4. [pdf file] <<http://www.terveys2015.fi/terveys2015.pdf>>

Polytechnics Decree 352/2003.

Zhang Z., Luk W., Arthur D., & Wong T. 2001. "Nursing Competencies: Personal Characteristics Contributing to Effective Nursing Performance". *Journal of Advanced Nursing* 33(4), pp. 467-474.

WHO 1986. Ottawa Declaration.

WHO 2005. Bangkok Declaration.

Curriculum Process in Physiotherapy

Introduction

Global changes in social structures, cultures and lifestyles pose challenges even for training in physiotherapy. The aim of this article is to examine these challenges with a basis in the Physiotherapy curriculum. The article begins by looking at developments in the Finnish society and population, and how expertise in physiotherapy can affect this.

The life expectancy of Finns rose throughout the twentieth century, and appears to continue increasing by about one year every decade. The life expectancy of men is increasing relatively faster than that of women. In 2025, people aged over 65 are expected to account for 25 per cent of the population (National Public Health Institute 2006). The longer our lives are, the more important quality of life and sustainable development become. Sustainable development is an extensive social change that relates to more than just environmental management, reactions to climate change and global concern for natural resources (Sustainable Development in Education 2006).

According to the Health 2000 study, the state of health and functional ability of adult Finns have clearly improved. As life expectancy increases, the functional ability of the elderly is an increasingly significant definer of the needs for autonomy and services. Approximately 80 per cent of people aged 30-54 in Finland have good working capacity. However, only just over half of all people aged 55-64 consider themselves to be capable of work. Therefore it appears that the health of the Finnish population is improving. As life expectancy increases and quality of life and sustainable development become more important, we are challenged to develop innovative rehabilitation and health services, as well as social services to support them. Rehabilitation is expected to improve both the working capacity of people of working age and the activity of the aging population (National Public Health Institute 2002).

Starting points for the competence in the Physiotherapy curriculum

The aim of Laurea's curriculum reform (Raij 2007) was to produce a core curriculum shared by the whole of Laurea, built of degree programme themes and generic competences common to all programmes. In early 2005, a generic competence team and degree programme teams were established. The generic competence team formulated the shared competences and their requirements (cf. Chapter II). The task of the degree programme teams was to create programme-specific competence descriptions and to analyse the competence areas shared by all programmes. The team designed to create the curriculum for the degree programme in Physiotherapy, belonging to the Social Services, Health and Sports field, involved lecturers and students from the Otaniemi unit, as well as representatives from the employment sector, for a total of ten members.

The new perspective adopted by Laurea challenged the Physiotherapy team to build the curriculum without prejudice as part of the broader initiative. The project was linked to a competence analysis (ECTS Project), conducted simultaneously with the curriculum reform. The new Physiotherapy curriculum was designed to respond to future challenges with a focus on promoting operations and sustainable development. The approach of the new Physiotherapy curriculum is novel even in global terms, so its development involved a lot of uncertainty and problems. In summer 2007, the curriculum will be presented at the world congress of the World Confederation for Physical Therapy, organised every four years and this time in Vancouver, and we hope to receive feedback and development ideas from it.

In this kind of holistic curriculum it is important that competence is built as broad units that respond to real needs and are linked to genuine workplace contexts. Development projects and various integrative learning environments are included in the curriculum from the beginning of the learning process. Projects develop the students' expertise in physiotherapy, and their knowledge is built through innovation, problem-solving and critical reflection. Learning by developing requires commitment, responsibility, the combination of theory and practice, collaboration, and the sharing of expertise in various work groups, networks and teams. Successful project-based work requires a flexible curriculum structure and an adaptable process. The tight schedule, with pressure coming from the management group, other lecturers and employers, was both a boost and a drain on the curriculum team's resources.

The Physiotherapy curriculum was based on the idea of expertise that renews itself in time through various research and development projects taking place in

operating environments. Renewable expertise in physiotherapy requires open, shared and in-depth competence in physiotherapy, customer relationship management, strategy, innovation and research (Eräsaari 2002; Hakkarainen et al. 2004; von Krogh et al. 2000; Ruohotie 2000). A physiotherapist is a legally qualified health care professional who works in the fields of rehabilitation, social services, health care, education, fitness and culture, independently or as an employee and a developer. Physiotherapy customers are individuals, communities, companies and organisations. Physiotherapy works with a basis in the values of sustainable development (Ministry of Education 2006) to influence society by producing and developing physiotherapy services and raising their quality, taking into account the changing needs of the users and the national and international development challenges in the field.

Phenomena in the new Physiotherapy curriculum

The core competence of physiotherapists is related to the phenomena of human *movement, mobility, functional ability* and *activity*. These phenomena form the starting points for the themes in Laurea's Physiotherapy curriculum. Innovative and research-oriented activities in physiotherapy can only be carried out by understanding and innovatively applying these four phenomena with a technical, critical, constructive and creative knowledge interest. The perspectives of knowledge-based professional competence in physiotherapy are various theories and definitions of the relationships between concepts derived from diverse knowledge interests (cf. Habermas 1987) (Figure 1). They help students, employees, teachers and other people, companies, councils and third-sector operators working in integrative learning environments to produce operational innovations and conduct research.

Laurea's Physiotherapy curriculum examines physiotherapy with the help of its four main phenomena (movement, mobility, functional ability and activity). The investigation of the phenomena of physiotherapy is customer-oriented and takes place in various contexts and situations in accordance with the principles of sustainable development and welfare. It focuses particularly on operational challenges and problems. It will not be easy to make our ideas take root in the world of physiotherapy work, especially thinking of hospital environments where physiotherapists work on orthopaedic or neurology wards. Old habits die hard.

The core competences of physiotherapy have been defined successfully on many occasions. For instance the FAURA 2000 professional model for physiotherapists defines expertise as consisting of six areas of competence: physiotherapy in patient rehabilitation; communication skills; tutoring and training skills;

a research-oriented approach to work; networking skills in rehabilitation; and the ability to plan, evaluate and develop physiotherapy work. FAURA is used as a basis for the definition of physiotherapy expertise applied by the Hospital District of Helsinki and Uusimaa, and its descriptions also correspond to the core competences in physiotherapy defined by WCPT (2005).

Physiotherapy competence at Laurea is built through seven themes:

1. Principles of Expertise in Physiotherapy
2. Human Movement and Mobility
3. Encountering the Customer
4. Customer Functional Abilities
5. Rehabilitation Networks
6. Developing Operations
7. Expertise in Physiotherapy

The core competences of physiotherapy are formed of various knowledge concepts combined with skills. Skills are not for everyone and they are not possessed instinctively from birth. They can only be acquired through long-term practice and learning. Know-how refers to knowledge about skills, i.e. meta-skills. It is the knowledge which lies behind skills and competence, and which allows people to use their skills effectively. The European Region of the World Confederation for Physical Therapy (WCPT 2003) has defined practical and professional skills in physiotherapy as being based on knowledge and understanding (European Physiotherapy Benchmark Statement 2003). Knowledge and skills form a single learning entity, even though they are treated as separate bodies in this curriculum.

The expertise and skill-based professional competence descriptions included in Laurea's Physiotherapy curriculum have been compiled from different sources. The curriculum team divided them into five areas: synthetic skills; pedagogical skills; manual and technical skills; encountering skills; and research and development skills. Expertise also includes network, ethical, reflective, globalisation and innovative competence, which are described in the generic competences. These areas of expertise together form the skill-based professional competence needed by a physiotherapist. The areas of expertise in physiotherapy described in Laurea's curriculum are largely correspondent to other definitions found globally. The main difference is that we decided to supplement the 'traditional' manual skills with technical competence, which is increasingly important even in the

physiotherapist's job. Another differently named area of competence in the curriculum is synthetic skills (the ability to itemise, combine and critically evaluate information).

The knowledge base for physiotherapy consists of understanding these concepts from various points of view. WCPT (European Physiotherapy Benchmark Statement 2003) does recognise different knowledge bases for physiotherapy, but it discusses them rather vaguely. Still, evidence-based physiotherapy is a widely used term that justifies good practices in physiotherapy. Thus, no knowledge-based professional competences were pre-defined. The team ultimately decided to include five different knowledge perspectives: scientific, cognitive, experiential, system-theoretical and discursive.

Figure 1 describes the knowledge-based and skill-based professional competences included in Laurea's Physiotherapy curriculum. This is the core of our curriculum.

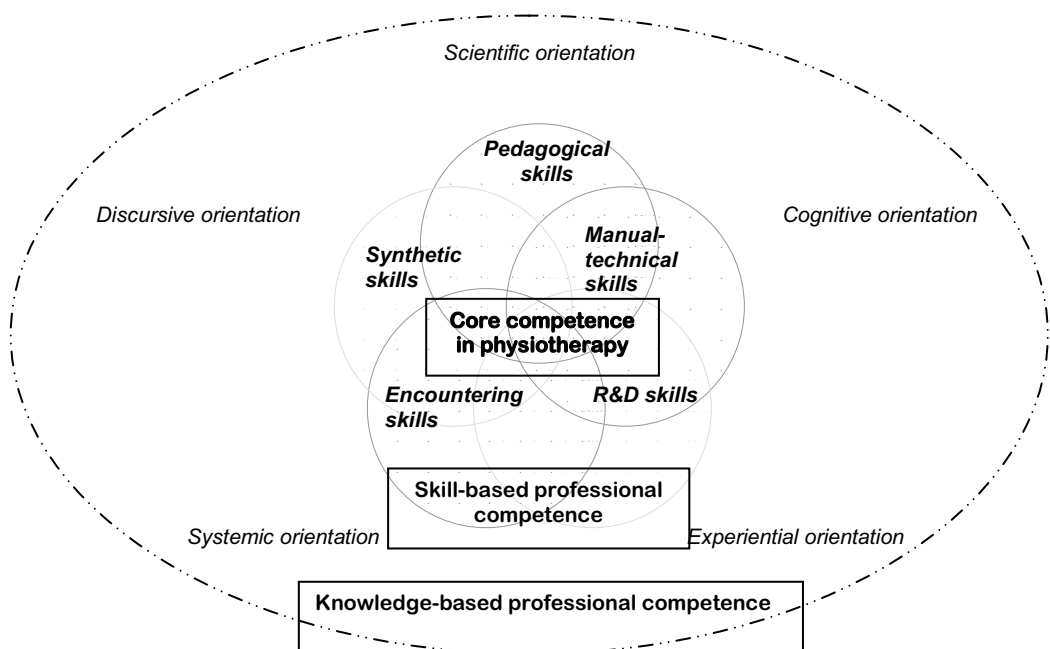


Figure 1. Knowledge-based and skill-based professional competences in Laurea's Physiotherapy curriculum

Knowledge-based and skill-based professional competences in the Physiotherapy curriculum and their levels

Professional growth is based on recognising and reflecting on the students' own activities and their desire to become investigative and developmental experts in their field. The LbD model includes meta-level generic competences described elsewhere in this publication. They are also essential to expertise in physiotherapy. Below are some of the main knowledge-based and skill-based professional competences of physiotherapy. Professional growth starts with the basic level of knowledge-based and skill-based competence, and progresses through the intermediate stage to the advanced level. At the basic level, the student's competence is personal. They can identify and describe the principles, knowledge base and conception of humanity used in physiotherapy, and work appropriately, safely and reliably in various physiotherapy-related learning environments. At the intermediate level, competence expands to encompass the community; at the advanced level, it influences society. Advanced-level students understand and can explain the knowledge base of physiotherapy from various perspectives and evaluate existing research data, applying them to work in the field. They can produce new analyses and develop new practices for physiotherapy.

The Physiotherapy curriculum defines the skill-based and knowledge-based professional competence levels according to the LbD model. Tables 1 and 2 show these knowledge-based and skill-based professional competences.

Table 1. Levels of knowledge-based professional competences in physiotherapy

	Scientific orientation	System-theoretical orientation	Experiential orientation	Cognitive orientation	Discursive orientation
Advanced level Can develop and produce new analyses for physiotherapy	Can justify new measures in physiotherapy from a scientific point of view	Can develop physiotherapy in the welfare service system	Can develop physiotherapy from an experiential point of view	Can justify new measures in physiotherapy from a cognitive point of view	Can develop discursive action in physiotherapy with various communities
Intermediate level Understands and can explain the physiotherapy knowledge base from various viewpoints	Understands and can explain the significance of biology in physiotherapy (e.g. Jette, Verbrugge, ICF)	Understands and can explain physiotherapy as a part of welfare service systems (e.g. Hislop, Cott)	Understands and can explain the significance of experience in physiotherapy (e.g. Roxendal and Rosberg)	Understands and can explain the significance of cognition in physiotherapy (e.g. Talvitie, Lundy-Ekman)	Understands and can explain the significance of discursion in physiotherapy (e.g. Lundkvist)
Basic level Can identify and describe the principles, knowledge base and concepts of humanity of the different approaches	Can identify and describe human movement from biological perspectives	Can identify and describe the systemic structure of human movement and activity	Can identify and describe the significance of activities as experienced by others	Can identify and describe human activity from cognitive perspectives	Can identify and describe the principles of human interaction

Table 2. Levels of skill-based professional competences in physiotherapy

	Synthetic skills	Pedagogical skills	Manual and technical skills	Encountering skills	Research and development skills
Advanced level Can develop and generate justifiable new practices in physiotherapy	Can develop physiotherapy practices using new syntheses	Can develop guidance skills and methods to promote learning in physiotherapy	Can develop and generate justifiable new practices in the manual and technical areas of physiotherapy	Can develop the culture of physiotherapy in multidisciplinary teams and international networks	Can generate new proven data and develop the profitability of physiotherapy
Intermediate level Can evaluate existing research data and apply them to physiotherapy work	Can critically evaluate the significance of conclusions drawn, and apply them in various contexts	Can evaluate their own guidance skills in physiotherapy and participants' learning in various situations	Can apply evidence-based information to physiotherapy methods and participate in a community as an expert in methodology	Can share and build expertise in various communities and networks, in cooperation with others	Can justifiably question practices in physiotherapy, evaluate development challenges and apply the latest data to work in various contexts
Basic level Can work appropriately, safely and reliably in physiotherapy	Can carry out reliable research and analyses and use them to draw conclusions	Can guide learning in customer-oriented ways in one-to-one situations and various rehabilitation and exercise groups	Can use therapeutic practice, manual therapy and electrotherapy methods appropriately and safely	Can create equitable interaction and therapy relationships between customer and professional while respecting human dignity	Can acquire information, follow developments in various areas and reliably assess the usability of new information in physiotherapy

At the time of writing, the new curriculum has been in use for six months. As yet, we have too little experience of the practical suitability of the curriculum to draw any conclusions. Practice has shown, however, that the new curriculum demands more cooperation skills than ever before of students, employees, lecturers and tutors, when learning takes place in the integrative learning environments of research and development projects. Feedback received from students encourages us to stay on course, despite some initial hiccups.

Conclusions

The Physiotherapy curriculum reform aimed to facilitate the integration of the three tasks of a university of applied sciences and the shift from an information-sharing to a knowledge-creating organisation. The curriculum is not yet complete, but it does create the necessary conditions for a new kind of proactive development of innovation. The curriculum requires new LbD-based reasoning in order to further develop high-quality physiotherapy competence according to the principles of sustainable development and welfare. Another major challenge lies in spreading awareness of the new curriculum while it is still being built by different operators along the lines of core competence and LbD. The curriculum implementation plan consists of competence-sharing and innovation.

I am sure that none of Laurea's Physiotherapy lecturers would like to go back to the old ways of thinking, despite all the learning, uncertainty and tight schedules we have had to go through. In three years' time we will be able to evaluate what kinds of physiotherapists and experts graduate from the new curriculum, as the first batch of students to have adopted the competence-based core curriculum complete their studies. All the signs point to the fact that the new LbD model generates new kinds of physiotherapy competence.

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References

Eräsaari, R. 2002. "Avoimen asiantuntijuuden analytiikka". In Pirttilä, I. & Eriksson, S. (Eds.) *Asiantuntijoiden areenat*. Jyväskylä. Kopijyvä. SoPhi, University of Jyväskylä, pp. 21-38

FAURA Professional Model for Physiotherapists. 2000. Helsinki University Central Hospital. Helsinki.

European Physiotherapy Benchmark Statement 2003. European Region of the World Confederation for Physical Therapy. Available online at <<http://www.physio-europe.org/pdf/Benchmark.pdf>>

Habermas, J. 1987. *Knowledge and Human Interests*. Cambridge: Polity Press.

Hakkarainen, K. & Lonka, K. & Lipponen, L. 2004. *Tutkiva oppiminen: Järki, tunteet ja kulttuuri oppimisen sytyttäjinä*. Helsinki: WSOY.

Von Krogh, G., Ichijo, K. & Nonaka, I. 2000. *Enabling Knowledge Creation: How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation*. Oxford: Oxford University Press.

Sustainable Development in Education 2006. Implementation of Baltic 21E Programme and Finnish Strategy for the Decade of Education for Sustainable Development (2005–2014). Ministry of Education Committee Records and Reports 2006:6.

National Public Health Institute 2002. Available on 12 February 2007 [online] <<http://www.ktl.fi/terveys2000/perusraportti>>.

National Public Health Institute 2006. Available on 12 February 2007 [online] <http://www.ktl.fi/portal/suomi/osiot/esittely/toiminta_ja_tehtavat/ktl_toiminnan_esittely/8_suomalaisten_odotettavissa_oleva_elinika/>

Raij, K. 2007. *Learning by Developing*: Laurea Publications A 58. Helsinki: Edita Prima.

Ruohotie, P. 2000. *Oppiminen ja ammatillinen kasvu*. Porvoo: WSOY.

Curriculum Process in the Degree Programme in Social Services

The degree programme in Social Services produces experts to fill diverse jobs in the welfare sector. In the past, a large number of graduates have found employment in child welfare and kindergarten teaching. Currently, many are becoming advisers and instructors in different areas of the social services. The Social Insurance Institution, employment offices, various projects and the private sector are becoming increasingly important employers (Lindberg & Tolonen 2005).

This article looks at the curriculum reform work conducted in Laurea's degree programme in Social Services between 2005 and 2006. Firstly, the topic is viewed from the perspective of welfare competence. Laurea's strategies list welfare competence as one of Laurea's four expertise sectors. In this respect, the curriculum reform was partly about analysing future needs for welfare competence. This perspective was emphasised particularly at the early stages of the initiative in spring 2005, and even before that in the preparation work carried out for the welfare competence network.

The competence of a Bachelor of Social Services can also be examined in relation to the jobs that are available in the field. The work of social service professionals is regulated by the Act on Qualification Requirements for Social Welfare Professionals. According to the law, Bachelors of Social Services are eligible to work as social welfare professionals and, to an extent, also as kindergarten teachers. Conversely, the degree does not provide eligibility for working as a social worker, although various pairings of social workers and Bachelors of Social Services are suitable for teams (Horsma & Jauhiainen 2004). This raises the question of what kind of competence the degree programme in Social Services should produce. Should the education start from the concept of social instruction (cf. Honkakoski 2005) or should the competence of a Bachelor of Social Services be analysed with a basis in social work theory? This question became par-

ticularly topical with the completion of the long-awaited new act on qualification requirements during the curriculum process.

Thirdly, the curriculum process could be seen as a communal process within an expert organisation. Three Laurea units provide education in social services. In practice, the curriculum process consisted of finding consensus and shared views between the different units and participants with different educational backgrounds. One major question related to the breadth and specialisation of the degree: should it focus on general skills required for social services, or should students be allowed to specialise clearly during their degrees?

My own position was that of the chairman of the Social Services curriculum team, so this article is written from that point of view. The article is not based on empirical materials but represents one viewpoint.

Future competence in the welfare sector as a basis for the curriculum reform

Most written studies define welfare on the basis of needs and resources. The concept of welfare combines an external, objective perspective and an experiential, subjective idea of well-being. Welfare is related not only to living standards but also to quality of life. The curriculum process analysed welfare competence from the point of view of social science studies, as well as by creating forecasts, reflections and reports on the future competence needs of social services and health care.

In a report by the Committee on Estimation of Labour Demand in Social Welfare and Health Care (Committee report 2001, 106-7), the following factors can be discerned in the general competence required for social services and health care:

- value-based competence and customer-orientation
- theoretical knowledge and information management
- social, cognitive and sensorimotor skills and technological competence
- abilities in promoting the quality, effectiveness and functionality of service processes/chains

According to the report, the biggest changes are needed in relation to lifelong learning, continuous development and development competence. Specialist competence change needs relate to:

- promoting the welfare and health of children and adolescents
- promoting the occupational welfare and health of people of working age

- promoting the welfare and health of the aged and the disabled
- mental health work, substance abuse work, treating various illnesses and preventing marginalisation

Needs for changes in specialist competence also arise from:

- internationality and multicultural work
- private entrepreneurship
- use of IT
- creating health-promoting environments
- evaluating social and health-related effects

(Ibid., 107)

According to Metsämuuronen (2000), the future needs of the social services and health care sector will focus particularly on technical competence, international competence and entrepreneurship competence. According to Pelttari (1997), the qualification requirements for nurses emphasise and will continue to emphasise interpersonal competence – interaction skills, empathy, friendliness, responsibility, caring, the ability to encounter and assist people with multiple problems holistically, and the capacity to act as an advocate for the customer/patient. Also important are multicultural abilities, health promotion skills, keeping continuously abreast of developments, a willingness to develop and change management. In future there will be an increased focus on multidisciplinary collaboration, research and information gathering skills, leadership skills, the ability to support customer/patient self-care and quality management.

One evident challenge is the increasing amount of private service production in the welfare sector. Although many different scenarios have been proposed for the future of the Finnish welfare state (Kaivo-Oja & Suvinen 2001), it appears likely that the current trends will continue in the near future.

The government's decision in principle on the Health 2015 public health programme (2001) and the final report of the national Social Welfare Development Programme (2003) specify challenges related to specific age groups. Work with children and adolescents will be characterised especially by preventive work and early interventions. Family work and the development of its different forms (cf. e.g. Heino, Berg & Hurtig 2000) will increase in significance. Competence in family work will also be needed outside actual family work, for instance at day care centres, maternity and child welfare clinics, and hospitals. Challenges related to working-aged people will spring from an increased working pace (Martelin, Karvonen & Koskinen 2002, 91) and the need to stay at work until a later age

(Government Decision in Principle 2001, 15). The national Social Welfare Development Programme (2003, 21-25) also draws attention to services for the disabled, the long-term unemployed and substance abusers.

Perhaps the greatest challenges of the welfare state are related to the aging of the population. A major aim in health policy (Government Decision in Principle 2001, 15) is to improve the functional ability of the elderly. Geriatric care will have to focus particularly on helping the elderly to live at home and on building a service system to support this (National ..., 2003, 26). Other challenges spring from developing other living, service and care environments, from service instruction and from quality assessment. Some important areas of development are increasing the coverage of home care and addressing the staff shortages in institutional and outpatient care (National ..., 2003, 29). Geriatric care will also demand seamless cooperation between health care and social affairs (e.g. National ..., 2002).

Different analyses have defined the future competence needs of social services and health care in slightly different ways. On the basis of research and reports it appears that skills in encountering customers and cooperating in a work community, and a research-oriented, developmental approach will continue to be central aspects of welfare competence. These were some of the starting points for the Social Services curriculum. There is also a focus on expertise, multidisciplinary and lifelong learning. Other future needs relate to entrepreneurship skills, internationalisation and technological advancements. Further challenges arise from the aging population, the well-being of families with children, substance abuse and other issues related to adult marginalisation. These challenges related to different population groups formed another central approach for the curriculum reform.

Core competence of a Bachelor of Social Services and theory of social work

According to an analysis carried out by a network of universities of applied sciences offering education in social services, the distinguishable aspects of the core competence of a Bachelor of Social Services are contents, core skills, factors determining specialist competence and professional tasks. Some of the main contents of core competence are:

- social awareness, influence
- sociocultural competence
- supporting growth, everyday life and social functional ability

- knowing the operating environment and developing services
- knowledge-based and ethical competence
- methodological competence

Core skills include:

- interaction, communication and interpersonal skills
- reflection skills
- skills in participating in a work community, organising work and leadership
- research and development skills

The specialist competence needed depends on various factors related to the customer and the service system, among other things. Similarly, the professional tasks determine the competence that is needed. (Sosionomin ..., 2001, 25). According to the national Social Welfare Development Programme, education should emphasise ethical issues, a conception of human beings, and a conception of society. Students should also be aware of their own growth challenges, know the service and social security system, and have a critical attitude. (Murto et al. 2004, 54)

There is fairly little research data on the competence of a Social Services graduate. On the other hand, analyses of social work competence can also be applied to Bachelors of Social Services. Particularly research on professionalism and work methods in social work are applicable. Sipilä (1989) distinguishes between bureaucratic work, service work and psychosocial work. Of these at least service work is important in social services. The service work carried out in social services could be analysed for instance from the point of view of individual service guidance.

Saarnio (1993) has demonstrated the importance of the relationship between employees and customers in terms of the profitability of the work. Lehto (1991, 111) looks at the expertise of social workers in terms of customer relationships and the social state. Social work in Finland takes place not only on an individual level but also socially. The welfare state is a crucial factor in terms of the social operating environment of social work (Raunio 2000, 11). With regard to the objectives of the work, social activities at individual and group level can be divided into work that aims for growth and change, and work that aims to maintain order. In describing the competence of a Bachelor of Social Services we had to decide what weighting each of these perspectives was to have. One initial orientation for the curriculum initiative was provided by an analysis made by Timo Toikko (2005) with a basis in the history of social work, which distinguishes between the

personal interaction tradition, the administrative measure tradition and the social change tradition.

In some universities of applied sciences, education in Social Sciences is largely based on the theory of social pedagogy. Discussions on qualifications for early childhood education have also brought out the sociopedagogical framework of Bachelors of Social Services. Although the sociopedagogical perspective is one way to combine the social point of view with pedagogical competence, which is essential in social services, Laurea decided not to follow any single school of thought in carrying out the curriculum work.

The Act on Qualification Requirements for Social Welfare Professionals mentions the concept of social instruction. There are some problems in basing the foundations of research in Social Sciences on this concept. The concept comes with certain historical baggage, because it refers to vocational-level education. Social instruction can also be interpreted narrowly as just one method in social services. Further issues arise from the relationship between social instruction, social pedagogy and sociocultural work.

The curriculum team at Laurea decided that the competence of a Bachelor of Social Services cannot be defined with a basis in the concept of social instruction; instead the theory of social work offered a much more solid base for analysis. Social science competence was considered to contain especially skills related to encountering the customer, but also social competence. Again the team decided that a Bachelor of Social Services cannot be seen just as a maintainer of the social status quo and a producer of welfare services, but should also involve a striving for change and social justice.

Curriculum process in the degree programme in Social Services

The Social Services curriculum reform progressed through a number of stages. Responsibility for the process lay with the Social Services curriculum team, which involved two representatives from each relevant unit, as well as a student representative who was strongly committed to the cause. During the process, one of the lecturer members changed, and other students participated temporarily in addition to the one permanent student member. At the early stages of the curriculum process, the main objective of the team was to identify the main future challenges affecting work in social services and consequently to analyse the competences needed in the workplace of the future. Expertise in social services was found to be based on three areas of competence: customer relationship management and interaction; service systems; and collaboration and influence. Later, all the core competences of the degree programme would be structured

around these areas. Development competence and leadership were also included as the fourth area of expertise common to all Bachelors of Social Services. A further four optional themes were identified. (The final themes of the curriculum are shown in Figure 1.)

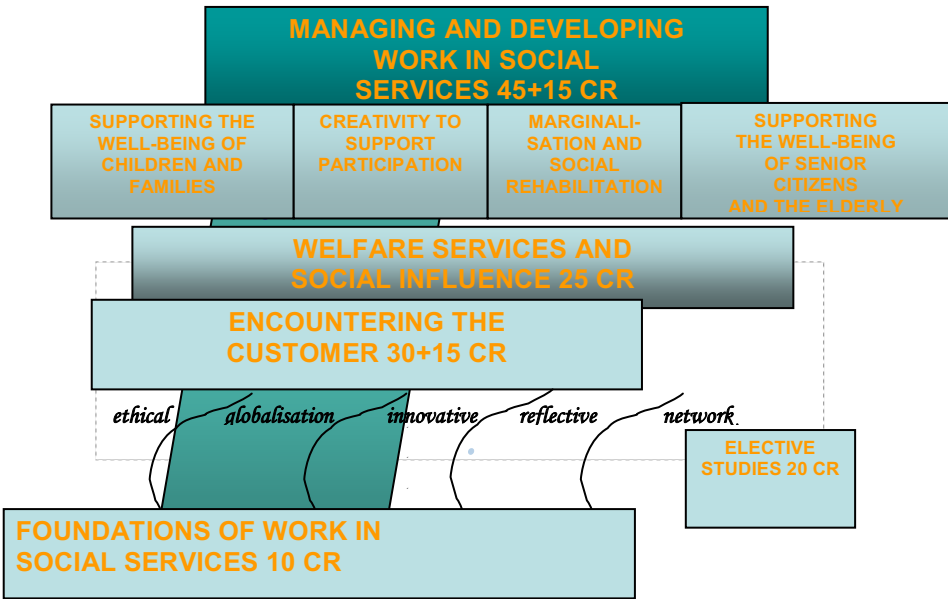


Figure 1. Structure of the Bachelor of Social Services degree.

Preliminary texts for the study units and themes of the curriculum were produced by theme groups appointed for this purpose from among the programme's staff. The theme groups set to work for a couple of months in autumn 2005 once the main competences of Social Services had been identified and the curriculum's themes had been named. Each group had the task of formulating the objectives for one theme, splitting the theme into study units, and writing up the learning outcomes and contents of the study units. The curriculum team compiled the theme group texts and worked on them to make them compatible and uniform.

Throughout the project, the stages of the curriculum process were discussed at staff meetings at each unit. Regional ideas were then reported to the curriculum

team for processing. Before the themes were named, there was also an employer seminar involving experts from various parts of the employment market. The seminar was used to discuss the contents of the preliminary themes, to come up with new themes and to connect them. Towards the end of the curriculum process, there was a shared curriculum seminar for the whole of Laurea's Social Services, Health and Sports field of study.

During the curriculum process the importance of competence in customer work grew, and finally that theme accounted for 50 ECTS credits. Competence in welfare service systems and social influence were added to the process right at the end. The total scope of this social competence (welfare services and social influence) ended up being only 25 ECTS credits.

The question of generic competences was discussed relatively little in the Social Services curriculum process. In themselves, the generic competences selected for Laurea represent some of the core competences in social services, so they fit nicely in the curriculum process. Ethics and reflection are particularly essential parts of social service expertise. They appear at individual level in encounters with customer, and later at organisational and social level in terms of welfare services and social influence. In fact, ethics and reflection had been included as core competences that progressed throughout the degree already in the previous curriculum dating from 2001. Globalisation is included in the degree programme in Social Services particularly in relation to encountering multicultural customers and to global welfare policy. The network competence perspective arises especially in networked cooperation with customers and authorities. Innovative competence, on the other hand, relates particularly to a research-oriented and developmental approach and to developing welfare services.

Naturally, some tensions arose in the Social Services curriculum process, mainly in relation to the core competences of a Bachelor of Social Services and the relationships between specialist skills. The question of guaranteeing early eligibility to future students, and the decision to stop offering the Creative Functions specialisation option as a separate specialisation option were critical. There were also some conflicting views between the experts of the curriculum team and theme groups. Some criticism was received for the fact that the Social Services curriculum team modified the learning outcome and content descriptions made by the theme groups, sometimes considerably.

One difficult choice included in the process was how to approach specialist competence. One traditional approach is sector-specific, allowing students to specialise for instance in child welfare, early childhood education or substance

abuse and criminal work. However, the curriculum team specifically decided that this perspective does not necessarily correspond to future competence needs. One specific point made by experts from the world of work was that it does not make sense to separate child welfare and early childhood education from each other. Child welfare work requires lots of competence in pedagogy and special-needs education; similarly, early childhood education is increasingly linked to child welfare and working with parents. One option would have been to use the work orientations included in the Social Work 2015 Action Programme (Karjalainen & Sarvimäki 2005, 42) – rehabilitating social work, community work, structural social work, and prevention and early intervention. However, the team decided to base its work on the special challenges identified in the analysis of future challenges for welfare competence: the aging population, supporting the well-being of children and families, and marginalisation. In addition, specialisation was allowed in functional and creative orientations.

Considerations

The Social Services curriculum process managed to distance itself from traditional sector-specific thinking while still maintaining the social services sector's own framework. The curriculum is not a generalised welfare competence or innovation curriculum, but still contains the value-based and social visions of the social services field. The degree programme produces experts in social services who can work in various tasks in the welfare society, also outside the traditional social sector.

The curriculum is partly based on the context of social work, but the final version has an emphasis on customer work and individual visions. The social perspective was eventually limited to a fairly narrow scope. The radical perspective of social work that aims for social changes proposed by Malcolm Payne (1991) was observed less in the curriculum process, although it may be emphasised in some studies specialising in marginalisation.

A project entitled The Bologna Process and Finnish Universities of Applied Sciences (2006) identified six degree-programme-specific competences for Social Services:

- professional ethics in social services
- competence in customer work
- knowledge of the service systems in social services
- skills in social analysis
- reflective development and leadership competence

- community competence and social influence

The competence areas identified in Laurea's curriculum process are largely parallel to these. The competences in customer work, development and leadership are included in the finished curriculum as themes, whereas ethical competence and reflective competence are generic competences. The other competences identified in the project were included under the same theme (Welfare Services and Social Influence).

According to Merja Borgman (2006, 2009), knowledge and awareness related to groups and communities forms an essential part of the core competence of a Bachelor of Social Services, and will only increase in importance between now and 2015. In Laurea's curriculum process, however, group- and community-level competence was not recognised as a separate area of competence. Instead the process showed that this competence is linked to encountering customer groups, social influence and developing work.

All in all, the curriculum process was collaborative. The distribution of work and the progress of the project weren't always completely clear and many changes took place along the way. However the structure by which the degree programme curriculum team was in charge of the curriculum, which was then discussed in many contexts with all teachers and making use of specialist expertise, was very apt.

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REFERENCES

The Bologna Process and Finnish Universities of Applied Sciences. "Programme-Specific Competences", 04/2006. Degree Programme in Social Services.

Borgman, M. 2006. "Sosionomit AMK 2015". In Vuorensyrjä, M., Borgman, M., Kempainen, T., Mäntysaari, M., Pohjola, A. (Eds.) *Sosiaalialan osaajat 2015. Sosiaalialan osaamis-, työvoima- ja koulutustarpeiden ennakointihanke*

(SOTENNA). Final project report. University of Jyväskylä, Social Work Publication Series 4. Tampere.

Heino, T., Berg, K. & Hurtig, J. 2000. *Perhetyön ilo ja hämmennys. Lastensuojelun perhetyömuotojen esittelyä ja jäsenyyksiä*. National Research and Development Centre for Welfare and Health, *Aiheita* 14/2000.

Honkakoski, A. 2005. "Sosiaaliohjauksen käsite – jäännös vai mahdollisuus sosionomin (AMK) koulutuksen jäsentäjänä". *Janus* 13, pp. 211/217.

Horsma, T. & Jauhiainen, E. 2004. *Final Report of the Project for developing the Structure of Tasks and Professions in Social Care*. Ministry of Social Affairs and Health, Finland, Working Group Memorandum 2004:10. Helsinki.

Kaivo-Oja, J. & Suvinen, J. 2001. "Sosiaali- ja terveysalan tulevaisuuden näkymät vuoteen 2030". In Voutilainen, P. et al. (Eds.), *Hoitotyön vuosikirja 2002. Hoitotyön tulevaisuus*. Helsinki: Tammi.

National Project on Safeguarding the Future of Health Care Service. 2002. Ministry of Social Affairs and Health, Finland, Working Group Memorandum 2002:3, 9 April 2002.

National Social Welfare Development Programme. 2003. Analysts' final report, edited by Heikkilä, M., Kaakinen, J. & Korpelainen, N. Ministry of Social Affairs and Health, Finland, Working Group Memorandum 2003:11. Helsinki.

Karjalainen, P. & Sarvimäki, P. 2005. *Social Work as a Tool of Welfare Policy 2015 – an Action Programme*. Publications of the Ministry of Social Affairs and Health, Finland, 2005:13. Helsinki.

Committee Memorandum 2001:7. Memorandum of the Committee on Estimation of Labour Demand in Social Welfare and Health Care. Ministry of Social Affairs and Health, Finland. Helsinki.

Lehto, J. 1991. *Juoppojen professionaalinen auttaminen*. National Agency for Welfare and Health, Research Reports 1/1991.

Lindberg, J. & Tolonen, M. 2005. *Vastavalmistuneiden urapolut. Vuosina 2003-2004 valmistuneiden Talentian jäsenten sijoittuminen työelämään*. Union of Professional Social Workers (Talentia) Helsinki.

Martelin, T., Karvonen, S. & Koskinen, S. 2002. "Työikäisten hyvinvointi". In Heikkilä, M. & Kautto, M. (Eds.), *Suomalaisten hyvinvointi 2002*. National Research and Development Centre for Welfare and Health (STAKES). Jyväskylä: Gummerus.

Metsämuuronen, J. 2000. *Maailma muuttuu – miten muuttuu sosiaali- ja terveysala?* European Social Fund. Helsinki: Edita.

Murto, L., Rautniemi, L., Fredriksson, K., Ikonen, S., Mäntysaari, M., Niemi, L., Paldanius, K., Parkkinen, T., Tulva, T., Ylönen, F. & Saari, S. 2004. *Eettisyyttä, elastisuutta ja elämää. Yliopistojen sosiaalityön ja ammattikorkeakoulujen sosiaalialan arviointi yhteistyössä työelämän kanssa*. Publications of the Finnish Higher Education Evaluation Council 5:2004.

Payne, M. 1991. *Modern Social Work Theory*. Wales: Palgrave.

Pelttari, P. 1997. *Sairaanhoitajan työn nykyiset ja tulevaisuuden kvalifikaatiovaatimukset*. National Research and Development Centre for Welfare and Health, Research Reports 80. Jyväskylä: Gummerus.

Raudaskoski, L. 2000. *Ammattikorkeakoulun toimintaperustaa etsimässä*. Jyväskylä Studies in Education, Psychology and Social Research 166, Jyväskylä.

Raunio, K. 2000. *Sosiaalityö murroksessa*. Tampere: Gaudeamus.

Saarnio, P. 1993. "Kokeellinen tutkimus sosiaalityön taitojen kehittämisessä". *Janus* 2.

Sipilä, J. 1989. *Sosiaalityön jäljillä*. Helsinki: Tammi.

Sosionomin (AMK) ydinosaaminen. 2001. Sosiaalialan ammattikorkeakoulutuksen verkosto, report. Rovaniemi: Pohjolan painotuote.

Toikko, T. 2005. *Sosiaalityön ideat. Johdatus sosiaalityön historiaan*. Tampere: Vastapaino.

Government Decision in Principle on the Health 2015 public health programme. 2001. Publications of the Ministry of Social Affairs and Health, Finland, 2001:4. Helsinki: Edita.

Curriculum Reform for the Degree Programmes in Hospitality Management

Introduction

This article looks at the process of reforming the curricula for Hospitality Management as part of Laurea's curriculum development process. The article focuses on the starting points of the reform, on the process, on the resulting curricula and on the new competence generated through them. The article seeks to describe the day-to-day aspects of the development project and the models that were found for solving problems, discussing the causes and reasoning leading to certain decisions. The solution models are also described.

Laurea as an educator in hospitality management

In Finland there are twelve different degree programmes in Hospitality Management, of which five are taught in Finnish, five in English and two in Swedish. In 2006, the training was provided by 21 universities of applied sciences, offering 1,565 starting places. Laurea offers three degree programmes in Hospitality Management. These are Tourism and Service Management in Järvenpää, and Service Management and Hotel and Restaurant Management in Espoo. In recent years, these programmes have offered 140 starting places in total. In addition, adult education has been offered as research-oriented and specialisation studies. The first Master's degree began in January 2006.

The degree programme structure of the field is unclear and it appears that the same competence is being offered under different degree titles at different schools. For instance, competence in food and nutrition can be acquired either in Service Management, Tourism or Hotel and Restaurant Management, depending on the school. This conflict also exists at Laurea. Competence in food and nutrition is studied in Järvenpää under Service Management and in Espoo under Hotel and Restaurant Management. Until 2005, the competence areas

were organised in the degree programmes as specialisation options. The specialisation options in Service Management were Facility Management, Catering Service Management and Consumer Services. The specialisation options in Hotel and Restaurant Management were Hotel and Conference Service Management and Catering Service Management. The degree programme in Tourism had no specialisation options.

Holistic service competence for an innovative field

As a field of study, Hospitality Management relates to a very extensive business sector, where services are the common denominator. The field of study produces new competence in consumer services and facility management in addition to more traditional skills in tourism, hotels, food and nutrition. Most hospitality management businesses operate in the tourism industry, but the hospitality management sector can also be seen as part of the food industry, retail and wholesale, and the restaurant chain catering industry (Services 2020, 2005). Facility management can be seen as belonging to real estate services; these in turn form a part of the construction, real estate and infrastructure cluster, which produces properties and services related to the built environment and to operating and living in it (Future Probe 2004, 39).

The growth in importance of the service sector has long been a central trend in industry and commerce, and it is closely linked to the increasing wealth of society and the progressiveness of the economy. Some of the factors fuelling the growth in services directed to consumers are the regional concentration of populations, the increased purchasing power of consumers, changes in consumption habits, and the aging population. Service production offers a wealth of opportunities but also great challenges. Demands placed on municipal services (e.g. equality of citizens) and the nature of the services means that personal services must be produced in addition to automated ones (National Consumer Research Centre 2003).

A study ("Kauas kaikki karkaa – vai karkaako?") by the National Consumer Research Centre looks at the information society as a service society undergoing a period of radical change. It examines not only traditional personal services, but also the automated services typical of an information society, which offer alternative service forms as well as opportunities for location-independent services. In the study, welfare services are used to mean any services that promote the psychological, social or physical well-being of individuals and families, offered municipally by social, health and education departments. Many other services

are needed in addition to these basic services, and they are generally offered on the market (National Consumer Research Centre 2003).

According to research, the future development of the hospitality management sector will be increasingly closely linked to the development of the tourism cluster and other clusters (Harju-Autti 2003). The development of the sector is affected for example by changes in the welfare, food and drink, and telecommunication clusters. Increased competition has forced many companies to diversify their business concepts (Heikkinen 2003). Demand is affected by changes in consumption habits. The customers of the future will form an increasingly varied and diversified consumer group, while demand will become individualised and thematic or activity-focused. Currently, for example, there is demand for environmental, health and safety-related products and services (Heikkinen 2003). In a post-modern society people cook less at home and eat out more often. Improved income levels, smaller family sizes and the growing importance of leisure time also increase demand for accommodation and catering services. The hospitality management sector embodies and spreads tourism and food cultures, customs and popular culture.

According to Heikkinen (2003), today's hospitality management sector forms part of the very scattered 'experience economy', which consists of tourism, technology and entertainment businesses. Thus the hospitality management sector can be seen to belong to second-wave service and goods production, to the third wave (i.e. the new economy), to the 'experience economy' and the 'story economy'. The success factors of companies and entrepreneurs of the second wave have been defined as the growth of the businesses and their operations, market penetration and achieving a good market position (Services 2020, 2005).

Some of the major future trends that will cause changes to the operating environment, particularly in real estate and facility management, are the transformation of customer relationships into partnerships, and the use of technology to create new products and business processes. The main areas of development will be service technologies and an increasingly far-reaching change in property and support structures. This will also lead to the development of competence-intensive service concepts. Environmental values will be emphasised and the global responsibility of companies for the impact of their operations will be focused on from the point of view of environmental and consumer values. Globalisation has already led to international real estate ownership in Finland. This trend will continue, leading to increasing internationalisation of investments and business (Rakli 2004).

Internationalisation will be a major characteristic of future services. The world's tourism industry is partly hypercyclical. Earlier earnings principles no longer apply as they did to the traditional service production-oriented, highly mechanised economy. In a 'chaos economy' just one change driver (e.g. a bomb explosion) can have an impact on the whole. Tourism organisations and their processes are so closely linked together, that if one airline goes down, for instance, it can cause a domino effect that quickly affects all other companies in the service chain (Heikkinen 2003).

The development and marketing of services are key factors in the competitiveness of future services. Branding and productisation are thought to be two of the major trends in the sector, particularly due to internationalisation (Services 2020, 2005). Future development is also linked to the use of technologies. There will be increased emphasis on the development of new production and service processes using novel technologies (Harju-Autti 2003). New software and hardware can boost the efficiency of companies' internal and external data transfer.

Internationalisation will increase competition within the sector and play its part in driving development. Organisations in the sector must follow global developments but be able to build customer-oriented concepts that work in their local regions (global + local → glocal). The success of large companies is affected by international phenomena. Small businesses must find their own product and service concepts. The most important thing is customer satisfaction and distinguishing services from mass production. Internationality will soon make its mark on the business ideas of companies in the restaurant industry. Some of the main success factors in the sector will be employee competence, a readiness to change, and the ability to predict trends and operating environments. In terms of production, the restaurant industry must become networked with supporting industries. Networking is expected to take place through joint acquisitions made by small businesses. Electronic commerce will expand as the Internet allows for direct contact with consumers, e.g. in the form of takeaway orders and table bookings (Ministry of Labour 2003). Keywords for the sector include polarisation, catenation, brands and continuous renewal. Europe already has a strong food and drink, retail, wholesale and restaurant chain cluster in the catering industry.

The sector is affected particularly concretely by EU decisions on liberalising services, by the falling cost of services, international terrorism, a huge increase in elderly tourism, the availability of services 24/7 and an increase in virtual risk. Changes in our society will affect people's work hours and pension ages. Our weekly, annual and lifelong working lives will become personalised. Globalised societies shift from being controlled by majorities to a mosaic of minorities, and

from industrial structures to the self-organising structures of the information society (religion, professions, lifestyles, cultures and races). The aging of the population and the increase in leisure time will cause rising demand for tourism services, while competition will be ever tougher. Short breaks taken by the working-aged population will become more common and increasingly linked to business travel (Häyhä 2000).

The Innovation Strategy of the Helsinki Metropolitan Area (2005) emphasises the need for increased service business competence. An advanced information society is characterised by employing four fifths of its workers in the service sector. Still, the service sector is in many ways underdeveloped in Finland and the Helsinki metropolitan area. In addition there has been negative growth in productivity in some of its weaker areas. Finland needs more practical research and product development in service business. They could lead to a significant new export industry for Finland in the future. The working document on Southern Finland's Regional Structure in 2030 (2004) emphasises business services as one of the main employment-generating sectors of the future. In addition, services in general will provide more jobs, nationally and regionally.

Public-private partnerships (PPP) will increase the efficiency of the services offered. In these partnerships, the public sector sets the objectives for a project, which is then funded together with the private sector. In other words, this is one form of privatisation (an example being the Areena-halli arena). Private finance initiatives (PFI) are one embodiment of the PPP model, sometimes called private funding, the life cycle risk model or the life cycle model. In this model, public investments are funded, implemented, temporarily managed and often even planned by a private project company (examples from the UK include roads, schools, hospitals, council housing, etc.; examples from Finland include the Helsinki-Lahti motorway and the Espoo Upper Secondary School). The aim of the PFI model is to save on costs, improve the quality of the service chain reaching from design to maintenance, and customer orientation. An example of the increased competition in the public economy and of the significant participation of the third sector in the market comes from galleries and museum and other non-profit organisations that have diversified their services. They seek additional income by running cafés, restaurants, gift shops and even hotels.

Reforming the degree programmes in Hospitality Management

Starting points of the development project

The Hospitality Management curriculum reform is rooted in the causes of Laurea's core curriculum reform. These include the European Higher Education

Area development projects, the extended scope of universities of applied sciences' tasks and Laurea's strategic choices regarding its operating environment. The main challenges were producing competence through the development of instruction and curricula, supporting the integration of the pedagogical, regional development and R&D tasks in Laurea's operations, and promoting the spreading and establishment of the LbD model. The curriculum reform also wanted to develop and strengthen the type of higher education offered at universities of applied sciences. The connecting thread throughout the initiative was recognising competence needs by anticipating future requirements.

Before this reform took place, the curricula used in the Hospitality Management field of study dated from 1997. They had been revised in 2001 in conjunction with the degree programme structure reform, and reviewed somewhat each year. However, those changes were minor and the main approach of the curricula remained fairly unchanged. The curricula still had some characteristics of the vocational education offered before polytechnics started, evident for instance in specialisation options and traditional competence area structures. Therefore one of the challenges of the curriculum reform was to identify a way of defining service competence that could be shared by the whole field of study and that corresponded to future competence needs. A particular difficulty in the process consisted of problems in the degree programme structure of the field.

Stage 2 of a project entitled The Bologna Process and Finnish Universities of Applied Sciences (ECTS Project) took place in parallel with the curriculum reform. The ECTS Project defined the generic competences for universities of applied sciences, as well as subject-specific competences for degree programmes. The reform process was greatly influenced by the simultaneous effort to identify the competence requirements of the Hospitality Management degree programmes. The ECTS Project did not identify great differences between the competences required for each of the degree programmes. Four shared competence areas were defined for all the degree programmes in Hospitality Management, as well as one specific competence area for each degree.

The shared competences for the degree programmes in Hospitality Management are:

- service culture competence
- service system competence
- service management competence
- business competence

The specialist competences for the degree programmes in Hospitality Management are:

- tourism service environment competence
- service environment competence for service production and management
- service environment competence for hotels and restaurants

Degree programme curriculum reform process

The degree programme curriculum process was organised as part of an initiative to develop Laurea's core curriculum. The process began in early 2004 and continued until the autumn of 2006, when the new curricula were adopted. From then on it has been the curriculum implementation phase, whose development forms a part of normal work development at Laurea, in accordance with Laurea's Quality Assurance System. The reform took place as an extensive collaborative development process. The initiative was taken by Laurea's President and put into action by a project team that formulated a curriculum model and made a plan for the reform process during 2004. The strategic intent of the curriculum reform was to question the curriculum traditions in professional education, forgetting the thought patterns of the former vocational level. The choices made during the reform strove to make use of innovations in higher education curriculum development. On this basis, Laurea decided to adopt the competence-based core curriculum model in early 2004. The new core curriculum would consist of degree-programme-specific themes as well as core competences shared by all fields of study. Early 2005 saw the establishment of a generic competence team and degree programme teams, and the project team transformed into a project management group.

The generic competence team was tasked with proposing the shared generic competences and setting their competence requirements. The degree programme teams were asked to formulate competence descriptions for each degree programme together with students and representatives from the employment market, making use of available forecasts, analysing the generic competences together and proposing degree-programme-specific partnerships. The teams were also asked to create a proposal for the profiles of the different units and to make a presentation of each degree programme's new curriculum in time for them to be confirmed in March 2006. A separate team was appointed for each of the Hospitality Management degrees, with a total of 13 members from Järvenpää and Leppävaara. Although each degree programme had its own team, it was clear from the start that the reform would largely involve the whole of the Hospitality Management field.

The curriculum reform process was a highly diversified development project, with controlled development events at its core. Collaboration took place in extensive curriculum seminars for all Laurea staff, and during development days held for each field of study and unit. It was essential for the reform process to involve the whole of Laurea's staff in the initiative, and to create genuine dialogue across degree programme boundaries. Heikkilä and Heikkilä (2001) define dialogue in relation to ordinary discussion in terms of their objectives. According to them, ordinary discussions focus on promoting the speaker's views, whereas dialogue aims at finding shared meanings and creating new openings and broader visions together. The collaborative nature of the project had good foundations, because members of staff were interested in the curriculum process. It was the task of the degree programme teams to facilitate this dialogue and to channel it into the reform work. The process also involved students in various capacities.

The main pillars of the curriculum reform were Laurea's strategic intent and the LbD operating model, which stated that competence development should be based around regional innovation. In practice, work began by carrying out an analysis of the service sector operating environment. The analysis was based on national and regional operating environment and forecast reports and strategies, and consultations with employment market representatives. Students conducted a separate review of the visions of employer representatives, alumni and lecturers from the degree programmes, and of professional publications and research. The analysis also made use of extensive competence requirement mappings made in autumn 2004 in conjunction with planning the Master of Hospitality Management degree.

The operating environment analysis was used to determine the expertise generated in the degree programmes and the competence requirements of the future. The main aim became the creation of extensive service competence. The inclusion of the generic competences in the degree programme curriculum took place in line with the identification of the subject-specific competences. The competence requirements that had been defined were turned into themes and study units. The themes describe core competences of the degree programme at a higher and more abstract level than study units. The skills produced by the generic competences ran right across the themes and study units. The basic structure of the curricula was created by determining a professional growth process on the basis of the competence requirements.

Curriculum reform as a competence management tool

The curriculum process offered Laurea a challenge and an opportunity for an extensive competence management project. It would be justifiable to call the core curriculum one of the main management tools of an educational organisation, so reforming it is a process that strongly affects the whole organisation. Change management was conducted on multiple levels at Laurea. Some of the change managers were teams appointed specifically for this initiative: the project team, the management group, the generic competence team and the degree programme teams. Partly, change management was conducted by the normal organisation, i.e. Laurea's line managers and experts.

Practical management tasks included organising the reform, setting a basic framework for it and initiating extensive multi-level development measures. The measures included specific development seminars and multidisciplinary development groups. Interaction was increased by encouraging the degree programme teams and the generic competence team to work together. Also essential was the day-to-day management of the unit development actions and the work culture related to it.

The curriculum reform was a change management process. For many developers, the existing curricula were ones they had developed themselves, putting in a lot of hard work over the years. They also represented safe and familiar ways of thinking. Therefore the management had to get the staff to commit to the changes and support unlearning. Järvinen (2002) lists the following as some of the challenges of change management: explaining why the change makes sense to staff, providing enough support, and making it evident that the staff maintain their autonomy. All these elements were visible in this process. At the beginning of the reform, the sense of the initiative was questioned widely, but as the process went on, it received increasing support from staff. The framework and limits set by the management group were partly criticised, but they were also needed to support the development work. The management was expected to commit to the reform process, providing its support. A specific support measure was a Coping with Change training event for all staff.

A development measure aimed at the reform process itself was an external evaluation of the process, reviewing its progress with an interim assessment begun in October 2005. The assessment focused particularly on the change process and made suggestions to promote the success of the reform. The assessment began with a detailed plan of the process together with Laurea representatives, and with a review of the documentation describing the reform. Novem-

ber/December 2005 was the time for gathering data, which were analysed and reported in January 2006. The outcomes of the assessment provided excellent support for change management and for the completion of the reform. Many supporting measures were taken for the change process as a result of the assessment. They included increased development resources, and improved reporting on the reforms and their effects to existing Laurea students. The assessment process continued during the curriculum implementation phase in the spring of 2007.

In many ways, the curriculum reform took place as an innovation process. One of the greatest management challenges in terms of promoting renewal was to create the necessary conditions for innovation. It was hoped that the process would lead to new ways of thinking. It seemed important to review even incomplete ideas and development proposals. Stähle, Sotarauta & Pöyhönen (2004) mention people and the work atmosphere as two factors that on the one hand promote the innovation process and on the other hand restrain it. According to them, internal motivation plays a central role as an innovation engine. Although the conflicts arising from the meeting of different opinions and approaches form an essential driving force for innovation, it is important to make sure that they remain intellectual, and that the critiques that are made are constructive. The innovative organisations they studied were characterised by an ample use of networks and external stakeholders. Himanen (2004, 13) also emphasises the fact that work culture and atmosphere are crucial in an economy where growth is increasingly based on innovation. A major task for management is then to support creativity. A central management principle is increasingly often to set ambitious objectives that create motivation. Work culture issues become an essential competitive factor. Therefore, in order to generate creativity, the management had to create a safe and interactive environment for the development work, where things could be discussed openly through genuine dialogue.

Heikkilä & Heikkilä (2001) claim that a functioning dialogue is a dynamic process that offers its members new, possibly first-time opportunities to reflect on, interpret and compare their conceptions with others' conceptions. This allows individuals to develop their views and competence constructively and safely, with help from the other members of the community. Dialectic ability is by no means self-evident in an organisation; achieving it is often the result of target-oriented, consistent work. Dialogue is the key to innovation and it supports the process of cultural dynamics.

Reformed curricula produce top-level service experts

Renewable service competence

The new curricula of the Hotel and Restaurant Management, Service Management and Tourism degree programmes are an apt reflection of the multidisciplinary, networked character of the service sector, which can be seen from many perspectives. It was decided that competence development would focus on applying service knowledge to tourism, hotel, restaurant and facility services as part of the tourism, catering and economics sector. Competence is based on an in-depth understanding of service, leading to broad-based service competence. It emphasises holistic business competence through an understanding of the significance of different services and technical applications. The primary competence development targets are the human and the human environment, and the secondary ones are products, services, machinery, equipment and tools. The approach of the degree programmes is to promote sustainable and experimental ways of working.

Competence development begins with the Service Culture Competence theme. Service culture competence creates a strong identity base for competence, forming the core of service expertise. It is the framework for reasoning and action, onto which the competence generated by the degree programme is built. Service culture competence is closely linked to the values of the field. It consists of competence in welfare, aesthetics, networking and hospitality, and it is built on the ability to recognise the principles of and changes in consumer behaviour. Welfare competence is the ability to produce healthy, safe and profitable services to promote the well-being of customers and work communities. Knowledge of the industry, the ability to include aesthetics in service production, and seeing hospitality as a core value and success factor in the sector are essential. Service culture competence is taught in all the Hospitality Management degree programmes.

The competence generated by the programmes also includes leadership and business competence. They build a functional ability to understand services as a part of the operating environment, and to transform service competence into commercial operations. Leadership competence is strongly focused on managing people and networks in a work-intensive sector, and is embodied in the capacity to act as an opinion leader in a community of experts, and manage various groups, teams and work communities using fair practices. Leadership and business competence are two of the sector's core competences, so they have a lot of weighting in the competence portfolio as a whole. The Investigating and

Developing Services in Projects theme also works on the shared competence base.

The special profiles of each degree programme are then achieved through different choices made for applying service competence. The perspective of Hotel and Restaurant Management arises from network competence, created through the Service Network Competence and the Investigating and Developing Services in Networks themes. The focal point of the Service Management programme is environmental competence, which is created in the Service Environment Competence and Investigating and Developing Services in Environments themes. Tourism, on the other hand, is seen through tourism competence, acquired through the Tourism Competence and Investigating and Developing Services in Tourism themes. Specialisation is also promoted by the implementation environments of the themes, which are relevant development projects. The themes contain all the practical work necessary for supporting the acquisition of personal competence.

Service experts in the innovation system

As services increase in importance in our society, so do the demands regarding their productivity and quality. Services are no longer seen as a support function to more productive sectors, but as a major business and competence area in themselves. A lack of competent personnel has driven the sector to reforms and development. Services are expected to form a significant new export industry for Finland in the future. Innovation efforts are now taking place in the service sector, due to new productivity expectations and its status in international trade. At the same time, there are new demands for competence in the sector.

Innovative competence plays a major role in Laurea's core curriculum. In Hospitality Management, innovative competence begins to be developed from the very start in the Service Culture Competence theme. Innovative competence is reflected in the objectives, contents and work methods selected for the studies. Its ultimate implementation, however, is in the development projects included in each theme. The programme-specific themes embody the core competence of each programme, with a special emphasis on research and development.

The theme shared by all the degree programmes, Investigating and Developing Services in Projects, forms a link with innovation activities in the field and the region. The theme's implementations arise out of development challenges in the field and the region, and the selected competences and work methods are directly aimed at creating innovations and the competence they require. The theme accounts for 30 credits and contains the study units Developing Service

Innovations, Service Innovations in Business Development and Entrepreneurship. The first of the three study units is compulsory for all students, whereas the other two are elective. The competence acquired in Developing Service Innovations can be complemented with the elective study units, which optimally lead to innovation-based entrepreneurship. Some of the development projects focus on Laurea's operating environment and targets defined together with partners. Their outcomes are used to benefit the chosen organisation.

The Investigating and Developing Services in Projects theme is included in all Laurea curricula, and it links Laurea's educational activities to innovation, as required by the LbD model. Laurea's commitment to innovative competence is evident in its choice as one of the generic competences.

Conclusions

The degree programmes in Hospitality Management were reformed radically during the development project, with structures based on new competence definitions. Learning in the degree programmes produces competence needed in the workplace of the future, and the competence objectives correspond well to the generic competences set nationally for degrees. The themes reflect the desired process of professional growth. In the new curricula, the students' personal competence is no longer created through specialisation options but through choices of approaches and implementation environments.

The themes and study units are described at a fairly general and conceptual level, leaving plenty of room for diverse implementations that make use of the best competence available at each time. The general nature of the descriptions ensures that the curricula can adapt to passing time and changes in the environment. It also allows for the application of the LbD model.

The conflicts arising from the new core curriculum structure decreased as the new curricula were completed. A broad service competence base was determined for all three degree programmes through the four shared themes. The competence of the Hospitality Management field at Laurea is embodied in the Service Culture Competence, Business Competence, Leadership Competence and Investigating and Developing Services in Projects themes. The shared themes account for 90-130 credits, as chosen by the students.

The curriculum reform process demonstrated Laurea's ability to reform and renew itself. The main objectives were met and the new curricula have been adopted with very positive expectations. The tight schedule at the end of the development process meant that the Hospitality Management curricula could not

be refined as carefully as it was hoped, so there is still plenty to do in terms of refining the details. This will be done in the annual development initiatives, which will be structured around implementation assessments and quality seminars focusing on the curricula.

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References

Southern Finland's Regional Structure in 2030, working document. 2004. *Verkostoitunut, yhteistyökykyinen ja monipuolisia vahvuuksiaan hyödyntävä Etelä-Suomi*. South Finland Regional Alliance.

Harju-Autti, A. 2003. *Majoitustoiminta*. Toimiala – Infomedia. Ministry of Trade and Industry, Finland.

Heikkinen, V. 2003. *Palvelutuottajasta elämysten ja mielihyvän tuottajaksi*. Helsinki: Haaga Institute: Haaga Research Center.

Heikkilä, J. & Heikkilä, K. 2001. *Dialogi – Avain innovatiivisuuteen*. Porvoo: WSOY.

Innovation Strategy for the Helsinki Region. 2005. *Yhdessä huipulle*. Culminatum.

Himanen, P. 2004. *Välittävä, kannustava ja luova Suomi. Katsaus tietoyhteiskuntamme syviin haasteisiin*. Committee for the Future, *Teknologian arviointieja* 18. Publications of the Parliamentary Office 4/2004. Helsinki: Edita.

Häyhä, L. 2000. *Matkailun aluetaloudelliset vaikutukset: seurantaindikaattorit ja vuoden 2000 tulokset*. Reports of the Ministry of Trade and Industry, Finland.

Järvinen, P. 2002. *Onnistu esimiehenä*. Porvoo: WSOY.

National Consumer Research Centre. 2003. *Kauas kaikki karkaa – vai karkako?* : Summarised report of the Services in the Information Society research project.

Services 2020 – Competences in the International Service Society. 2005. Interim Report. Confederation of Finnish Industries EK. Helsinki.

RAKLI. 2005. Vision 2010: Foundations for Good Life, The Finnish Real Estate and Construction Clusters Vision for 2010. Finnish Association of Building Owners and Construction Clients (RAKLI).

Stähle, P. & Sotaraus, M. & Pöyhönen, A. 2004. *Innovatiivisten ympäristöjen ja organisaatioiden johtaminen. Teknologian arviointia* 19. Publications of the Parliamentary Office 6/2004. Helsinki.

Future Probe 2004. Success Clusters Today and in 2015: Facts and Visions to Support Anticipating Competence. Interim Report 1. Confederation of Finnish Industries EK. Helsinki.

Ministry of Labour, Finland: 2003. *Lähtökohtia työpolitiikan strategisille linjavalinnoille.*

Curriculum Reform in the Degree Programme in Sustainable Development

Introduction

Sustainable development has many dimensions. It is a generally accepted process of development towards a more sustainable future. Sustainable development is an extensive social change concept that relates to more than just environmental management, reactions to climate change and global concern for natural resources. Although environmental deterioration and the unsustainable use of resources have formed a springboard for sustainable development discourse, the question is seen as integral to balanced economic growth, human welfare, social equality and cultural values. One of the challenges for higher education institutions is how to include sustainable development in the integration principles of degree programmes, while providing specialist instruction in the subject (Sustainable Development in Education 2006).

Sustainable Development is one of the degrees in Natural Resources and the Environment at Laurea. Thus it focuses particularly on the sustainable use of natural resources and on environmental planning and development. This does not mean, however, that the degree only teaches the ecological aspect of the subject, because it is worth taking into account all the dimensions of sustainable development even in Natural Resources and the Environment (cf. Virtanen & Salonen 2007).

This article describes the curriculum reform process in the degree programme in Sustainable Development – i.e. how the work was carried out, who participate in the project, what the broader context was and what was achieved.

Background conditions

The curriculum reform complied with certain general marginal terms, some of which were principles common to all of Laurea's curriculum efforts, while others

were related specifically to sustainable development. The curriculum work was based on the idea of identifying the most relevant competence for a Bachelor of Natural Resources to work in the future. In other words, there was a shift from a subject-based approach to a search for competence. In addition, the work had a future-oriented approach, because the students who learn according to the current curriculum do not graduate into the world of work for several years. A constantly changing employment market requires new kinds of competence, so one of the challenges was to anticipate future needs. Since Laurea operates in the region of Uusimaa, attention was paid to the development orientation, strategies and programmes of the Helsinki metropolitan area.

The project was linked to a university of applied sciences competence analysis (ECTS Project), conducted around Finland simultaneously with Laurea's curriculum reform. The ECTS Project defined competences for all the different degree programmes. The elements of expertise of Bachelors of Natural Resources graduating from degree programmes in sustainable development were defined together by representatives of all the universities of applied sciences where the subject is taught. The curriculum reform was also clearly centred on determining the skills and knowledge needed by Bachelors of Natural Resources in their work. The general principles of sustainable development are present in Laurea's core curriculum through the generic competences.

Progress of the process

Below is a description of the process from the establishment of the project team to the adoption of the curriculum (Figure 1). The curriculum process was also supported by the simultaneous ECTS Project to define programme-specific competences. Further support was provided by participation in curriculum development days organised by Laurea.

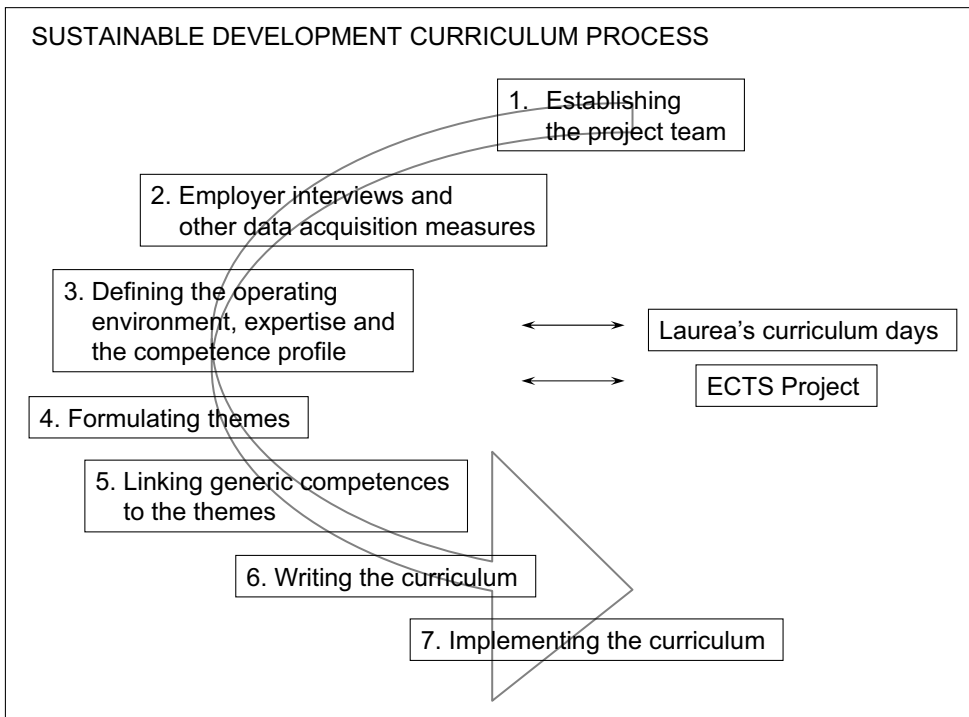


Figure 1. Curriculum reform in the degree programme in Sustainable Development.

Establishing the project team

The curriculum process started with the appointment of people to carry it out. Naturally, the project involved Sustainable Development staff, but it also included a representative from the degree programme in Rural Economics to increase collaboration and idea exchange. The project team participated in Laurea's general curriculum seminars and development days, which helped in sharing the view of other fields.

Employer interviews and other data acquisition measures

The task of defining the expertise of a Bachelor of Natural Resources was approached by being in close contact with representatives from the employment market. Several (10) focused interviews were carried out, investigating the views of different organisations on the competence that experts in sustainable development should have in the future. Approximately half of the interviews were conducted with companies (from the environmental field and other sectors), and

the other half with public sector organisations (Ministry of the Environment, Uusimaa Regional Environment Centre, Uusimaa municipalities).

The focused interviews examined views of the expertise needed in the environmental sector and more generally in the workplace of the future. Figure 2 has a summary of the answers (evaluations on a scale of 1-5, where 5 = Very important and 1 = Least important). Due to the limited number of interviews it may be dangerous to make generalisations, but the interviews did give a clear indication of workplace-relevant competence. The most important skill according to the interviews was project management competence, but subject-specific competence (i.e. environmental competence) was also seen as important. Other generic skills were IT competence and administrative and public authority-related competence, which also contain subject-specific competence (environmental software, environmental administration, etc.). Commercial and technological skills were seen as the least important of the listed competences. One of the interviewees explained that business and commercial competence is already present in other employees, so when recruiting an environmental specialist the company looks specifically for relevant competence.

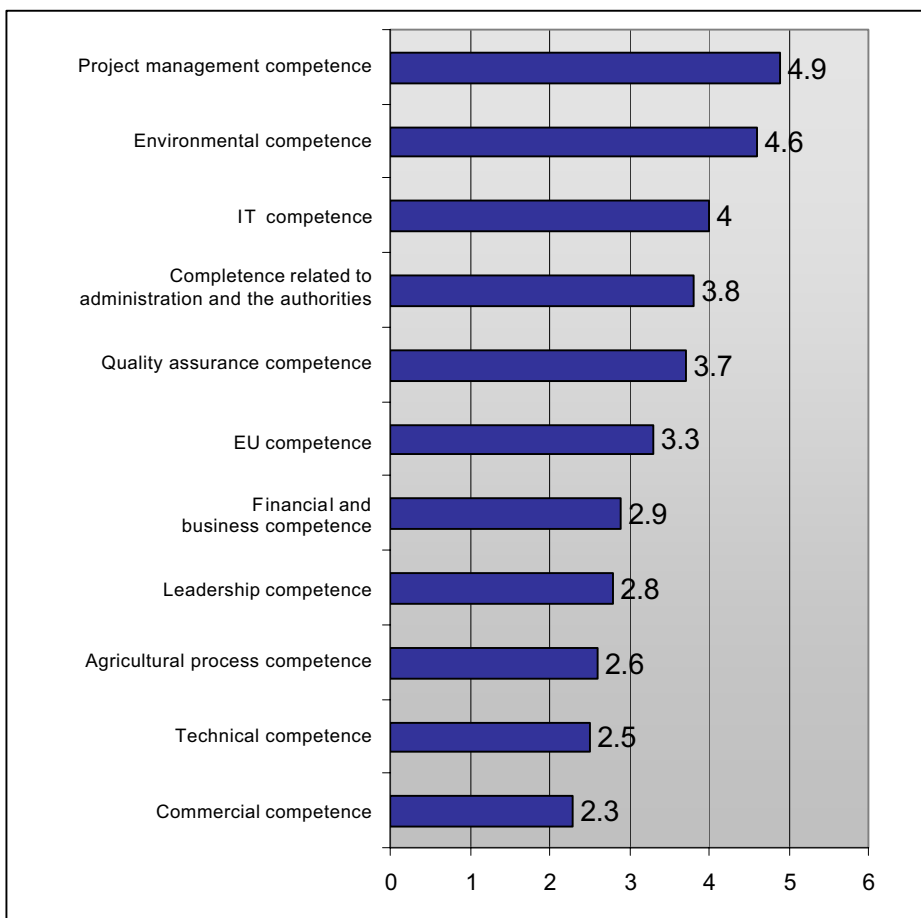


Figure 2. Interview responses regarding the future competence needs of Bachelors of Natural Resources.

The interviews also brought up other skills such as understanding of global issues, interpersonal skills, skills in chemistry and biology, communication skills and legal knowledge. A larger number of interviews with a larger number of organisations would probably have expanded on the definitions of the necessary competence. However, the essential fact was to realise that while subject-specific core competences are important, they must be complemented by generic workplace skills.

In addition to these interviews, the process of defining expertise in Sustainable Development used existing literature and the participants' own expertise. A good knowledge base was provided by strategies and programmes formulated for the Uusimaa region, as well as national sustainable development strategies and programmes.

Defining the operating environment, expertise and competence profile

Descriptions of the operating environment and expertise of a Bachelor of Natural Resources were compiled using the focused interviews and other gathered data. This was done by analysing the results obtained and discussing them through participatory methods. One of the criteria agreed on was a focus particularly on the Uusimaa context, with a link to the rural environment. The descriptions complied with the objectives of the curriculum initiative in that they focused on creating workplace-relevant knowledge and skills needed in the future. The expertise of a Bachelor of Natural Resources has a scientific background, but knowledge of social sciences and economic mechanisms is also essential.

The competences defined for Sustainable Development for the whole higher education sector in Finland, listed in Table 1, were used as aid in the description process.

Table 1. Competences for the degree programme in Sustainable Development
(source: Participation ...)

Competence profile Degree programme in Sustainable Development	Competence description (knowledge and skills)
1. Knowing the processes of the natural environment and improving its state	<ul style="list-style-type: none"> Students are familiar with the basic mechanisms of the natural environment and can identify and improve its state.
2. Generating operations in sustainable development	<ul style="list-style-type: none"> Students can promote sustainable development by influencing people's attitudes and behaviours, and can identify and organise alternative operating models for supporting the sustainability of environments and societies.
3. Managing planning processes and methods	<ul style="list-style-type: none"> Students know the principles of planning and development work and can use various planning methods in practice.
4. Applying economic steering methods	<ul style="list-style-type: none"> Students know the rules governing the economy and can apply this knowledge to the operations of companies and organisations.

The knowledge-based and skill-based professional competence of Bachelors of Natural Resources were defined on the basis of changes in and the needs of the operating environment, and of an analysis of expertise. Knowledge of the principles of sustainable development and of the basic concepts of the environmental sector is the basis. It is essential for graduates to be able to identify, plan and develop environments according to the principles of sustainable development. They must be able to acquire, analyse, present and utilise information in practical development tasks. In addition to these subject-specific competences, graduates must have acquired the generic competence levels defined for their programme.

Formulating themes

Once the expertise had been defined, the team began to think about how to create a three- or four-year learning process that would lead students to fulfil the set targets for expertise. A natural starting point was that students should first learn about the state of the environment and the factors that affect it, after which they can learn to apply this knowledge and become an environmental developer. According to the principle of sustainable development, graduates must have a globalised understanding of things, but local environmental planning and development are also a central competence area. First-year students become familiar with the processes of the natural environment, with the themes of sustainable development and with social influencing methods. In the next year, students can

specialise either in rural environmental matters or more generally in environmental monitoring and restoration methods. In the third year, students learn about entrepreneurship and how to work as planners and developers in rural and urban environments. Job placements that provide orientation in and in-depth knowledge of work in the field are crucial points of contact with the employment market, achieved through project-based learning.

Linking in the generic competences

After and partly during the formulation of the degree-programme-specific themes, the team considered how to link the generic competences to the themes and study units. The team decided not to include all competences in all study units, but to provide more in-depth learning by focusing only on a few. Globalisation competence is particularly closely linked to the themes of sustainable development. Ethical competence – considering values and responsibilities – also forms an essential part of the skills of a Bachelor of Natural Resources. Reflective competence is linked to the diverse assessment of phenomena and to applying the outcomes of this assessment. Communication skills, networking, and questioning established operating models and coming up with new ones are also important skills for a graduate to have.

Writing the curriculum

The curriculum was put into writing as a result of the work discussed above, on the basis of the instructions provided for curriculum reporting. The main challenge was to make the text focus on competences, where before it had been closely linked to subjects. Thanks to the extensive preparation work, however, writing the curriculum was fairly easy and consisted mainly of recording the outcomes of the earlier stages of the process.

Implementing the curriculum

The new curriculum was adopted in the autumn of 2006, so only preliminary comments can be made on its success. One area of improvement has been the collaborative planning and implementation of study units. Lecturers have also had to learn to shift their focus away from specific disciplines and subjects. A further challenge has been for lecturers to weave the curriculum into the teaching so that the generic competences and the sustainable development themes are linked together naturally. Initial experiences of the new curriculum have varied, but we can safely say that despite their challenges, new methods and objectives are always a learning and development experience, even for teachers.

Conclusion

Participating in such an extensive curriculum reform was challenging but educational. The new competence-based approach to curricula forces us to forget the earlier discipline-focused structure and to consider what knowledge and skills are most important in the workplace. It could be said that a curriculum is never complete or perfect; the world changes, the environment places new demands and there are new dimensions to working in the society. This is a challenge to teaching and the curriculum's future competences. Just like sustainable development as a whole, the inclusion of the curriculum in practical teaching requires process-based thinking and an applied approach, with the aim of updating competence and learning needs according to circumstance, while always ensuring that the core competence of the field is included.

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References

Participation of Finnish Universities of Applied Sciences in the European Higher Education Area. 2006. [online] <<http://www.ncp.fi/ects>>

Sustainable Development in Education 2006. Implementation of Baltic 21E Programme and Finnish strategy for the Decade of Education for Sustainable Development (2005–2014). Ministry of Education Committee Records and Reports 2006: 6.

Virtanen A. & Salonen A-M. 2007. Sustainable Development in Natural Resources and Environmental Studies. In Kaivola T. & Rohweder L (eds.): *Towards Sustainable Development in Higher Education - Reflections*. Publications of the Ministry of Education 2007: 6.

IV LEARNING BY DEVELOPING AS AN OPERATING MODEL

This chapter discusses the development of the Laurea Library and the practical implementation of the new core curriculum using the LbD model.

A Workroom in an Open World: How LbD Changed the Library

A library is still often seen as a service for taking out and returning books. The basic concept of finding information has remained the same for centuries, but great changes are taking place in the library sector, requiring critical analysis of the existing services, functions and competence. Changes are necessary due to general social developments, by which the industrialised society is transforming into a knowledge society. Laurea's general changes have also affected the Laurea Library's operations.

This article describes the changed day-to-day operations of the Library and how they mirror the development of Learning by Developing at Laurea. The article is based on a survey of library employees in conducted December 2006. The respondents were seven information specialists and they answered questions regarding the Library's service operations, collection work and management.

Effects of LbD and the competence-based core curriculum process on the Library's operations

Laurea has encouraged and facilitated the participation of Library staff in its shared LbD seminars and core curriculum reform days. A new kind of cooperation has begun to appear between the Library, lecturers and R&D through this participation.

We took part in the core curriculum planning meetings with varying attendance. We were present at the initial meetings, but once the work began to focus more on specific subjects we stopped attending. In addition we participated in planning a study module involving information gathering. (Laurea information specialist)

The topic was also discussed extensively in the Library's internal meetings, with the aim of understanding the challenges posed to our operations by LbD and the new core curriculum. The effects have been noticeable particularly in the Library's collection work – i.e. the selection of materials to acquire – and in the

forms of guidance provided in information seeking. There have also been more profound effects on the basic aspects of the Library's operations: library services, work processes and competence requirements. These effects are described at the end of the article.

Selecting materials for the collection

The Library has always acquired materials to meet the needs of the fields of study, and more specifically the degree programmes and their specialisation options. Course textbooks on which examinations are based have also made up a major part of the collection.

Through LbD, the Library gave up on the old-fashioned course textbook idea with the aim of promoting the varied use of materials. The concept of short-loans was adopted to cover the core materials related to the phenomena under study. The first change was a technical one, changing textbooks to short-loans. The change was visible for instance when retrieval materials in the Library's database. After the completion of the new core curriculum, the Library's staff have been working with lecturers to determine which basic materials are linked to which generic competences and themes.

A good example of the new collaboration is the new kind of acquisition event organised in the workroom of the Leppävaara library. The local information specialist invited book agents and lecturers to attend at the same time. The agent brought along sample books and a number of catalogues. Speaking with the lecturers, he could suggest suitable materials from different publishers' lists. This gave lecturers a quick look into the new literature available in their fields, including international publications. At the same time, the agent received a better understanding of the lecturers' needs and library staff saved time by making acquisition decisions in a single process. The event attracted a large number of lecturers, which is a reflection of the changes taking place in the reference materials on which teaching work is based.

The acquisition process focused on materials in English, literature related to research methods and applied research, and so-called grey literature. These had been included in the collection previously, but their significance has grown through LbD. Grey literature cannot be found in the large publishers' catalogues, as it is published by various expert institutions – e.g. the Finnish National Fund for Research and Development (Sitra) or the Funding Agency for Technology and Innovation – in their own forums. Materials in English are necessary for access to the most up-to-date information. Laurea's students and staff want to have access to information from around the world immediately rather than wait-

ing for someone to select and translate it or adapt it to Finnish circumstances. The increased demand for electronic materials also showed a shift of focus to new international information resources. Content-wise the acquisitions were centred on business and welfare-related materials.

More requests for acquisitions are coming to the Library than ever before, some of them from students. Most of the newly acquired books are lent. There has been an increased need for business literature, even though the unit teaches four theoretically separate subjects.

More materials have to be acquired outside the field of nursing. There has been an emphasis on materials related to the generic competences.

There has been a slight increase in and diversification of materials related to research methods.

(Laurea information specialists)

Use of materials

In 2005, the amount of loans grew by 26 per cent over the previous year, probably due to the development of teaching according to the LbD model and to the curriculum reform work. In the same period, borrowing from all libraries at Finnish universities of applied sciences grew by 1.2 per cent. Without Laurea, the total number of loans from libraries at universities of applied sciences would have fallen; a few other libraries demonstrated increases but they were not as significant.

In 2006, growth continued strongly at Laurea, at 10 per cent over the previous year. The biggest growth took place in the general collection, at a rate of 14 per cent, whereas the increase in short-term loans was only 1.6 per cent. The use of the main collection reflected the diversification of the need for materials. It also followed from the period of change at Laurea, as the core materials for each curriculum had not all yet been assigned, and some students were still following the old curriculum.

Borrowing has increased. First-year students are taking out books other than those on which they will be examined, showing a diversification of the types of materials needed (videos, factual books, magazine articles). To me, this clearly reflects the adoption of the LbD model.

Students want to find more information and more in-depth information from sources other than those on which they will be examined.

(Laurea information specialists)

The need for material acquisitions and the amount of loans are growing particularly in those fields and Laurea units where LbD has been under development the longest. Statistically, Laurea's staff have also been borrowing significantly more materials in the last couple of years. LbD-related partnerships are attracting external users to the Laurea Library, and the number of loans by people from public administration, industry and commerce doubled in 2005-2006.

The LbD model demands more independence than before from students. This does not mean working alone but in groups. Students are present more at the units when participating in shared projects. The change in work methods is visible in some overcrowding at the Library's workstations. For example at Kerava, the library was used mainly for taking out books a few years ago, but last autumn the library's premises suddenly became too small as students used materials for various projects. The number of library users has increased and the uses have diversified.

[Students] work much more in the library.

(Laurea information specialists)

Teaching in information seeking

The questions received by the Library's customer services have become more difficult and complex. Students need guidance with issues related to information more often and more in depth than before. The Library has started to play a bigger role in the students' learning process and in creating new knowledge.

The Library has reacted to these changes for instance by developing its teaching in information seeking. The Laurea Library was the first library to systematically develop online Information Seeking studies for all students. These studies were not interesting and flexible enough to succeed as mass studies, however, so the Library decided to stop offering them. The development of LbD began to specify needs and the new competence-based core curriculum gave the final impulse for giving up the mass studies in order to leave room for renewal. The online materials can still be used where applicable, however, and new components have been added to them from the online studies in information gathering developed for the Virtual Polytechnic.

A new kind of teaching in information seeking was decided on during Laurea's curriculum process. Tutoring is now provided in five different ways and it is no longer compulsory. It is integrated flexibly into other studies, so that information specialists can help students in depth with real problems and authentic workplace needs. In addition, the Library's customers can come and visit the informa-

tion specialists to discuss information-related needs more personally and in depth than the busy customer services are able to do. Visits are made by students and staff alike.

The basic studies in Information Seeking were no longer compulsory for Business Management students, which made them harder to organise. On the other hand, project-related teaching is organised more and more, and the students are much more motivated for that.

There has been no change yet, but the need for it is evident. With the new pedagogical theory, presentational teaching (the kind mainly used for the Information Seeking course) has become outdated. I am moving more towards workshop teaching. For instance, as of March 2007, tutoring in Information Seeking for theses will be organised in a workshop where students work with methods relevant to their fields. The information specialist is present throughout the session to discuss any problems that arise together with the students. In addition we aim to introduce students to information seeking more from the point of view of the workplace and of knowledge management.

There has been increased demand for workshop-style teaching.

(Laurea information specialists)

Customer-oriented development

The Library has started playing a bigger role in the students' learning process and in creating new knowledge. That means that it must know its customers' needs and the changes taking place in the operating environment even better than before. As students learn through projects completed for employers, they must be supported by quick, accurate and in-depth identification of information sources. The reaction to these changes in customer service has perhaps been insufficient so far, although it has begun with a needs analysis and the investigation of a new kind of service culture. The changes are supported by a biennial customer satisfaction survey and the Library Objectives for 2010 plan, which is based on Laurea's strategic intent, tasks and action plans. Objectives were set with a view to responding to the new knowledge-building challenges of the pedagogical model and Laurea's R&D work.

A new service form based on participation in projects is under development. Positive experiences were received from participating in a national maternity clinic project, a partnership with Jorvi Hospital and the Uusimaa Innovates project. Other new service forms include subject-specific information source compilations and thematic exhibitions. Compilations have so far been made for exam-

ple in relation to maternity clinics, crisis management, innovation, portfolio work and LbD work.

Developing operating processes

The Library's internal work processes are developed to support the production of high-quality, efficient services. The aim is also to come up with new ways of working or new service forms.

Quality, efficiency and functionality have been worked on for a long time by collaborating with other university libraries. The most visible results of these partnerships have been in acquisitions. Individual libraries could not have acquired the library system, information search portal, electronic materials and statistical database that are currently in use, including their related technologies and systems, so they were purchased together with other libraries. High-quality systems and work methods have created a good infrastructure, so in developing its operations the Library has been able to focus on local needs and circumstances.

Local needs include the new opportunities opened at Laurea by LbD, the core curriculum and R&D activities. The Library has carried out its own experimental activities in developing the information environments conceptually and in content. The library at Hyvinkää, for example, has studied and independently developed some tools and work methods related to the information environments – including the use of graphic organisers such as Gowin's vee map in mapping subject matters, and the introduction of conceptual mapping software into the information seeking and knowledge-creation process.

Kerava has developed the role of library staff as a part of the innovation environment. This has opened up a partnership with the Velo unit that coordinates Laurea's R&D activities in Central and Northern Uusimaa. Another experiment is the Tea Room, a space for interactive knowledge and encounters in Kerava.

Competence development

The implementation of LbD, the core curriculum and research programmes are changing the Library's services and work methods in ways that require staff competence development. Competence can be increased through participation in processes, functions and networks outside the Library. It is important to encounter experts with diverse competence; these encounters may generate new thoughts and actions that develop the Library's competence, work processes and services.

The Library processes changes through its competence teams. The competence teams run vertically and horizontally, seeking deep competence in their own

fields and broad, multiple competences in the operating environment's processes. The Library can participate as an operator with multiple competence for instance in the various stages of knowledge creation. The Library's roles can include affecting what tools are used, helping people to find information sources, participating in structuring data and modifying metadata, and promoting the distribution of new knowledge.

Competence is structured in a mapping, where the development priority of different issues can vary. The aim is to develop the Library's competence, but the mapping can also be used for individual competence development.

Some of the most important aspects of this competence are understanding communication and ICT, and applying them to information seeking, storage and knowledge generation. One of the main challenges lies in shared information production; some of the new tools for this include Web 2.0, wikis, blogs and RSS feeds. Another challenge is understanding the digital generation and our new global culture. Within the context of LbD, the new competence-based core curriculum and Laurea's research programmes, the Library is working on what services it should offer in the future, in what networks, to what customers and using what tools.

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Support from the Curriculum for the LbD Model's Implementation

This article describes the process of rewriting the curriculum for the Service Management degree programme from the point of view of a participating senior lecturer, and analyses the implementation of the Learning by Developing (LbD) model in the study units included in the new curriculum. At the end of the article an example is given using one of the study units that I have taught in. I chaired the Service Management curriculum team during the curriculum reform process from the spring of 2005 to the spring of 2006. The curriculum was taken into use in the autumn of 2006.

LbD is seen here as Laurea's method for integrating education, research and development and regional development. Model can be called development-based learning. Some of the central elements of the model are the authenticity of projects, which leads to the production of useful results and competence; encounters, which are embodied in continuous assessment and interaction between all parties; and a research-oriented, developmental approach to activities, which will optimally generate innovations.

Cases from the curriculum project

The Service Management curriculum was formulated by seven senior lecturers. The degree is offered at two units – Leppävaara and Järvenpää. The team worked closely with the other degree programmes in Hospitality Management (Hotel and Restaurant Management and Tourism), because the three programmes share many competences.

The process took somewhat more than a year. In that time, the team created a description of the operating environment for the service sector, defined the expertise and competence of the service sector, and described the expertise growth process in the field. In doing this, the team was in contact with workplace experts, gathered tacit knowledge from the degree programmes, talked to senior lecturers, principal lecturers and students, and analysed research studies and

other topical materials on the field. These were used to determine the curriculum themes and study units, as well as the generic competence levels to reach in each study unit.

The Bachelor of Hospitality Management qualification consists of 210 ECTS credits. The degree programme in Service Management consists of seven themes:

- Service Culture Competence (30 cr)
- Business Competence (30 cr)
- Leadership Competence (20 cr compulsory and 20 cr elective)
- Service Environment Competence (40 cr with 15 cr practical)
- Investigating and Developing Services in Environments (35 cr compulsory [with 15 cr practical] and 10 cr elective)
- Investigating and Developing Services in Projects (10 cr compulsory and 20 cr elective)
- Thesis 15 cr

These themes contain 16 study units of 10-15 credits in scope, compulsory for all students of the degree programme, and five elective study units. Students can also take elective studies from other degree programmes. The generic competences defined for the whole of Laurea – reflective competence, ethical competence, network competence, globalisation competence and innovative competence – are learnt within the study units and evaluated using generic competence portfolios. Similarly, knowledge-based and skill-based professional competence is acquired within the themes and study units.

Benefits of the new curriculum over the old one

In the author's opinion, the most significant difference between the old and new curricula lies in the new curriculum's extensive modules. While before study units used to form entities of 3-6 credits, the new curriculum's study units are all 10-15 credits in scope. As described above, these units combine to form 30-45-credit themes (except for the thesis, which forms its own 15-credit theme in all degree programmes).

These extensive modules allow for competence-building and in-depth work on projects. The new curriculum is written in the discourse of competence, which means that from the start it aims for competence, rather than just understanding of knowledge. One project can account for as many as 40 credits, which naturally facilitates competence development – for students, lecturers and the or-

ganisation that commissioned the project. One weakness in the old curriculum was the fragmented nature of the study modules. The academic year was divided into four 8-10-week periods. Students could 'complete' as many as six or eight study units at a time, which scattered their resources over a wide area of study. Another problem arose from the fact that by the time the students and the lecturer in charge understood what the optimal objectives were for learning and its outcomes, the study unit was over. This put an end to competence development and development work towards a project's objectives. Thus the new curriculum with its large modules allows for long-term development; students can work on one project from their first year to their fourth year, if necessary, while growing into experts in the field under observation.

The extensive modules focused on competence creation offer a significantly better setting for implementing the LbD model. It is easier to commit to authentic projects within the scope of available resources, which also facilitates the creation of useful outcomes. It appears to be easier for students to commit to their studies now that in each semester they can focus on just a few learning contexts. The lecturers' commitment is increased by these same factors, as well as by the fact that new projects do not have to be initiated very often, which frees resources from continuous planning to generating competence and proper outcomes, and to genuine presence. There is now more time for the encounters between students, tutors and employment sector partners. Assessments can be carried out in the spirit of developmental evaluation. Whereas before the focus was on evaluating final outcomes, today's extensive modules allow for feedback sessions held as often as weekly. Through this kind of dialogue, the students' professional growth and the outcomes of the projects can be developed through the principles of shared expertise. The longer time frame also allows for improved mastery of the research-oriented, developmental approach, possibly even leading to innovation. There is time for setting objectives and creating contexts, which sets foundations for deeper competence.

Challenges of the new curriculum in the implementation of the LbD model

A clear difficulty still remains in how to implement study units and themes in practice so that a 10-credit study unit is not fragmented into smaller entities controlled by different lecturers. In making the implementation plan it should always be kept in mind that as the owner of the learning process, the student takes centre stage. Previously it was thought that the lecturers know best what the students should learn, and this may have placed the focus too firmly on lecturers. Thus, from the student's point of view the danger lies in lecturers planning these

extensive modules from their own points of view and their own fragments, forgetting that their combination may not generate competence in the student.

Whole calendar days set aside for study units facilitate implementation. Each study unit must not have too many lecturers, so that it can be controlled by one person as a whole. A 'responsible lecturer' system is probably necessary, even in cases where there are only two teachers for a study unit. It would make it easier to define and manage the unit as a whole. At the time of writing, in January 2007, there was no information yet on completed themes, but the same factors should naturally be taken into account on this larger scale.

In implementing the new curriculum, lecturers should also remember that LbD does not mean providing students with a task and then leaving them to work independently. According to the cycle of investigative learning defined by Hakkarainen, Lonka and Lipponen (2005, 300), shared expertise belongs to every stage of the cycle, from creating the context to determining problems, and from analysing the problems to creating new working theories. This requires commitment and a leap into the unknown, not just from students but also from lecturers. The lecturers must be present, available, committed to providing feedback, and ready to work towards objectives. More than anything, lecturers must be prepared to step out of their comfort zones to a zone with no ready-made answers, or even ready-made questions. There cannot be any ready-made answers if we are to aim for innovation.

Feedback to support development

Feedback gathered on the Coordinating a Service Event study unit in late January 2007 showed that the LbD model has been adopted fairly well and accepted as a work method among first-year students. The following open-ended feedback demonstrates that the curriculum succeeded in facilitating the LbD model:

The idea behind the study unit was very good, I felt I'd really DONE something rather than just sat at lectures.

The project was good. I hope there will be more large modules in the future, because they teach you the most.

A good idea and a brave cold start to the autumn. Team-building was inevitable and the team spirit quickly improved when it had to.

The work was effective because the subject and tasks were useful and interesting. My competence has developed on this course, because it made it easier to relate theory to practice. Being allowed to participate in lots of things has made it easier.

Most of the feedback received on project work was positive. In terms of the quality of education, above-average satisfaction was shown in tutoring and the growth of innovativeness. Students were also satisfied with the development of reflective competence as required by the study unit, and considered their knowledge-based and skill-based professional competence to have improved. The best ratings were given to the development of work methods and taking into account the needs of customers, but fairly high points were also awarded to the gaining of skills required for the procession, the application of theoretical knowledge to practical work, and the ability to create new competence.

Some particular areas for improvement that were identified were the evaluation of the study unit and portfolio work.

They didn't tell us enough about what to do and how. LbD didn't work at all in this study unit.

The generic competences and portfolios confuse the studies more than direct them. They should explain the generic competences and their purpose better to students before the studies begin. More guidance is also needed for portfolio work.

The evaluation method is also strange, when you don't get scored on exams but you do on projects, were someone may have done more work than others but everyone gets the same grade.

The study unit was also considered to be too fragmented.

The division of the teaching into small fragments was bizarre. There were big gaps between teaching sessions. It was hard to understand their links to the unit as a whole.

The positive feedback indicates that the study unit implementation is on the right track. In developing implementations we must remember not to develop things to the detriment of the students' success. As a member of the study unit's team of lecturers, I agree with the areas of improvement that were mentioned and will do my best to further the development of the curriculum and the LbD model. The evaluation and feedback practices were confusing due to the large number of lecturers participating in the study unit, and portfolio work probably suffered from the lecturers' lack of knowledge and experience regarding this generic competence evaluation tool. Evaluation processes should probably be developed more systematically towards developmental evaluation, which will require further analyses of the research and writings of evaluation experts. The portfolio work will most likely develop through the experiences gained in the first year of the

use of portfolios in evaluating the generic competences. We should not take this for granted, however; every lecturer should commit to producing and evaluating the generic competences.

Conclusion

Although one of the forty students who provided feedback said that 'LbD has not contributed to my studies in any way', in general the feedback received on the study unit mentioned above confirms my experience and feeling of the fact that teaching and learning according to LbD and the new competence-based core curriculum have mostly been a success. The resources spent on the curriculum reform were definitely not wasted. As a participant in the curriculum project, I am relieved to see that the emphasis has been on the right, big issues. The students' experiences will probably be more comprehensive once they have completed the whole theme. After that, hopefully even that one abovementioned student can state that competence has been created thanks to the LbD model and the new curriculum.

There are plenty of challenges, but the benefits in terms of the implementation of LbD and competence development are clear in comparison with the earlier, fragmented curriculum. Therefore the curriculum can be said to support the implementation of LbD in instruction. Naturally, our development work must continue in order to turn the education, research and regional development activities demanded by the model into a systematic work method that produces useful, regionally developmental innovations and competence in all of Laurea's fields of study and degree programmes.

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Experiences of Implementing the Competence-Based Core Curriculum at Laurea Järvenpää

This article discusses the practical implementation of Laurea's new competence-based core curriculum during the first autumn. The case at hand is Hospitality Management at Laurea Järvenpää, where 20 students started in Tourism and 35 in Service Management in the autumn of 2006. The curriculum for that autumn included the Service Culture Competence theme, consisting of three 10-credit study units. As required by Laurea's new Learning by Developing (LbD) model, most of the teaching was tied to authentic development projects, which took the form of five public events planned and implemented by the students.

The competence-based core curriculum and LbD

In the 2006-2007 academic year, Laurea adopted a new competence-based core curriculum, applying it to students starting in autumn 2006. The new core curriculum is composed of generic competences representing core competences needed in the workplace. The generic competences are ethical competence, globalisation competence, innovative competence, reflective competence and network competence.

The implementation of the core curriculum is supported by the Learning by Developing learning model developed at Laurea. In LbD projects, students learn to understand the demands and work culture of the workplace, and to apply the professional knowledge and skills and the generic competence they have acquired in practice. The aim is to produce learning in individuals and the organisation, and to generate new competence for Laurea and the employment market of the future. Learning is genuine, experiential, creative, research-oriented and based on partnerships created in Laurea's internal and external networks.

Jointly formulated competence-based core curriculum

The Hospitality Management field at Laurea includes three degree programmes: Hotel and Restaurant Management, offered at Leppävaara; Tourism, offered at Järvenpää; and Service Management, offered at both of those units. The programme curricula were formulated in close cooperation between the units, so their structures are very uniform.

The first year for all Hospitality Management degrees involves the Service Culture Competence theme as a whole, and parts of the Business Competence and Leadership Competence themes. The Service Culture theme contains three study units: Coordinating a Service Event, Quality of Customer-Oriented Service and Service Culture, all 10 credits in scope. These three study units were mainly implemented in Järvenpää before Christmas.

Words drawn from a hat

In the autumn of 2006, 55 students began their Bachelor of Hospitality Management studies according to the competence-based core curriculum at Laurea Järvenpää. Of them, 20 were Tourism students and 35 Service Management students. All 35 Service Management students had chosen the Managing Nutritional Services specialisation.

In the second week of study, the students attended an intensive camp in Märkiö, and received an introduction to the new curriculum. At the camp, students were divided into five groups, mixing Tourism and Service Management students in each. The groups drew one or more words out of a hat (quite literally). Inspired by this word and with the assistance of 100 euros in resources provided by Laurea, the groups had to plan, organise and implement a public event. All the study units included in the theme in the autumn semester were centred around this event.

Innovative events

The implementation of the events was scheduled to around Christmas time. The timing was criticised in the autumn, but provided to be a good choice later. The words given in the autumn were modified as the work progressed, and the lecturers' original ideas regarding the future events were modified. Below are the final titles of the events and a short description of each.

God's Fingers (originally The World at Home)

The main idea was to present different religions to students of the upper secondary school in Tikkurila. The event was held in Tikkurila on 8 Decem-

ber 2006 and it began with a round table discussion in an auditorium. The auditorium was packed full with about 500 people, who got to follow a high-level discussion on conceptions of religion between a Hare Krishna, a Muslim, a Jew, a member of the Salvation Army, a Lutheran and a secondary school student. One of the main attractions of the event was TV personality Ruben Stiller. After the round table, attendants continued to the school's gym, where there were colourful stalls presenting different religions, entertainment for students and Christmas-themed fare.

In Other Eyes (originally The Beautiful World of Art)

The main idea of the event was to organise an exhibition of art by visually impaired children. The works of art were created at the Finnish Federation of the Visually Impaired during a 'Different School Day' managed by the team's students. The event was recorded on video and broadcast later at the exhibition. The atmospheric exhibition was held at Kerava Manor on 12 December 2006. Guests were led by an avenue of candles to the venue that contained mulled wine and biscuits, a beautiful display of the children's work, examples of teaching materials used for visually impaired children, video displays and interviews with visually impaired kids.

Mood for Dancing (originally Tango for Youth)

The main idea was to organise an event for 13-16-year-olds presenting the world of dance and young people's interest in it. The event was organised at Järvenpää Vocational Institute on 14 December 2006. The main partner for the dance even was Keto, the Central Uusimaa Dance School, whose dancers took care of the dance teaching and demonstrations. One of the main attractions was the compere, Jani Toivola, known from his work as the presenter of the Idols TV programme. In addition to dance teaching and demonstration, this event also included plenty to eat and drink, as well as a music quiz.

Track-tori (originally Tractor)

Having received this challenging word, the team started innovatively by breaking it down into *track* and *tori* (=market). A wide-ranging youth culture event was organised at the Nikkari School in Kerava, introducing some of the operators and trends in Kerava's youth culture in the form of various performances and workshops. In a round table discussion, long jumper Tommi Evilä, Idols winner Ilkka Jääskeläinen, Tommy Lindholm of the Don Johnson Big Band and actress Mira Kivilä talked about their interests. In

addition there was a flea market, the Track Café and a chill-out music corner. Two of the partner organisations were the Kerava Youth Centre and the Ministry of Education.

A Thousand Lights are Lit (A Thousand Lights are Lit)

Inspired by this line from a Christmas carol, the team organised a photography contest for higher education students in Uusimaa. The theme was the title of the event. The contest period was 25 September-28 November 2006 and there were 60 entries. The opening of the photography exhibition and the award ceremony were held at Johto Café in Kamppi shopping centre, Helsinki. The exhibition was inaugurated and awards were handed out by Laurea President Pentti Rauhala on 16 December 2006. The excellent prizes included a digital camera and glass products from Iittala. The exhibition was on until 15 January 2007 and the public were invited to vote for their favourites.

The project tool as an aid to planning and reporting

The planning and implementation of the events organised in accordance with the LbD model were tied to studies so that there were occasions that offered challenges that were addressed using individual reasoning resources. Throughout the autumn, the students participated in a continuous problem-solving process, with a focus on research, development and generating new competence.

Knowledge and skills were closely interwoven through lectures and assignments that supported the event planning project, which was undergoing all the time. The teamwork and learning forum was the Optima online learning environment. Laurea's network includes a ready-made LbD project tool that directs and can be used to direct project work. The tool splits the project into different phase folders (planning, implementation, evaluation, documentation), and the subfolders for each phase direct the work included in it. The beginning of each folder includes relevant questions that the teams seek to answer using their day-to-day knowledge; this increases interest and motivation and helps in understanding the phase as a whole. Next, the folder contains supplementary materials in the form of theory and practical cases that help the teams to find well-founded answers to the questions. In addition, each folder contains tools related to the phase, with instructions, such as a Mind Map template, a Gantt chart, a financing plan model, contract and minutes models, etc. Each event team had its own project tool folder and also read-only rights to the other teams' folders.

The lectures were used to ponder the core concepts in event planning, providing a knowledge base for the assignments and linking back to the project tool's phases. The target-orientation of the learning and study process became evident in the documentation included in the project tool and visible to all teams. The documentation was studied in order at workshops. Each event team had a corresponding commenting team, which prepared questions and comments on the event team's documentation. Workshops were used to compile things into whole entities, identify problems and make more specific questions to direct the progress of the event planning. If necessary, students were guided onto new paths for solving problems or building competence.

The project tool also included a discussion forum for students and tutors, but its use was scant because everyone met almost daily. At the different stages of the project, students were asked to provide open-ended feedback on each other's teamwork and to evaluate their own work in the teams using a feedback form. The feedback was used in discussions between lecturers and students on the phenomena that affected the work positively, and on measures that might lead to developments in teamwork. At the end, all the members of each team got together for a peer evaluation, grading each member for their teamwork and providing written explanations of their grades.

Knowledge-based and skill-based professional competence in Tourism and Managing Nutritional Services

Each week, Wednesday afternoons were reserved for subject-specific teaching. Where possible, this was tied to the actual theme of the week. As the students were taking the first steps of their professional growth process, the subject-specific teaching was largely related to familiarisation with workplace practices. Tourism students visited several tourism companies or heard lectures by company representatives at Järvenpää. They assisted in the organisation of two tourism events and learnt about managing customer situations and using interaction skills. In addition there were assignments, and at the end all Tourism students worked at the Nordic Travel Fair at their chosen company's stall.

As a whole the subject-specific studies with their orientation techniques were really illustrative, interesting and useful. Most importantly, they provided concrete professional knowledge and skills needed in the field. (Tourism student 2006)

Students of Managing Nutritional Services became familiar with the main methods and tools of service production in the teaching kitchen at Järvenpää on Wednesdays. In this comparative and experimental learning process, theory

formed a basis for explaining the causes and consequences of practical phenomena. The background of students who had completed vocational qualifications was taken into account and they were given specific roles in planning, guiding and evaluating the studies.

In addition the students increased their competence by completing basic service process tasks in professional kitchens run as businesses in the catering service sector, for two days every other week. In these authentic operating environments they learnt to understand the phases of the service process and the factors that affect them; they improved their skills; and they tested their theoretical knowledge in an industrial kitchen. The studies aimed to support the formation of personal competence objectives and a personal study plan, and to awaken interest in the future themes in business and leadership competence, where the same places could be used as project environments. Assessment was based on self-evaluation, peer evaluation and shared evaluation, encompassing the competence of individuals and groups.

My contribution to the subject-specific studies was to find information on the subject and then apply it in my kitchen tasks. In the kitchen tasks I tried to follow the instructions and learn new things every time. In the practical work I received new experiences of customer service and how to produce it, and of the importance of having the right attitude when you work with people and feed them. (Managing Nutritional Services student 2006)

The subject-specific studies were very interesting. It was challenging to plan meals and take on the role of teacher in the kitchen. It is surprisingly difficult to teach and explain things to a person who may never have done things that I take for granted in the kitchen. (Managing Nutritional Services student 2006)

Portfolios as a learning and evaluation tool

Students have access to degree-programme- and tutor-group-specific portfolio folders in Optima. Within each tutor group, each student has a personal folder with a subfolder for each study unit. Here students can save pieces of work that are meant for others to read. The folders are accessible to those who receive read-only rights to them. In addition each student has a personal folder to which no one else has access.

The aim of portfolio work is to support learning, provide evidence of one's own learning and work, linking the knowledge, skills and experiences received from practical work and event planning to the studies at the university of applied sciences (and vice versa), and improve self-evaluation.

The portfolio makes learning, the learning process and competence development visible to the student and to others. In the study unit folders, students save individual assignments they complete as part of the subject-specific studies, as well as their self-evaluations and peer evaluations that are meant for others to see. At the end of each study unit, students write a professional growth essay to demonstrate their development during the study unit.

Making a study unit portfolio furthers the studies effectively, because students have to go back through their knowledge and link it to the correct contexts. They also have to see the study unit process as a whole, linking meta-competence (generic competences) to the professional setting. As the meta-competences develop, the students' performance generally improves and their independent learning skills develop. Working on their portfolios makes the students aware of their own learning and development needs. At the same time they see their personal study programmes as a succession of study units.

Detailed syllabuses for each study unit are available online before they begin. The syllabus contains descriptions of the content and aims of the study unit, a timetable, a description of the learning process, bibliographies, evaluation contents and criteria, and delineations of the general workplace skills obtained. It defines the generic competence to be evaluated as concretely as possible and linked to other learning. Students are directed to complete their study unit portfolios (professional growth essays) using these elements as a basis. The main tutors of the study unit read the essays, after which all the lecturers from the study unit conduct an evaluation discussion, grading students for their subject-specific competence and awarding them a pass/fail grade on the specified generic competence. Thus the portfolio integrates teaching and evaluation.

Evaluation

During that autumn, it is almost certain that all participants – lecturers, students and employer representatives – experienced professional growth. The most important thing was team-based learning, followed by increases in the teams' internal motivation and collaboration, with different experts working together in different roles. In LbD we talk of exceeding oneself and even of learning with no upper limits. These things could be perceived by everyone who participated in the autumn's events. The main challenge for the future will probably be to identify and carry out increasingly challenging development projects.

Working in Optima demanded that students be independent, active and responsible for their own studies and learning. It forced them to study reflectively and

interactively. The discussion forum was not interesting to students, because they met each other and their tutors regularly.

During the autumn I have understood the point of Laurea's new curriculum, at least on general terms. I find learning in authentic workplace projects to be highly motivating. The responsibility that was given to students in the projects motivated us to learn and taught us self-directedness. I have realised that not everything can be learnt through theory. Team-working skills can only be acquired by working in teams on genuine projects. I feel that the curriculum responds well to today's workplace challenges and requirements. (Tourism student 2006)

This autumn I have learnt, among other things, to consider things from many different perspectives, and to map risks. We have also gone through different ways of coming up with new ideas. We practised acquiring information, for example in the assignments received during globalisation lectures, where we had to find information on a subject and analyse other people's opinions. (Managing Nutritional Services student 2006.)

Tarja Rinne, Master of Social Sciences, Senior Lecturer

Laurea University of Applied Sciences

Learning by the LbD Model

What do we do?

We study the entrepreneurship themes offered at Laurea Lohja, according to the LbD model, in an authentic workplace development project. Our partner is a small-scale industry company in Uusimaa, for whom we are conducting a practical research and development project using work analysis and process descriptions, among other methods. The project is being run to improve HR development and management. To this extensive project we have linked our specialisation studies and our theses, which will lead to the production of a practical manager's databank for the company to use.

How do we learn?

In practice we are taking study units belonging to the Human Resource Management specialisation option by analysing our partner company's development areas in a theoretical framework we determined ourselves. On the basis of the theory we have learnt and field studies we have made, we will make development proposals to the company. This structure helps us to understand the process as a whole and makes our theoretical studies more meaningful. Regular contact with the partner company has also taught us interaction skills and shown us the importance of networking in a whole new way.

Learning in our team takes place through identifying problems, making our own concepts and explanations, and finding information independently. We try to compile the information we have found into larger entities that we can then use in planning practical applications. In other words, this is research-oriented learning in its purest form. The role of the tutor in giving feedback and providing coaching in our learning process has significantly improved the quality of our learning.

Because the learning model does not provide us with digested information from teachers or textbooks, our information gathering skills have improved; in addition to actively using Laurea's library services, we have found information online and also simply by asking the people who know – experts and employers from various sectors – either face to face or by email.

In terms of teamwork, learning to cooperate, take initiatives and work self-directedly helps in sharing the load and using resources equitably and in using each person's strengths in a meaningful way. Some things we have learnt through mistakes, but they are probably the things we have learnt the best. As we were the 'guinea pigs' of the entrepreneurship-related themes, there was no ready-made operating model, so we have developed the process and ourselves with the support of the tutor. It has also been important to understand that as well as aiming for the destination, we should enjoy the journey of learning – this can be easy to forget when unrealistic schedules are made and there is too much stress. We would like to see a more innovative and brave approach to the practical implementations to ensure the learning outcomes are fulfilled, so that is an area for future improvement.

What do we learn in comparison with the traditional study model (lectures, assignments, exam)?

In the traditional model, subject matters were often left as separate performance-oriented tasks, with a focus on achieving a grade and gathering credits. The added value brought by Learning by Developing to our team in comparison with older teaching practices is indicated by the following personal experiences:

"I have found Learning by Developing to be a very effective and holistic way of learning new things. Immediately applying the things we have learnt into practice has provided us with the kind of workplace skills that were lacking from the old study model. Our organisational skills, methodicalness, ability to work under pressure, flexibility and decisiveness must be developed further."

The LbD model suits me personally better than the old model because it is not tied to a specific time and place like traditional lectures were. Freedom, responsibility, creativity, research, producing new knowledge and meeting people from outside the university have motivated me to find my own R&D objects and to develop further.

The traditional learning model at the early stages of my Bachelor of Business Administration studies was an excellent introduction to the university of applied sciences, but once my studies had progressed a bit, completing the specialisation option in the LbD environment seemed the most sensible solution for my learning profile. The workload in LbD is significantly greater than in traditional classroom-based teaching, and the content of the work is also demanding due to the agreement made with the external partner. You also have to be prepared to compromise on your leisure plans and other interests if you are going to be 110 per cent committed to producing results and keeping your customer promises. My

current circumstances allow me to study full-time so for a workaholic like me this learning model is the best thing to sink my teeth into by starting to dig up information and refine it further. (Marianne Nurmi)

Thinking about my future working life, I feel I am better prepared thanks to the LbD model than I would have been by just attending traditional lecture series. For me, challenges are motivational, and I must admit that there have been a few. The workload has been significantly greater than in the two years of traditional study I completed before.

As guinea pigs we have encountered many major challenges and stumbling blocks, for instance in finding the right work method and realising the importance of project planning. At the end of each phase we have been able to say 'We did these things in the wrong order' or 'We should do this differently next time.' We have learnt from our mistakes and keep developing, which is always visible in the next task. This is very rewarding. Traditional course implementations do not support personal feedback, learning from mistakes or continuous development as effectively.

Working with the same team colleague has taught us a lot about our own team-working skills, and our competence-related strengths and weaknesses. Open dialogue and ample feedback between the team members has allowed us to develop our weaknesses and strengths. In teamwork carried out on traditional courses, half the time was wasted on getting to know the other team members and learning work methods, so there was never time for a conscious utilisation of each member's strengths.

The workload and the challenges have also brought a degree of freedom, which I have found to be motivational for my studies. This freedom, coupled with Learning by Developing, has allowed me to distinguish myself from other Bachelor of Business Administration students. Although the work is not over yet, I know I have chosen the right study path. The LbD model has provided me with diverse competence In addition to theoretical knowledge. (Tea Sutinen)

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In the higher education arena of the Helsinki metropolitan area, Laurea plays a significant societal role as a research-oriented developer that produces added value and competence for its operating environment and influences its surroundings. The region contains a significant cluster of higher education institutions, research institutions, innovative businesses and participants in the national innovation system, making up both formal and informal innovation networks. If higher education is to be based on the demands of the employment market and its development, universities of applied sciences and employers must work closely together.

Laurea defines itself as a university of applied sciences specialising in service innovations, whose specific task is to foster the international competitiveness and regional development of the Helsinki metropolitan area. New kinds of rapidly changing operating environments and their impact on professional competence in the future pose challenges for competence development, which Laurea's competence-based core curriculum strives to anticipate. At a university of applied sciences, it is essential that the creation of new knowledge and understanding also become explicit in the form of skilful performance. Some of the area's central challenges are competence generation, competence dissemination and the development of cooperative networks.

Laurea's strategic choice is to integrate its three main tasks – education, research and development, and regional development. This means making a solid connection between the three tasks such that all students, lecturers and other staff can participate in all three at the same time. Laurea has created the Learning by Developing (LbD) model as a tool for reaching its strategic intent and implementing its strategies in practice. In the LbD model, the innovation system permeates the students' everyday lives. As an innovative model, LbD also implied a reform of the competence-based curriculum. By increasing the flexibility of curriculum structures, Laurea has made workplace-oriented research and development work based on its strategic choices an essential part of the students' studies. This improves Laurea's ability to respond to topical regional challenges.

This publication describes the main elements of Laurea's competence-based core curriculum. It provides a vision into the extensive and challenging process that led to a new competence-based curriculum of which we can be proud. The publication's authors are experts from Laurea.

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