



Towards a Learning and Competence Creating Ecosystem LCCE®

Edited by
Sinikka Ruohonen and
Leena Mäkelä-Marttinen

 **Kymenlaakson**
ammattikorkeakoulu
University of Applied Sciences

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Adopting the Learning and Competence

Creating Ecosystem as the
New Concept of Practise throughout
**Kymenlaakso University
of Applied Sciences**



Text:

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Finland is currently undergoing a troublesome recession which necessitates a critical scrutiny of the existing practices and areas of emphasis in the Finnish economy. In the latest assessments, it seems that Finland's economic growth and rise out of recession will, to a great extent, depend on innovation and expertise. In industrial production, the most important features that are coming to the forefront are those of quality, design, logistics, business concepts, and services connected to products. Technological innovations will be matched by innovations based on client and user needs, thus bringing added value to businesses. One key element in creating success will be the development of stimulating and innovative environments where representatives of different professions get a chance to meet and interact. This development has also been noted at the government level, and the Ministry of Education and Culture is strongly encouraging the development of innovation within higher education, alongside research and development.

At the end of 2007, the management of Kymenlaakso University of Applied Sciences decided that KymiDesign & Business, an innovation cluster developed by the Faculty of International Business and Culture, should apply for a Centre of Excellence nomination due to its exceptionally extensive project work based on the needs of working life and its regional impact. Later, early in the year 2009, that decision was adjusted so that the nomination was sought for the "Learning and Competence Creating Ecosystem" (LCCE) developed by the faculty. The LCCE® shows the connection between research, development and innovation activity, and teaching that has been developed by the faculty over several years.

The general strategy for Kymenlaakso University of Applied Sciences has recently been revised taking into consideration the changes in our environment and in working life, as well as on the state of business life in Kymenlaakso. The most tangible expressions of the structural change are the difficulties experienced by paper and pulp industries, which have traditionally been a supporting pillar for the region. Amidst this drastic structural change, it is important to find new activities to replace the ones that

have been shut down. Cooperation between institutions of higher education and small and medium size industry has a significant role in this situation. The region needs innovative environments, such as Kasarminmäki campus where interaction can be practised, that can in turn influence and revitalise the whole region.

Perceiving the importance of the LCCE® concept to the whole Kymenlaakso area and all the areas of education as well as research, development and innovations in Kymenlaakso University of Applied Sciences, it has been decided to extend the ecosystem concept also to our other faculties. In addition to KymiDesign & Business, the campus structures of the university, and the expertise and innovation clusters of KymiCare and KymiTechnology present a good framework for development. The competence based curriculum model included in the concept, open to project activity, is also currently being processed in all the faculties. However, each faculty has its own culture, forms of training and development work, as well as its own aims that provide a basis from which a number of different ecosystem models can be expected to rise.

A considerable number of people from Kymenlaakso University of Applied Sciences, along with the Advisory Council of the Faculty of International Business and Culture, as well as some collaborators from outside the organisation, have been involved in the writing of the application for the Centre of Excellence nomination. On behalf of Kymenlaakso University of Applied Sciences, I would like to express my gratitude to everyone who has participated in the creation of the concept, and contributed to the writing of the application. Hopefully the application for the Centre of Excellence status will reach the award levels, but even if this does not happen, the ecosystem concept will have a significant influence on directing the functioning of the university and its organisational culture. It will ensure that we will continue to be champions of success. ●●●

Ragnar Lundqvist

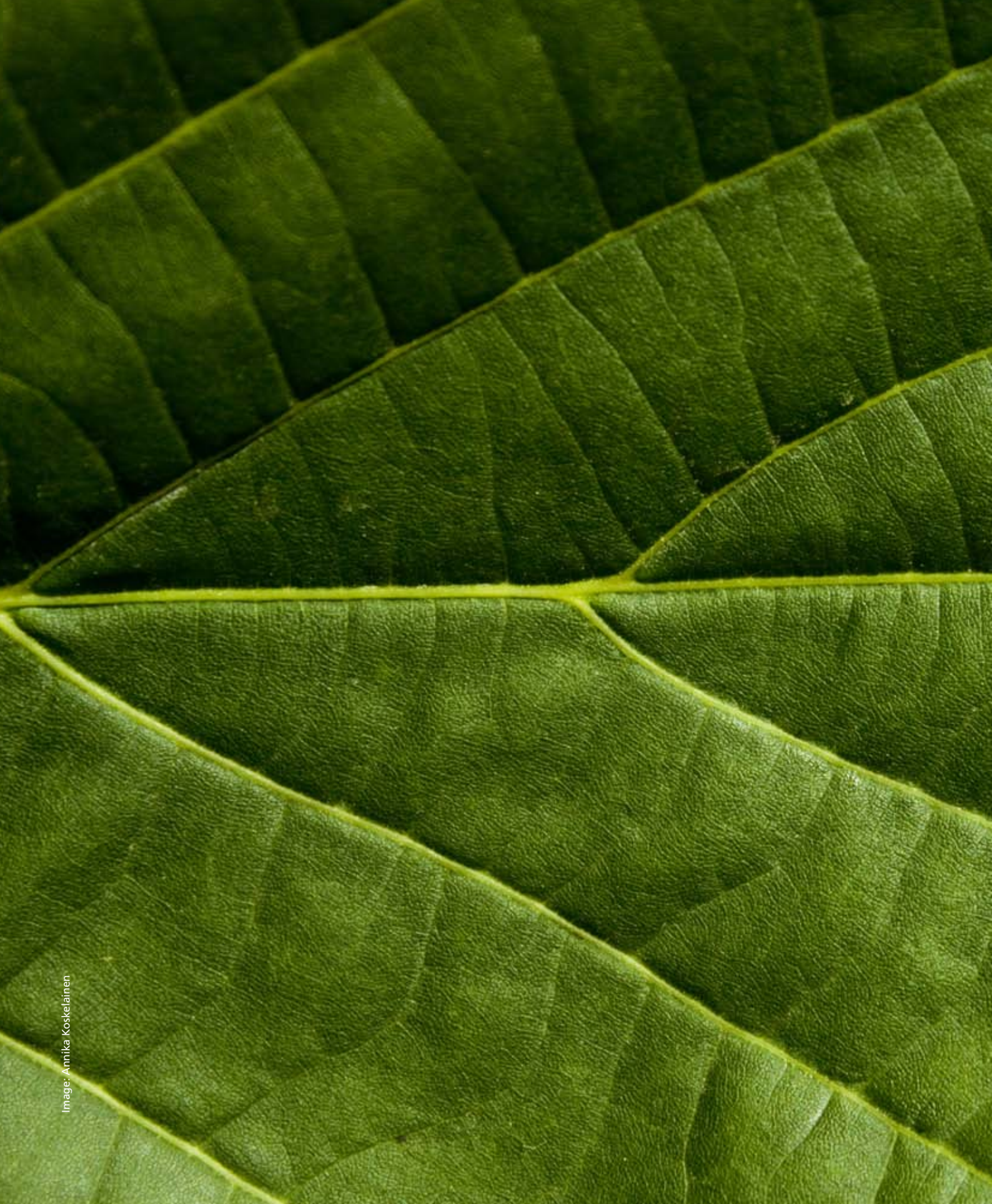


Image: Annika Koskelainen

A close-up photograph of a green leaf, showing the intricate network of veins. The veins are a lighter shade of green, creating a grid-like pattern across the darker green leaf surface. The lighting is soft, highlighting the texture of the leaf's surface.

1. Theoretical Background for the Development of the LCCE® Concept

The Design of Learning



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According to a 30-year-old model of good learning and teaching, the student must be oriented and motivated towards the subject matter in the first stage of learning. Then, as early as in the second stage, the student should be guided to perform concrete activities connected to the goals of the learning process. Action, in other words the physical stage of learning, should thus start immediately after forming the basis for learning through orientation. In the third stage, the subject matter should be brought under verbal treatment, in which the students discuss it using the concepts that are essential for understanding the matter at hand. In discussion, the subject matter targeted for learning is internalised to such an extent that the students are able to move on to the fourth, thinking stage, where they can perform independent deduction concerning the subject matter and their own activity with regard to the assignment. The fifth and final phase is automation, whereby the subject matter has been understood and practised so thoroughly that the learners can handle it in their sleep (Galperin, 1979).

The most significant insight gained from this model concerns the impossibility of omitting even a single phase without the learning results being negatively affected. With such omissions, the construction of learning and

skill will simply remain incomplete. Sometimes teaching stops at the first phase of the model, and moving on with the stages of learning is left to the learner's devices alone. Vocational training should reach the level of action at the very least, but not at the expense of acquiring knowledge, as is sometimes the case. On the basis of this model, the real challenge for development is encountered in the stage of verbal treatment, where the student's epistemic skills are starting to develop, and the desired expertise is attained.

All too often, learning is limited to passive receiving or the level of *learning by being*. *Learning by doing* is reached when the aim is acquisition of defined concrete skills. The skills of verbal analysis and thinking, on the other hand, require conversation, interaction, construction of shared and personal knowledge, and combining theory with practice. This can be characterised as *learning by making*, which enables the production of expertise and professional development.

Galperin's pedagogical model can be criticised as a product of the industrial age. It is a narrow, teacher-dominated and institution-centred view of teaching and learning. Its conception of a curriculum is closed, classroom-based, subject and profession specific. In this model, all activities that produce knowledge and skills are carried out according to instruc-

tions on a minute-by minute schedule. In the information and learning environments of the information age it is hopelessly outdated. Still, the realisations concerning the importance of the learning stages contained in this model, and the ideas on the functions of social interactions and collective construction of knowledge, remain as enduring principles.

Since institutes of learning no longer monopolise knowledge and teaching in their local environments as happened in the past to a certain degree, curricula must be built according to the principles of open information and expertise environments. We must rethink the contexts, environments and spaces for producing learning and expertise, as well as the ways to guide and assess learning.

Contexts of Education and the Spaces for Learning

In the context of education, learning is guided by the curriculum. This should reflect the needs of working life in proportion to the emphasis given to learning and teaching professional skills (see Image 1, left half). In working life, curricula do not exist, unless we count managerial systems and staff development and training plans serving such systems. Management of learning, as a systematic structure similar to the management of knowledge and skill, remains to be discovered. As a rule, employees are alone with their learning-related problems, as the employer is often only interested in training the employee to produce

results more effectively. However, learning at work does happen, with the employee learning from colleagues, subordinates and managers through practical work, or practice. Professional development is thus regulated by the context of work, and it is not always seen as learning (see Image 1, right half).

Bringing education and work closer to each other requires the curriculum to be designed so as to connect with the world of expertise and work, without losing the benefits of systematic training and study. Instead of the professional and training content being identical, the connection between work and training is sought through *functional* equivalence, which does not merely entail rewriting curricula, but also profound reshaping of pedagogical practice. It is not sufficient for the curriculum to define the content, framework and goals of teaching only, leaving each teacher to realise these in their own way, independent of others. Devising curricula that are based on working life, and using project and problem based learning, require co-operative planning on all levels of integrating training and work.

Image 1 illustrates in a nutshell what learning is primarily about. Information is transformed, through learning that combines theory and practice, into experience and personal knowledge. Before this, both theory and practice are, from the student's point of view, potential knowledge which the student is expected to assimilate. Instead of rote, memorised learning and assignments out of context, education should produce integrated and lasting experi-

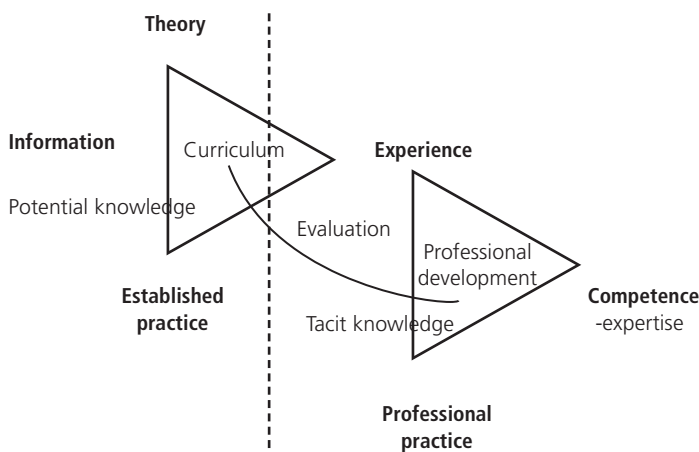


Image1. The Context for an Action-based Curriculum

ential knowledge, which the students can use as the basis for developing as professionals in working life. In the daily practice of the workplace, the students will come in contact with silent knowledge carried by other workers and the workplace community. In their own practice (targets, tools, and materials for the work, doing alone or with others), the students develop their own expertise, which becomes a growing part of personal knowledge and skill, or the so-called tacit knowledge. The end result is high-level competence, skill and expertise.

In education we face the dilemma of trying to attain the professional way of acting and thinking during the time of study. The problem has been approached through the conceptualisation and implementation of study environments, with the curriculum being seen as an information and knowledge environment that supports the student's action. In terms of planning, the idea of learning environments offers primarily guidelines and a frame of reference, within which different educational programs and products are offered. Instead of shaping education into products, we should state the question of *producing space* for learning, which would help us to reach in our pedagogical planning all the factors that affect learning and production of expertise in a curriculum that integrates the worlds of work and education.

Trialectics of Producing Space

The French sociologist and philosopher Henri Lefebvre (1991) has studied the development of society and the lifestyle changes in urbanisation and the countryside as a process of restructuring social space. Space has its physical attributes, but it also contains dimensions that express social order and cultural values. A trialectic interaction exists between physical, mental and social spaces, and they also have their external, virtual and global connections. Trialectics expresses the interactional relationships between three ontological states, *physical, mental and social*. Other principles of space are its *spatiality* and *temporality*. Spatiality means considering all the factors that have influence in space, in other words space is experienced rather than perceived. Temporality refers to the cyclic, repetitive progression of events,

rather than to chronological time, which proceeds linearly and unidirectionally.

Space is something that is produced, and something that does not exist only for itself. According to Lefebvre, it is necessary to distinguish between two fundamental types, absolute and abstract space. Absolute space reflects the existing, prevailing order, where things, people, goods and services exist for defined purposes, routines and repetitions. Abstract space, on the other hand, is the means of realising wishes, goals and desired end states. Tension between abstract and absolute space means conflict, struggle and negotiation in order to reach goals.

The ontological dimensions of space are spatial practice, representations of space and spaces for representation. Spatiality is connected to the physical, concrete and experienced practice in which people live and function. Representations of space are concepts, theories, models, maps and plans, which are used to effect change, and which organise the abstract space. Spaces for representation are individual and unique mental images of spaces, incorporating but also resisting or surpassing abstractions. If models and plans do not become personally experienced spaces, they will not reach the level of mental images, and they will evoke resistance.

Therefore, education and learning also have their spaces, times, places and situations, where individual and collective development and change become possible. Instead of producing education and treating education as a product in its own right, it is important to produce space for learning, enabling development or the production of the expert skills of the professional. For example, in theories of life-long learning, the transition phases of childhood, youth and adulthood are recognised, along with developmental tasks connected to these, providing opportunities for learning and forming identity (e.g. Erikson, 1968; Havighurst, 1972; Levinson et al, 1978; Sugarman, 1986). The essential component is movement from one space to another, from the old to the new, and from the current to the future life space.

The Space for Learning, the Learning Environment, and the Curriculum

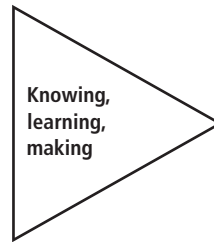
The idea of space for learning can be traced back to Lewin's field theory (1951), and the view on spaces for everyday life (Kolb & Kolb, 2008). Living space means a holistic, psychosocially and subjectively experienced environment in which an individual lives and acts. The idea is complemented by Bronfenbrenner's (1977) ecological theory on the stages of human development and systemic levels. A micro-system (e.g. classroom), meso-system (e.g. school environment), exo-system (e.g. educational policies) and macro-system (e.g. cultural and educational system) provide a framework, within which it is possible to observe the experiences and development of the learner, influenced by the social system and its actions. Vygotsky's (1978) theory on action and the zone of proximal development, and Laven's and Wenger's (1991) theory on social and situational learning, provide further breadth and depth to the idea that life spaces are not only physical, material or concrete places where learning happens. Mental, social and cultural spaces have an equally important effect on shaping an individual's experience, and thus on learning.

Nonaka's (1994) theory on transformations between explicit and implicit knowledge raises the group as the subject in the process of creating knowledge. The stages of processing knowledge (socialisation, externalisation, combination, internalisation – the SECI process) happen in spaces of physical, mental and virtual interaction, or so-called *ba* spaces (Nonaka & Konno, 1998), where individuals work alone, in pairs, and in groups. It is essential to create the space, time, place and situations where the production of knowledge, learning and know-how becomes possible.

Barab and Roth (2006) have developed a theory on curricula, founded on the ecologically based production of competence. The ecology of knowledge and expertise is built on three basic concepts. These are affordance networks, effectivity sets and life-worlds (see Image 2). The theory emphasises ontological rather than epistemological factors, focussing

Affordance networks

(knowledge, action, experiences)



Life-worlds

(practice, facts, realities)

Effectivity sets

(competence, expertise, skills)

on the world of practical action, both individual and collective. Participation and becoming participant, both in terms of theoretical knowledge and in terms of practical skills, are defined through the available action environment, and through acting within it.

An *affordance network* consists of facts, concepts, tools, methods, practices, tasks, agreements, and also of people. The network enables and supports the intentional action of the student, which is based on aspiring towards meaningful goals, defined with due consideration for time and space. The network and its constituent parts enable activity which can be understood primarily as the *minimal ontology* of supporting learning (minimal ontology: see images 1 and 3). In other words, the pedagogical core of the affordance network is supporting the participation of the student in the activity of the network, helping the student to observe information offered by the environment, and creating the necessary prerequisites for the acquisition of knowledge. This is best accomplished through problem-solving which transforms individual experience.

Describing the concept of *effectivity sets*, Barab and Roth refer to Schaffer's (2004) idea of an epistemic frame. Students should be supported so that they can create for themselves an expert's epistemic frame, which should be as close to professional thinking and action as possible. This should be acquired during training, not after it. Effectivity sets are thus qualities which are learned in transactions between the individual and the environment, and which enable the development of expertise.

◀ Image 2. The Ecological Dimensions of Knowledge and Know-how (see Poikela, 2006)

In other words, students should be trained by developing competences which they will need in their professional future.

Life-world is connected to the everyday lives of individuals, functionally attached to the environment but experienced in different ways. Although the material environment is the same, personal experiences can be different, even opposite. According to Barb and Roth, the content of any life-world depends on both the individual's effectivity sets and the available affordance networks. Action results in the evolution of both the individual's life-world and the means of communicating with others. The basic goal of education is to support in the best possible way the students' developing personal life-worlds, so that they will interlace with the life-worlds of more knowledgeable persons in socially acceptable ways.

Affordances can be understood as spaces which include the physical space, along with the resources and possibilities of spatial and virtual action. Effectivity sets are connected to the creation of mental space, epistemic work and cognitive capacity. Life-worlds connect the participants to social space, to different socio-cultural realities and to ethical bases. The minimal ontology described by Barab and Roth can thus be understood as spaces of trialectic learning, having the physical, mental and social dimensions of space. The creation of these spaces should be taken into account in design.

Spaces for Learning and Design Research

For the student, the curriculum is primarily an environment of information, knowledge and learning. For the teacher, the curriculum is an active process which helps to define the teacher's work. The process has its participants (students), its subjects (teachers) and its owners (educational units, institutes of education). Both the teacher's and the student's viewpoints must be simultaneously taken into account in planning. There is no shortcut to the space for learning, though. Its creation requires both research and development, which are combined in the principles and practices of design research.

The complexity of the phenomena connected to learning and the constant flux happening in the environments cause a need to find new methodological approaches to studying complexity. Design research is conducted in natural circumstances, where the researcher can also act as designer, with the aim of developing or creating new practices, and of improving theory. It aims to integrate known and hypothetical solutions, so that best possible solutions can be reached through reflective testing and improvement in procedures. Design research is excellently suited for studying and developing the contexts, environments and real conditions of learning, as well as the innovative curricula that produce expertise (Brown, 1992; Edelson, 2002; Collins, Joseph & Bielaczyc, 2004).

For the study of learning and the development of environments and spaces, a hypothetical model can be presented which aims to combine the learning environment idea of the ecological curriculum and the trialectics of pedagogical production of space. Image 3 depicts the zones of learning, which are physical (e.g. workshop, classroom), social (e.g. type of group, communication relationships), and cultural (e.g. "the rules of the house", professional culture) learning environments. The environments define the context and help to define the goals of learning at any given moment, as well as what the conditions for realising these goals are.

In the physical environment, the primary goal of learning can be the adaptation of spatial practices and the study of mental models, and at the same time also the development of social skills. The primacy of the social environment brings social skills into the focal point, and it is also connected to the creation of mental models, with the material practice acting as an influencing factor in the background. At the centre point of the cultural learning environment are principles, facts and beliefs connected to practices, artefacts, values and ethical bases. Thus the zones of learning, depicting different environments, provide the background and define the space where learning becomes possible. Since the environments are open, a more limited concept of the space for learning is also needed for the purposes of

research and development, to better match the requirements of planning.

In Image 3, the spaces for learning have been defined as existing on the surface areas where the zones of learning meet. In the spatial-social space for learning (1), crucial factors are the functional and social relationships to the subject matter, to the tools and the co-actors, which shape the students' experience. This brings up questions regarding the architecture of space, functionality, and use of sensory information that spatial and social learning related to work and professionalism might require.

In the social-cultural space for learning (2), the most crucial factor is learning to handle different models of action and thought, to work with different people and to solve also ethically challenging problems. The main question is what kind of thinking, logic, co-operative and problem solving skills are expected of a professional in the changing situations of their future working-life.

The cultural-virtual space for learning (3) opens a connection to a limitless world of information and knowledge, teaching the students to work in a network independent of time and space, and to study things with people they have never met. The questions that come up concern the kind of skills that the professionals in the field as well as global actors will be increasingly needing, including information handling and media skills, skills in using, creating and evaluating information, and skills in ethical practice.

The virtual-contextual space for learning (4), as educational technology and as a tool

for creating simulations, has been designed for the purposes of developing acquisition and creation of knowledge, maintaining interaction, reflective problem solving and critical assessment. Compared to the other spaces for learning, it differs from them in that the spatial, social and cultural factors of space must be re-structured and re-created in it. The most fundamental question is what kinds of new spatial, social and cultural practices the net and the networks will produce, and how they can be used to create realistic learning environments, and to support the learning that happens in real environments.

The purpose of design research is to observe, recognise, plan, implement and assess all the factors that are needed in the production of the desired abstract space. In other words, it aims to describe the qualities of the learning environments and spaces that enable the action of the learner, the guiding of learning and the production of expertise. The physical/spatial, mental/social and cultural/virtual architecture of space requires a clear understanding of the basis of learning as action, of the principles of guiding learning, and of assessment and management.

Reflective Guidance of Learning as Action in Space and Time

Utilising space as a resource that supports and directs learning is a very experiential matter from the learner's point of view. Therefore, learning happening in this context can be observed with the help of theories on experien-

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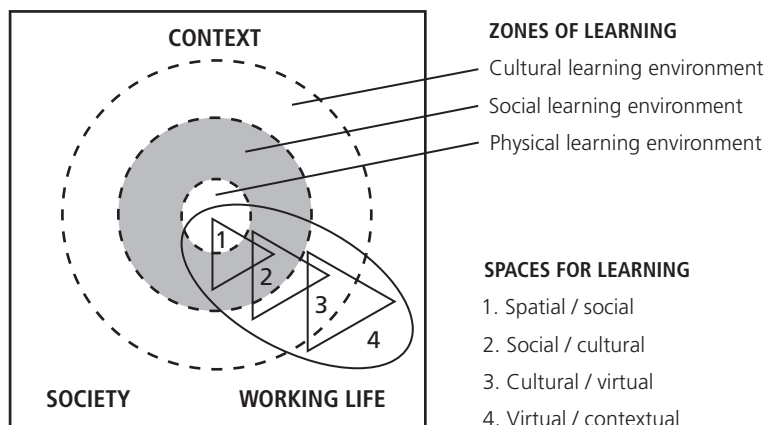


Image 3. The Zones and Spaces for Learning

tial and reflective learning. The core of learning is reflection, which is the key to both guiding the action of the student and to understanding assessment. According to Kolb (1984), reflection is observation and analysis of previous or acquired experience, performed either alone, with other students, or with an instructor.

Concrete experience is both the starting point of learning and a result which follows from a cyclic learning process happening in time and space (see Image 4). There is tension in the relationship between reflective observation and the learner's external action, with the active testing of what has been learned. Its function is to maintain learning as an activity between doing and thinking. Reflection is followed by conceptualisation, which can be accomplished by creating new combinations of previous knowledge, and by adding new knowledge to it. Conceptualisation is in a dialectic relationship with previous and anticipated experience, which is reached through action and experiment. The result is a new experience, which enriches, deepens, or renews the previous experience, and creates a new basis for the deepening repetition of the cycle.

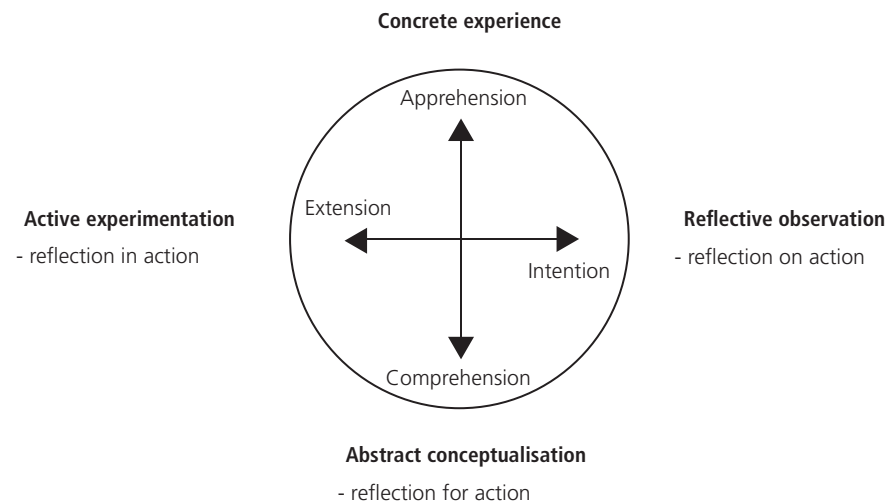
Kolb has been accused of considering reflection only partially and only as one stage in the cycle. Schön (1983) also connects reflection to action on the basis that action always includes breaks and situations that offer opportunities to think. Reflection is thus pos-

sible both in the course of action (reflection **in** action) and after the action has happened (reflection **on** action). According to Boud et al. (1985) and McAlpine et al. (1999), reflection can also happen in the stage of conceptualisation, where it means careful mental preparation for action (reflection **for** action). Therefore, the image of experiential learning can be further clarified (Image 4) by adding reflection to those of its stages that produce learning.

The most comprehensive definitions of reflection, reflecting and reflectiveness have been offered by Mezirow (1981; 1991). According to him, reflectiveness is a prerequisite for learning. Reflection starts with the perception and recognition of affects, emotions and sensations, extending through concept formation all the way to theoretical reflectiveness. Reflection is aimed at the content to be studied, as well as action processes and knowledge constructions, values and beliefs affecting action. Through critical reflection, learning can reach a *transformative* level, where it changes the individual's schemes and perspectives of meaning. Meanings and structures of meaning in turn direct the acquisition of knowledge, learning, development and action in different stages of the individual's life.

When learning is perceived as a process permeated by reflection, with the aim of producing experience and expertise, guidance is also required to be transparent and to support reflection in the students. For exam-

► Image 4. Experiential and Reflective Learning (Poikela 2005)



ple Lähteenmäki (2004) presents a model of *reflective guidance* for learning at work (see Image 4) which is built on analysis of reflection, supported by the instructor, in the stages of experiential learning (reflection *on, for & in* action). At the “*on-stage*” of learning, reflection requires the instructor to have the ability to activate the students’ thoughts connected to their experiences, and to be aware of the effect of the guidance and feedback on the student, also at the emotional level. At the “*for-stage*”, one of the most crucial tasks of the instructor is activating the students to approach new sources of knowledge, and to plan the action. At the “*in-stage*”, the most important components of reflective guidance are arranging the learning situations, giving advice, and building a positive atmosphere for learning.

Reflection can be seen as the smallest common denominator for the learning and assessment processes. In learning, reflection opens possibilities for both processing knowledge and for guiding learning as action. In assessment, reflection is the basis for self-assessment and joint assessment, and it extends to the conscious setting of goals and critical evaluation of results. The core of guidance is to develop the students’ *ability to reflect*, which includes reflection on one’s own actions, giving and receiving peer feedback, feedback discussions with instructors, and setting goals in terms of outcomes. On the other hand, quality criteria and numerical measures are needed in order to ensure the quality level of expertise. Students need to be continuously informed about the results of their learning and the level of their skills. For this we need clear indicators, connected to standards of competence, which are used to provide proof of expertise in the degree certificate for the purposes of working life.

The person who guides learning is a facilitator rather than a teacher, a coach rather than a schoolmaster, or an older colleague rather than a provider of services to a client. Reflection and assessment are crucial parts of the guidance. Assessment is a tool for guidance, but also an indicator of the level of expertise. This is process and outcome assessment (see Poikela & Rökköläinen, 2006) where the students receive a broad selection of feedback concerning themselves, as well as points

of reference to measure the quality of their expertise. Process or formative assessment serves the personal development of a student. The students also need information concerning their learning performance in numerical form, and most importantly, this is needed by the employers seeking to use their services. There is no conflict between qualitative process assessment and numerical assessment of outcome. It is only necessary to determine what purposes they may serve at each stage of learning.

Employing action pedagogy means making students into participants, employing cooperation between teachers in planning, and providing institutions of learning with the resources to create and continuously maintain spaces for learning. For example, by combining the advantages of problem based pedagogy which produces understanding, and those of project learning anchored in practice, the result can at best be a reflective and research-oriented learning process which can be realised in learning spaces created in a varied and multidimensional manner, which will in turn produce the best professionals and experts.

Conclusions

Over the past thirty years, Galperin’s “*wire model*” has revolved into a new position. All its principles of good teaching can be realised, paradoxically, by changing precisely the practices, methods and techniques that were originally used to implement the pedagogy. The new paradigm of pedagogy is being realised slowly; instead of learning and teaching alone, the focus is increasingly placed on cooperative work in learning and planning, as well as in assessment. The group, and the construction of knowledge and learning work that happen in the group, are understood as subjects in learning, as well as the individual subject. Time is passing by the closed faculty and institution specific curricula, and these are being replaced by open, working-life based and ecological curriculum models, process-based pedagogical planning, and innovative production of spaces for learning and expertise, which the articles in this book will show. ●●●

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Image: Annika Koskelainen



Project Based Learning

in Cooperative Ventures between the University of Applied Sciences and Working Life Partners



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In project based learning, two elements are combined: the project and the learning. There are many kinds of project study, and there is no single formula to describe them all, but the concept of project learning is becoming established as describing a process where features of systematic proceeding and reflective assessment, typical of projects, are combined with the processes of problem-solving and the learning created through these. Although in practice project based learning is not necessarily always problem-based, and not all problem-based learning is project based learning, it is useful to apply this concept of learning in its entirety in high-quality professional projects – especially R&D&I development projects.

A project is characterised by having clear aims, schedule and resources. The aim is to solve some practical question or problem, and the result is expected to be amenable to utilisation. In a project, the division of labour is clear, and responsibility is clearly attached to the work appointed to each participant (see e.g. Anttila, 2001). Goals, practices and results are jointly agreed upon, but each participant is independently responsible for his or her work. The project participant's own independent work is combined with productive activity that is accepted in the project community and that benefits the whole group. In a project, the

individual and the community are strongly connected to each other. A project is a holistic event, which is planned, built, executed and assessed with other participants, and usually also with the commissioner of the project. The time span of a project is usually long enough to allow assessment of the activity and its results also with regard to learning. It is therefore not surprising that also modern working life, concerned with training and its results, has begun to show interest in this phenomenon.

Project Based Learning (PBL) has its basis in constructivist views of learning, especially those with a social constructivist emphasis. These views receive broad international scientific backing. As early as in the beginning of the 20th century, the American John Dewey revolutionised the world of education by creating the pragmatic, practical concept of “learning by doing”. His slightly later contemporary, the Swiss educational psychologist Jean Piaget, emphasised learning through observation and creation of schemata or mental images of the subject matter. Soon after them Jerome Bruner, the American developer of the cognitive learning theory, complemented the idea by focusing attention on the importance of understanding the nature of the object, attained by reflection and deduction. The Russian Lev Vygotsky added his part by emphasising the meaning of social interaction in precisely this type of

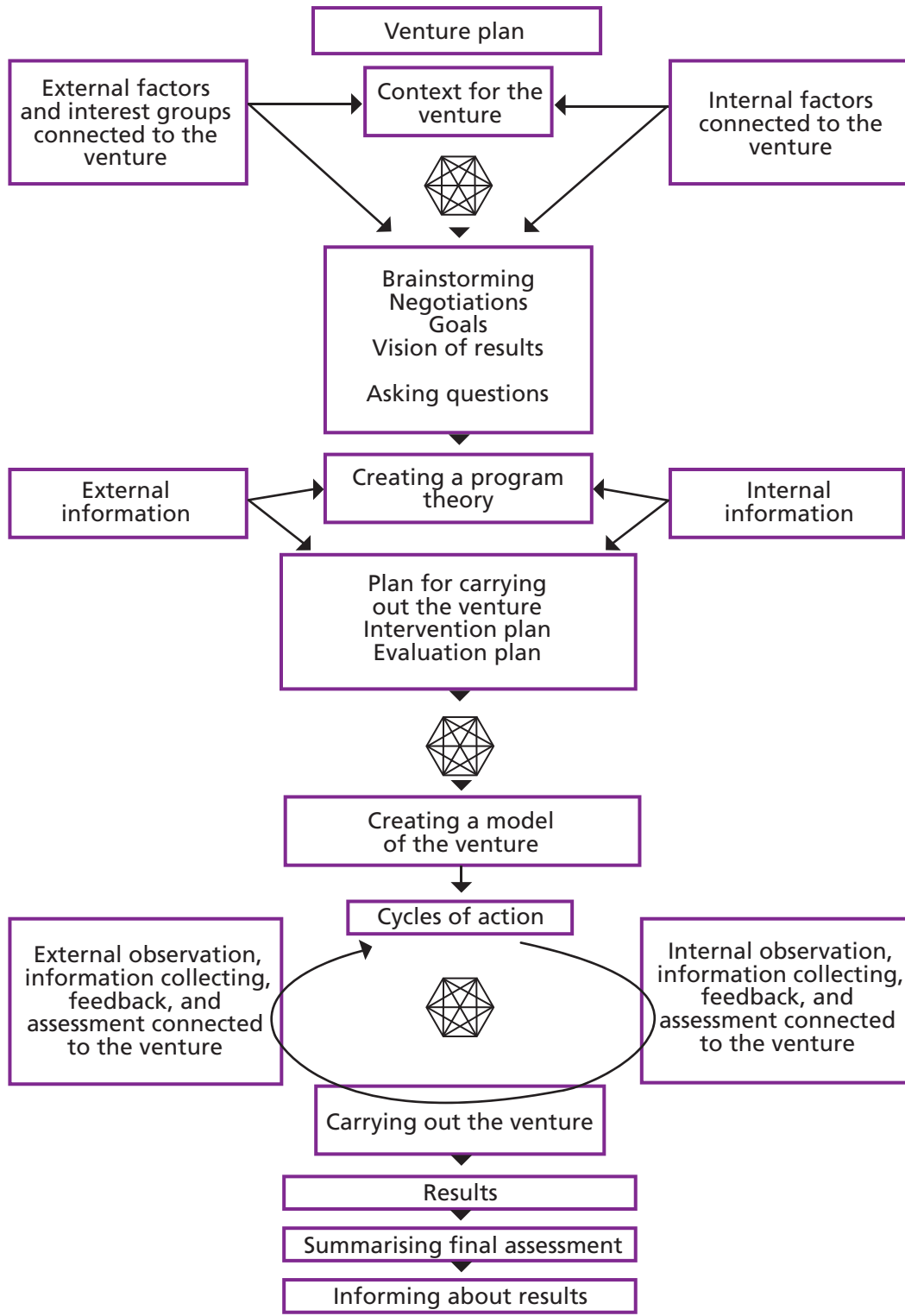
learning event. The latest flavour to learning and assessment practices employed in professional working life R&D&I ventures has been provided by critical realism, according to which it is necessary to consider, when assessing activities and their results, the participants' own active involvement in the planning and execution of the project and in the utilisation of results in continuing improvement and development (Pawson & Tilley, 1998). Significance is attributed to reflective interaction, where feedback is given, received and utilised. Knowledge, in other words, being always best constructed and used by exactly the same people whom it most closely concerns. According to this view, it is useful to bring together all kinds of concerned parties, different focus groups, in schools also students, and get them involved in various development and innovation projects in order to ensure input of new, unprejudiced viewpoints, instead of just acting as the receiving end. The constructivist act of learning begins with the concerned parties presenting their ideas, expectations, experiences and views regarding the project, and asking questions. Then material is collected, or other action is taken to develop answers to the questions presented. Special attention is given to questions that remain unanswered, and the significance of both the answers and the unanswered items is considered. In the last stage of action, the participants negotiate about the newly created knowledge or other new results, and a new construction of knowledge is built (Anttila, 2007, p.31) (Image, next page).

The elements central to project based learning have been formed on the basis of these views, and on the basis of the results of later, extensive scientific interest in them. It is necessary for the students to be able to make their own observations, and to have the opportunity to work with the subject matter. In order to develop correct mental images or schemata of the target of the work, one must understand its character, or its structure, and be able to use deduction to probe the possibilities involved in its functions and in the development of those functions. Individual work must happen in a real social environment, which should offer sufficient feedback to support self-assessment of the correctness and significance of the stu-

dent's actions and observations. A suitable context for this kind of work is provided by different procedural, process-oriented methods that involve assessment, for example the method of Realistic Evaluation (RE), developed especially for research and product development. RE subjects all elements of the project to reflective assessment, from the setting of research questions to the actions of all participants and interest groups, and to the final results (Anttila, 2007).

Project based learning, defined this broadly, has been strongly influenced by the concept of "research-based learning", which shares a common background of pedagogical principles, but focuses on acquiring knowledge more than on the practical productivity of the student's work. The concept of research-based learning is also connected to problem-centred thinking and data collection. Research-based learning is a process whereby solutions are systematically sought to a problem that cannot be solved on the basis of previously acquired knowledge. Problem-solving happens by seeking significant new information from different sources, by testing conceptualisations through experiments, or by collecting observational data. The problem to be solved can certainly be of a practical nature, but it can also be entirely conceptual, as is the case in scientific research, for example. Research-based learning relies on presenting good questions. The questions can arise out of tensions, disruptions to fluent functioning, or unexpected failure connected to practical activities. Questions are presented to different sources of information, such as experts in the field, scientific literature, the instructor, or fellow students. These can be complemented by seeking information contained in the memory of the people in the learning community, by performing thought experiments, or by making observations. The central role of problem-solving approaches in research-based learning is explained by the high informational value produced by using them. (For more on research-based learning, see e.g. Hakkarainen & al. 2004: Tynjälä, P. 1999; Lifländer, 1999)

Project based learning is, in a way, one form of problem-centred and research-based learning, but with a problem or research task



▲ Image. 1. The Modelling of an R&D Venture as a Project that Proceeds in Stages (Anttila 2007, 88)

so broad that it requires systematic collaboration and project-like organisation, as the many factors and stages depicted in the image illustrate. Project based learning thus differs from research-based learning, among other things, in terms of its higher level of organisation and its more result-oriented style. It is therefore better suited to be used as the learning concept that serves the purposes of working life and professional practice. It is also essentially based on problem-solving, but it is characterised by action that aims to assess the choices and differences in the outcome between different, alternative solutions. Acquiring and testing information is important, but still subordinate to the primary goal, which is the successful and functional execution of the project, in other words the process and its end result or product. Project based learning is usually connected to situations where the learner is involved in some kind of production, research, or development venture, such as the R&D&I ventures are. In this situation the learner – often still in the position of student – is a participant, as a subject with personal accountability, in a venture that aims to produce results. The learners are encouraged to take charge of their own learning, and supported to act and think in a critical and independent manner, while work performance is also expected.

Generally speaking, the term project study or project based learning is used to describe a form of working, within an institution of learning, where the aim is to have the students work on a particular theme for an extended period of time, and produce some kind of concrete output related to the theme. As in working life projects, the aims and duration of such learning projects are defined beforehand. In schools the projects are commonly carried out in small groups, but they can also include stages of individual work, with the group members agreeing among themselves on the division of labour (Tynjälä, 1999, 165-166; Prittinen, 2000). If the project is carried out in a real working life context, it is usually much broader in nature, and the students' participation can be limited or the working time can be allotted to target suitable sections (see e.g. Anttila, 2007, 82, 87-99). Learning successfully in a project requires a certain level of preparedness of the student,

and realistic views of the teacher regarding what kind of development or learning can be expected. While participating in a project improves the student's skills, it also increases the level of initiative and motivates to goal-oriented action.

The essential core of project based learning is the process that develops in order to solve a problem. The learners aim to solve real problems by improving their problem setting, by collecting information, by discussing ideas, by gathering and analysing the newly obtained knowledge, by interpreting results, by drawing conclusions, and by communicating their ideas and their findings to others. Project based learning consists of three core stages of work:

1. The initial stage: starting points and reasons for launching the project, analysis of the current situation, goals, expected end results, participants (persons with accountability for the project, their tasks and responsibilities), plan of action, plan for documentation, plan for assessment, plan for follow-up, resources
2. Execution: description of execution, action, results.

3. Assessment: action, methods, end results and further development (<http://fi.wikipedia.org/wiki/projektioppiminen>)

What is Learned in a Project, and How?

Project based learning brings with it a changed view of the learning process. It is no longer self-evidently assumed to be only interaction between a teacher and an individual student; instead it is increasingly understood as a much more nuanced sequence of events, where the learner has a more independent role than was previously assumed. There are numerous different views. Their proponents engage in heated debate over what learning is primarily about. These views differ from each other in nearly all the basic premises of learning and teaching that touch upon the goals of learning, the learning process, knowledge, concepts, knowing, and perceptions of teacher and learner (see e.g. Eteläpelto & Rasku-Puttonen, 1999). Although this discussion is so far mostly conducted in connection with general and academically oriented education, there is all the more reason to initiate similar discourse also in the arena of profession-oriented pedagogy, where acting on the basis of knowledge is added to the

picture to join the acquisition of knowledge. Anne Sfard (1998) has offered two metaphors to explain these differences. **The metaphor of acquisition** means that learners obtain knowledge for themselves, receive and internalise it on an individual level and “own” it, whereby it becomes property available for their utilisation. In approaches that use this metaphor, the goal of learning is primarily seen as acquisition of individual capital (internalising the knowledge as it is), or building a unit of knowledge out of smaller parts, i.e. constructing knowledge. This also provides the term for the “constructivist” view of knowledge. In **the participation metaphor**, the goal of learning is communal, learners themselves are participants, becoming parts of the learning community. The knowledge point of view is not central, but subjugated to the practical goals. The primary goal of learning is seen as the building of communities of knowledge and skill. Learners are seen as participants building their own identity and expertise in a social community. From this derives the term “socio-constructivist” view of learning.

Changing Roles and Tasks of Teacher and Student in the Process of Project Based Learning. Traditionally, the task of the teacher has been understood to be the guidance of learning according to the acquisition metaphor: the teacher’s tasks consist of selecting and presenting the material to be studied, structuring the theoretical subject matter connected to it, and making it comprehensible through explanation and demonstration, planning and supervising assignments, and assessing how well the students have reached the learning goals. The student’s task is to act according to the instructions. The teacher’s role is to act as the person in charge of the learning process, as the expert, the representative of knowledge and skill, the presenter of questions and provider of the stamp of approval for answers and solutions. In this metaphor, the teacher is at the centre point of the traditional process of teaching. Most traditional curriculum models are based on this task.

Project based learning and problem-centred pedagogy bring with them the participation metaphor, profoundly changing the tasks of both teacher and student, a change that will

inevitably affect the devising of the curriculum. It is a plan of studying and learning we are talking about now, not a plan of teaching. Modern individual study plan planning is already strongly oriented towards this change. According to the pedagogical thinking involved in project based learning, the teacher’s task is to organise situations that lead to learning, and the interaction taking place in these situations. The practical work of realising the project, proceeding in it and solving problems, is mainly the students’ responsibility. The students’ task is to notice the problems connected to the topic of interest in cooperation with other parties involved in the project, to choose different alternative solutions for testing and analysis, to carry out the necessary work, and to give approval to the most appropriate solutions and the conclusions drawn from the project. In addition to each student providing his or her contribution to the work performed jointly, they must also assess both their own and others’ learning, and progress with the tasks. All this requires both teachers and students to possess mastery of self-assessment, group assessment, and interactional assessment.

How is Project Based Learning Assessed?

Project based learning requires great changes also in the process of assessing the results of learning. Traditionally this has been the teacher’s task, but now all parties involved in the project participate in it, in one way or another. The image on the modelling of an R&D&I venture depicts the progress of a venture where assessment is performed at all stages of the project, and as both external and internal assessment. External assessment is performed both by commissioners (if the results comply with expectations) and by teachers and supervisors (for example, how the process has been executed, what the results are like, what has been learned). Internal assessment is carried out by participants as self-assessment or peer assessment (how I succeeded – or how we succeeded – in this venture, what could have been done differently). In joint assessment, the views of all parties are taken into account. To support internal as well as joint assessment, a learning diary can be employed or a portfolio constructed. The ultimate aim for these is to function as means of assessing and developing

one's own learning, but they can also be used as a tool to help update the personal learning plan.

Creating a learning diary requires motivation. There must be a real reason to do it, and a technique that does not demand too much of the student's resources. Using information technology often motivates young people more than a notebook carried in the bag, although the latter is not a bad idea either. A feeling that one's tasks in the project are important and worth learning is a good motivator. A project diary can include for example the following:

- descriptions of the student's own goals
- the student's own ideas and thoughts on how to process or test these ideas, or different alternatives; questions and problems that require thought
- interesting sources and background information
- received feedback and results from meetings held in the course of the project
- results of the student's own work and critical observations on these
- descriptions of obtained end results and critical discussion on these

In addition, the following could be written in the diary (or drawn, or otherwise described):

- What did I learn from this?
- What remains unclear to me?
- What thoughts arose in connection with a finished phase or event?
- What should I ask or find out?

And so forth.

Another possible tool of the student's self-assessment is the portfolio. It has gained popularity as a student-centred method of assessment, which can also function as a **reflective** tool, bringing real change and development. A project portfolio also includes a description of the learning context, and a presentation of the best works along with the criteria for choosing them, as well as a final assessment of the process and the end product. In this assessment, the students both describe their learning process and its level of success, the strong points in their skills along with their general progress, and they plan their future goals. A portfolio is also one way to produce updates on the fulfilment of the individual study plans. The concrete form of the portfolio can, for

example, be a folder, a briefcase, a box, a DVD disc, a collection of images, an audio record, or a combination of these. The most crucial aspect is not the external form but the process of production, selection and assessment that leads to it. In this process, the student goes through the assignments of the study period, assesses their content and quality with regard to jointly agreed criteria as well as personal aims and assessment principles, and makes choices, reflecting on the causes and consequences of the decisions. All in all, the assessment process of a project is interactional – all students, teachers and, if possible, other people involved in that particular phase of the project, should participate in it. The feedback is open and honest, and the student's own voice should be heard. In the final assessment, the whole can be observed from a number of different angles. For example the following questions can be chosen as targets for observation:

- The progress of the project, stage by stage: What happened at each stage and what was learned?
- What went well? What should have been done differently? How?
- Was the intended end result reached? Was something left missing? Did the accomplishments exceed everyone's expectations?
- What kind of experiences did people have of self-assessment? What was learned from this?
- What experiences did people have of possible external assessment? What was learned from this?
- What experiences did people have of colleague or peer assessment? What was learned from this?
- How did joint assessment with the teacher and students go? What was learned from this?

An example of project based learning experiences and assessment is provided in the design rug project carried out with Lindström Ltd, described in the chapter "Design Carpets for Lindström Ltd", on page 78. This venture aimed to provide project based learning opportunities for first year students of Kymenlaakso University of Applied Sciences designer-stylist study programme. ●●●

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The Learning and Competence Creating Ecosystem

a Response to the Challenges of Our Times

Ecosystem and the Paradigm Change in Business Life



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A paradigm change appears to be underway in business life. Instead of exports and international relationships, we talk about globalisation and the new global division of labour. Instead of industrial production, we are beginning to focus on services. Resource-based thinking is giving way to client and user based thinking, and closed innovations to open innovations, and instead of innovation systems we should build innovative environments. All the above was also brought up by Dr Tarmo Lemola at the Future Symposium at Kasarminmäki in the fall of 2008.

This view is supported by the national strategies devised over the past few years. The national innovation strategy describes a new kind of approach to defining innovation, working alongside the old style of emphasising technology. Innovation is understood as a strategically utilised competence-based competitive advantage. In addition to technological applications, it can be based on, for example, new service or business concepts, renewing working methods or business practice, or managing product concepts or brands. A similar approach is evident in the national creativity strategy, in which innovativeness is described as the ability and daring to realise ideas as new

products, services, or practices in working communities, as well as in other communities and organisations.

According to Sitra's innovation program, we must focus on the future, because international competition is tightening, and new countries have joined the traditional industrial countries, competing with cheap labour and increasing expertise. The strategy claims that success in business requires increasing contact with the clients, and an anticipatory understanding of the clients' needs. In the so-called creative economy, the emphasis of business life shifts from production and technology to applications, content, services, and culture. The required competence is much broader than in the "technological era". The competence in demand is also interdisciplinary, and the most promising innovations are created at the different interfaces of expertise. In the global economy, the most successful societies will be those that are open, flexible and supportive.

LCCE[®], the Learning and Competence Creating Ecosystem, is a response by Kymenlaakso University of Applied Sciences Faculty of International Business and Culture to the national perspective described above. *With the help of the ecosystem, we will build a competence-based environment of innovation and*

creativity at Kasarminmäki campus. According to the national innovation strategy, the breakthrough of participatory innovative strategy is challenged especially by the current scarcity of innovative Finnish models and communities that combine a variety of different kinds of expertise. The ecosystem community arising at Kasarminmäki will, for its own part, remedy this deficiency. The idea that led to forming the faculty was that of combining creative fields with business expertise, thus enabling creative innovation processes. This has been realised, and the development is still continuing in a dynamic manner. This is evidenced by the project volume attained by our faculty, already extensive by the standards of similar universities of applied sciences. However, the work still continues. The goal is to further clarify what kinds of synergistic advantages can be extracted from the Design School - Business School combination.

Moving Towards Practice Characteristic of Universities of Applied Sciences

The ecosystem is also the answer to finding practices that typify a university of applied sciences. *In a dual system of higher education, universities of applied sciences can no longer build their lives on the academic traditions and standards of the science universities; we must find something new, something of our own.* Experimenting with the idea of Finnish universities of applied sciences began in the early 1990s. The process of founding these institutions started soon after, in the middle of the decade. During that hectic time these organisations were in the process of development, and practices typical of institutes of higher learning were being sought. Now that over ten years have passed since those times, the search for new types of organisation continues, only within a slightly larger geographical area, and with the aim of finding slightly different forms of cooperation. The search for practices that naturally benefit universities of applied sciences is likewise continuing. It seems to take some time for the new type of educational institutions to shape their identity.

With new tasks being given to universities of applied sciences, finding their own path has

become ever more challenging, but at the same time, the new roles have offered new opportunities. Research and development have been added to the tasks of the universities of applied sciences, partly due to their own initiative, while the task of regional development has been the last addition, mainly dictated by society. All sectors are beginning to see the combination of teaching, research and development, as well as regional development in a natural, organic way as a matter central to success. *In the Learning and Competence Creating Ecosystem that we have developed, attending to one of the tasks of a university of applied sciences supports success in the other tasks.* In the ecosystem, research and development is regional, and closely linked to teaching. Teaching supplies the region with high-level professionals, also producing a considerable regional effect through the projects executed within the study modules. The teachers and students become attuned to current expertise through their cooperation with businesses, and above all, learning becomes more than an exercise in memorisation separated from relevant context.

European Context

Since the early stages, it has been clear that practice at universities of applied sciences should be based on strong professionalism, even though professionalism has not always received the respect it deserves, possibly as reflection of the science-focused status of universities. The word “profession” requires a focus on working life and adherence to practicality. Well-functioning education is based on successful interaction between practice and theory. The European EQF context places rather challenging demands on the organisation of teaching practice in the universities of applied sciences. According to the EQF level 6, to which the universities of applied sciences have to conform, the graduating student must have “the ability to manage complicated technical or professional tasks or projects in unpredictable work or study environments”. *This level of competence cannot be reached by sitting at lectures. Competence can be attained only by building innovative learning environments that resemble private enterprise, where the students*

have the opportunity to grow to the required skill level by participating in authentic, working life based projects. Thus, the learning environments must allow the training of complex, practically oriented problem-solving skills during studies. On the other hand, it must be recognised that the practice will run out of steam unless knowledge is fed into it, and particularly the kind of knowledge that has practical relevance. In addition to the traditional lecturing, the so-called silent knowledge must be made visible in projects and casework. Development and innovation that have practical significance produce different knowledge from that based on scientific tradition. In LCCE®, this kind of knowledge is called praxis-knowledge. Here information is distilled through problem-solving, action, and reflection to become experiential knowledge. Traditional passively receptive school-learning becomes participatory learning, combining knowledge and skill, using a variety of forms, and linking itself to working-life practices, while pedagogy adopts the new approach of coaching the student.

Pedagogy of the Ecosystem and the Changes in the Teacher's Role

Realising the ecosystem is a great challenge to the teaching staff, as well as to the staff of the KymiDesign & Business unit. *It is an undeniable fact that the school will not change unless the teachers change.* Educating future professionals and innovative talent will not succeed using only the logic of traditional school-based teaching and processes that follow a factory-based model. Realising the ecosystem requires a change in the organisational culture, and fortunately we have come a long way in this process. A new kind of approach is demanded of the teachers, one that requires courage to invest oneself in innovative processes where the end result is not always known. In an innovative process, one has to let go of the linear approach, and move on to open, undefined situations. This kind of process differs significantly from the typical processes of school-based learning, where the best end result is the one that most closely resembles a pre-set model. In setting innovative assignments, teachers must be able to see beyond the likely

visible end result, and make the tasks open enough for new solutions to become feasible. A new approach is also needed in assessment. The concept of assessment becomes broader. In addition to the traditional assessment of acquired information and final output, the assessment of the process becomes significant, considering professional, project management and learning viewpoints. Since several teachers participate in building the learning unit and the practice period, assessment will also inevitably be carried out as team work more than before.

Innovative action, as a rule, is collective action happening at the level of team or organisation. This is precisely what traditional teaching has not been. Instead, the teacher's work has been lonely toil in front of a group in a classroom situation. Participation in open environments where information and experience are exchanged and the ability to detect possibilities, require the student and the supervising teacher to have constantly growing specialised expertise in their field, and the ability to co-operate and work in a team. Two central concepts in the pedagogy of the ecosystem are the administrative and pedagogical scripts of a module. In the study programme, a module forms a learning environment, where the student takes possession of competence. The study periods included in a module are not defined according to the scientific tradition by subject matter, but on the basis of needs inherent in the area of expertise. In the administrative script, the area of expertise has been divided into study periods in the traditional style, and then placed in the module. The module usually also includes a practice-based study period, usually working for an authentic business that fits the module. The significance of the administrative script is that it facilitates the making of preliminary annual plans and work schedules. Good scheduling is an important feature in creating opportunities for the interdisciplinary teacher and student teams to meet.

The challenge for the teaching staff has to do with the execution of the pedagogical script. The team that realises the module, with teacher, student and KymiDesign & Business staff participants, is in a position to define more precisely the timing of studies, the

division of labour among teachers, and the resourcing of study time. In the pedagogical script, the target of planning is thus the practical process of the module, and the planning is done using the learning process as starting point. The results of the module as a whole depend on successful teamwork in the planning, execution and assessment of the process. The freedom and the responsibility connected to creating the prerequisites for beneficial and productive learning experiences thus moves to the team that organises the area of expertise. *Thus, the lonely work of the teacher has turned into co-operation, with the aim of facilitating the student's learning within the boundaries of the module, signifying a considerable change in the organisational culture.* Adopting the pedagogical script also speeds up the change in the system currently used for planning working time and contracts. Through experiments conducted within our faculty, we seek a new model for planning working hours, proceeding in the direction of joint planning by all staff, and aiming to create broader combinations of tasks than the ones currently applied.

Boldly Onward

We have set up a challenging vision. The dynamic drive for development shown by our employees, combined with the LCCE® sparring program for teachers and staff, do however create a good basis for developing an ever better edge to realise our concept. With the creation of the ecosystem, it is possible to rise even higher than our current level as providers of cutting-edge education. This is rewarding for everyone and gives us energy in our daily work.

In everyday work, we do not always come to think of the magnitude of the changes taking place in our environment. The changes concern the whole society, the system of higher education, business life and innovative systems. It is important to notice that in schools, the teachers can no longer maintain the role of only delivering truths to the students. Instead



of transferring assumed final knowledge, it has become more valuable to motivate the student to seek answers and solutions, to understand things and to develop new thoughts and ideas in multi-faceted situations. From this, the students will gain a capital of competence that helps them to survive in the changing world. This is the goal of the Learning and Competence Creating Ecosystem. Therefore, let us keep looking forward to the future with courage and vision. ●●●

▲ Kasarminmäki main building
Image:
Arkkitiedit NRT Oy



Image: Annika Koskelainen



The Connection

between Learning and Work



Text:

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The Faculty of International Business and Culture at Kymenlaakso University of Applied Sciences is developing its practices in response to the challenges of changing business life and globalising economy. With the help of the concept developed by the faculty, the Learning and Competence Creating Ecosystem, it is our goal to further the students' learning and the competitive edge of the businesses in the area in the constantly changing environment. It no longer suffices that the university and working life interact from a distance; responses to the new challenges can only be created by interweaving working life and education firmly with each other.

Starting Points

In her book 'The Age of the Smart Machine' (1990), the current professor of Harvard Business School, Soshana Zuboff, called for practices and environments where work becomes a way of learning, and learning becomes a way of working. The response to this challenge by Kymenlaakso University of Applied Sciences Faculty of International Business and Culture is the concept of a Learning and Competence Creating Ecosystem (LCCE®). Behind this concept lie a number of observations and basic assumptions.

Firstly, economies are becoming more and more innovation-driven, at least in the developed countries. This means that the importance and significance of learning are increasing, not only in the world of education and in institutes of higher learning, but in the whole society, and especially in private enterprise. According to the Danish Bengt-Åke Lundvall, the significance of knowledge and learning in the economy has grown to a point where we should speak of an entirely new era. In this era, knowledge and learning will rise to become the central catalysts of economic development. Lundvall has therefore named this current innovation-driven era of economy the "time of the globalising learning economy". In global innovation processes, *learning by interacting* happens not only through interaction itself, but also through *learning by doing* and *learning by using*.

Secondly, the innovation-driven nature of the economy will in itself accelerate the pace of producing new innovations. Without going further into the history of the research that looks at the significance of innovations to economy, which goes back all the way to Adam Smith and Karl Marx, we can say with good reason that a nation's competitive ability in the current phase of economical development is based on its ability to bring new innovations to the market at an accelerating pace. The world

has, in a way, moved to a phase where innovations are created in a “production line” style, displacing the old handcraft-like production models. At the same time, there is naturally an “inflation” of innovations; they become an everyday matter in the manner of mass-produced commodities.

In its work on the LCCE® concept, Kymenlaakso University of Applied Sciences Faculty of International Business and Culture has relied on a broad definition of the concept of innovation: *Innovation is an expertise-based competitive advantage*. From this viewpoint, social and pedagogical innovations are at least as important as “traditional” technological innovations. In the practical work of the faculty, innovative practice is, to a great extent, understood as being the same as entrepreneurial practice; both of these entail detecting possibilities, readiness to take risks, and strengthening a culture of creativity.

Ecosystem of Innovations

A new kind of orientation needs to be adopted to perceive and organise the interaction between businesses and institutes of higher learning. This is required by learning, in a general sense, along with the rising importance of understanding and controlling learning processes, combined with the demand to speed up the production of innovations. In terms of history, several phases can be distinguished, depending on viewpoint, in the production of innovation and in the way it is examined. The most traditional way has been to observe innovations as products of development work in research and technology, or “technologically propelled” phenomena. There have been attempts to challenge the one-sidedness evident in this approach by turning the attention towards the market. This approach, in turn, has been described using the concept of a “market drawn” model. In these so-called interactive innovation models the viewpoint was broadened to cover all stages of the process, from research and product development to quality control and marketing. In the interactive models, the earlier chain model was replaced by a network-like model of interactions.

In the most advanced innovation research,

there has recently been increasing discussion concerning the ecosystem of innovations. Especially Antti Hautamäki has relayed this kind of discourse to Finland. The ecosystem approach directs interest into the innovations themselves, and their evolution into successful products in the market. There are elements in the ecosystem approach that point to the French Bruno Latour and his view that the functioning of artefacts, in this case innovations, is at least equally significant to a system as the action of the so-called human subjects in that system. Each artefact has been loaded with expertise and knowledge which gains new dimensions and becomes more complete as it comes in touch with new elements – people, businesses and artefacts. In this way, innovations evolve and adjust to new kinds of environments, and to different markets.

The ecosystem of innovations is a dynamic, self-directing system with the ability to adjust to changes in the environment, a system where new ideas are produced and tested. It is a network formed by different participants, where the passive and active development of innovation happens, where it evolves. This approach emphasises cooperation between different parties, and a culture of creativity, which is understood as involving readiness to take risks, an entrepreneurial mode of working, and an innovative attitude.

Open and Client-centred Development

Making the production of innovations more effective requires – from the viewpoint of the ecosystem – an environment that is as open as possible. Professor Henry Chesbrough of Berkeley University has coined the concept of open innovation in innovation research. To Finland this model has been delivered by Marko Torkkeli, professor of Kouvola unit of Lappeenranta University of Technology. Viewed through the open innovation model, the open production and free use of knowledge, ideas and product sketches are part of the essence of the new development that is worth pursuing. In closed systems, the evolution of innovations naturally remains incomplete, and in the case of a closed system, it is not very sensible to talk about any kind of ecosystem at all.



The ecosystem incorporates also a more varied view of the assumed participants in the processes. The participation of users is particularly important. In this context, it is common to talk about so-called *Living Lab* development communities, which differ from earlier triple helix models with three bases in that the users participate in the development of innovations on par with the “traditional” interested parties, namely businesses, developers such as educational and research institutions, and the enablers such as the public sector and other funding bodies.

LCCE® Concept

The idea of the LCCE® concept is to bring the university’s educational and other practices to the same level with the developing, business-powered ecosystem of innovations. In the LCCE® concept (Figure 1), learning and university practices are approached from the ecosystem viewpoint. The starting points for its development were the actions that had been taken at the Faculty of International Business and Culture over the past few years. The most important of these were the following:

- (1) Development of the curriculum so that teaching is arranged into modules, each of which contains a period of practice-based learning to be conducted in working-life in a genuine development project.
- (2) Reorganising the activities of the faculty’s research and development unit, KymiDesign & Business, with regard to the reform of the curriculum, or starting the so-called learning laboratory activity tightly linked to teaching in 2007.
- (3) Renewing KymiDesign & Business to correspond structurally to the curriculum structure of the faculty as closely as possible.

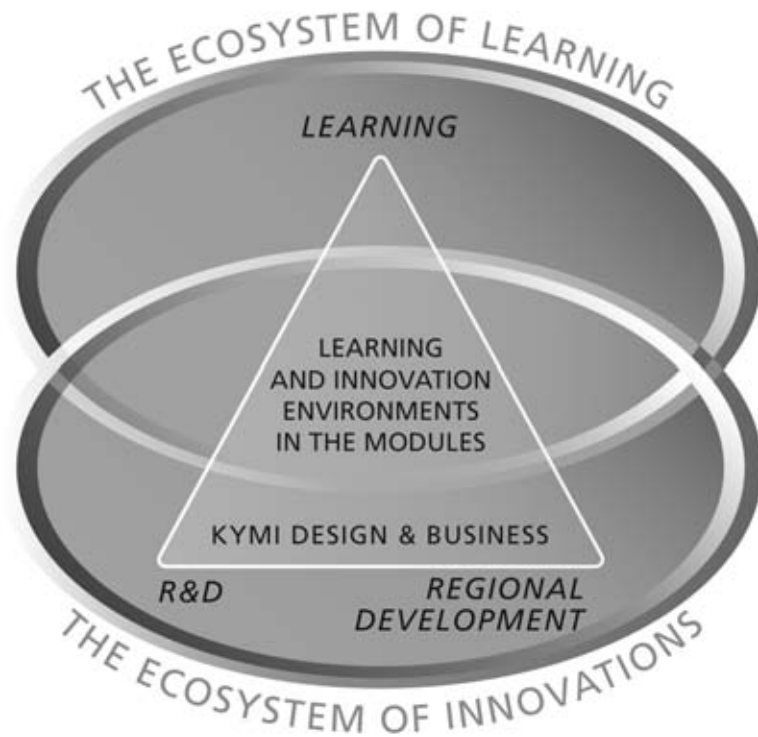
While working on developing the university’s teaching practice, it was observed that the three tasks appointed to institutes of higher education - education, regional impact, and research and product development – materialise at the Faculty of International Business and Culture in a very closely linked manner, even to the point of completely blending together. In 2008, KymiDesign & Business carried out and delivered to the study programmes a total

of 244 development projects conducted for businesses and other parties in working life. The sum total of so-called research and development (R&D) study points as a whole and per individual student has nearly tripled in two years in this faculty. In terms of linking thesis work to projects, the faculty is among the very best nationally, especially in the field of culture, and the same applies to the employment levels of new graduates (Appendix B, Results, 103-107). The practice of the faculty was thus in the process of forming an ecosystem of learning tightly linked to the world of business.

At the core of the LCCE® approach are the students and their learning. Professor Esa Poikela of the University of Lapland, who participated in developing the concept, brought in learning and the skill to learn as key qualifications produced by universities of applied sciences and other institutes of higher learning. With regard to Bengt-Åke Lundvall’s view of the learning economy described above, learning and the management of learning processes can be considered as central competence, thinking of the input provided to the development and effectiveness of innovation processes by universities. Developing spaces for action holds a key position in the faculty’s development of teaching practice and the ecosystem of learning. Spaces for learning and innovative activity, which intersect and blend into each other, are built and developed by the faculty in three directions: (1) in the form of physical spaces that promote physical proximity between different parties, (2) in the form of social spaces that promote interaction and parallel unidirectional action between different parties, and (3) in the form of virtual spaces that provide extensive networking between different parties.

Tightening Collaboration

KymiDesign & Business is an ecosystem for collaborative activity between businesses and Kymenlaakso University of Applied Sciences, as well as a learning environment for the students. The activities of KymiDesign & Business link teachers and students at the university with partners in cooperation and with other contacts through projects and ven-



◀ Figure 1. The Learning and Competence Creating Ecosystem in Diagrammatic Form.

tures realised as part of the teaching practice of the faculty. For this part, KymiDesign & Business functions as a regional developer of a cooperative network in the fields of design, communication, as well as business research and product development. Through its activities, businesses in the region are offered an opportunity to expand, develop, and accelerate their various development projects. Above all, students are offered the opportunity to add both depth and breadth to their studies, to their expertise, and their networks.

The learning laboratory practice in particular has created relationships with working life that are more solid and long-term than the occasional commission. In these cases, permanent contracts of cooperation have been drawn with businesses and other parties in working life (framework agreements). Our aim is to increase the number of these permanent partnerships with working life. This

enables us to better coordinate projects with regard to the needs of the curriculum. Both the expertise based, modular curriculum and KymiDesign & Business business activities linked to it require multidisciplinary team work. This concerns both students and supervising teachers. Multidisciplinary teacher and student teams have joint responsibility with working life commissioners for carrying out projects. KymiDesign & Business staff supports such activity with their specialised expertise.

The second chapter of this book introduces authentic development projects initiated by businesses, carried out over the past few years, and practices that have risen from these at Kymenlaakso University of Applied Sciences Faculty of International Business and Culture. In addition to students and teachers at universities of applied sciences, this book is intended for businesses and other reference groups of the universities of applied sciences. ●●●



Image: Annika Koskelainen



BSC and Quality Management at

Kymenlaakso University of Applied Sciences



Text:
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The environments in which we work are changing quickly, sometimes even unpredictably. To be able to respond to these changes, a university of applied sciences needs to have a clear understanding of its position, goals and vision. After defining and updating our strategic goals and vision, we need to be able to steer our practices in the desired direction. Strategy in the context of a university of applied sciences can be defined as follows: “Strategy is the conscious selection, by Kymenlaakso University of Applied Sciences, of central goals and guidelines for practice to be applied in the changing world” (see e.g. Kamensky, 2000). From this definition, the following principles can be derived: 1) The starting points for strategic planning are the changing environment and the position (resources and expertise) of the university with regard to its environment, 2) strategy includes goals and central guidelines for practice, 3) it is necessary to choose among numerous alternatives, to prioritise and even to refuse many possibilities, and 4) the choices are made collectively by all interested parties, so that they can also be realised with determination.

Organisational attitudes towards the future can be defined by using, for example, the following levels: drifting into the future, adapting to the future, creating the future (Godet, 1993). The mode of action within organisations that

create the future is anticipatory, their attitude towards the future is proactive, and they have a great need for room for strategic manoeuvring. This requires that the leadership particularly adopts a position of responsibility, and has the ability to recognise the strategic room for manoeuvring (see e.g. Määttä and Ojala, 1999). In defining clienthood strategies, on the other hand, it is possible to recognise the following alternatives: 1) The client adjusts to the processes of the business, 2) both the client and the business adjust their own processes with the aim of high compatibility, and 3) the business adjusts its processes to those of the client, in which case the business “comes to the client”. The ideal situation is one where businesses do not function on the clients’ terms, but rather the businesses and clients both function on the terms of clienthood, in other words on the terms of cooperation (Storbacka & Lehtinen, 2006). This is a useful approach also in the strategy development and strategic management of a university of applied sciences.

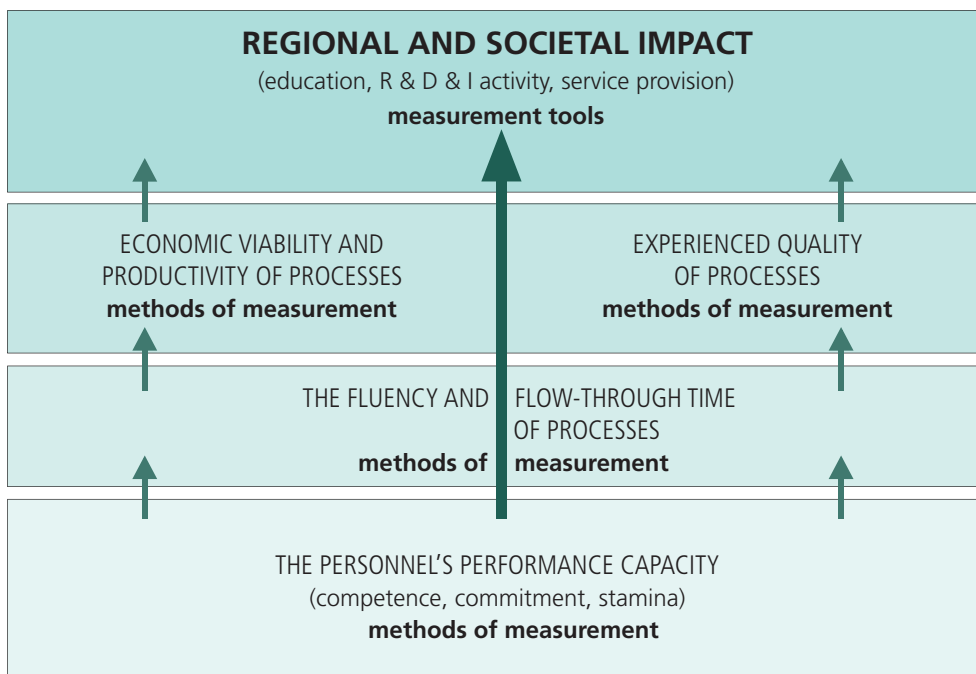
In an analysis of factors that will change in the future, it is possible to utilise, for example, the classic PESTE analysis, which contains the political, economic, social, technological and ecological levels. This leads to an assessment of how the strategic situation of the universities of applied sciences has changed, and what factors are central in the change. Each level is

assessed from global, EU, national, regional and local viewpoints (e.g. Meristö, 1991). It must also be noted that the significance of common and radical innovations to organisational strategies has gained powerful emphasis in the new millennium.

In 2005, Kymenlaakso University of Applied Sciences piloted participation in the auditing of quality management systems, run by the Finnish Higher Education Evaluation Council. In selecting Kymenlaakso University of Applied Sciences for the pilot process, the Council emphasised the following: The structural all-inclusiveness of the quality management system, the established status of the system, and the widespread participation by members of the university community in quality management work. As one of the strengths of quality management in Kymenlaakso University of Applied Sciences, among other things, the auditing process brought up the internal practice of negotiations on goals and performance, and the assessment tools for practice and productivity (Krusberg et al., 2005). The practice of internal negotiations on goals and performance had at that time already been integrated into the Balanced Scorecard (BSC) context. The practice has since then

been systematically developed and integrated into the organisation's system of strategic management.

Kymenlaakso University of Applied Sciences has chosen BSC to be the method and the management system that combines the staff resources, practices, economy, and the measurement of performance with strategy, goals and vision. The saying "What cannot be measured, cannot be managed" has proven correct over the years. If qualitative and quantitative methods of measurement cannot be defined, the strategy itself has not become concrete enough either. A well-planned strategy should not only provide answers to the "why?" and "what?" questions, but also the "how?" This means that connections to decision-making, to attributing responsibility, to practice, and to correct timing must be built carefully. This is also a question of developing process thinking and collective strategic thinking. Areas where performance is assessed at Kymenlaakso University of Applied Sciences are impact, staff, economics, productivity and the experienced quality of processes. The selected BSC viewpoints interconnect as shown in the image below: ▶▶▶



◀ Image 1. Relationships between BSC viewpoints at Kymenlaakso University of Applied Sciences.

The act of measurement itself communicates the significance of the factors that are being measured at the university of applied sciences. Measurement helps to establish action and development in the desired direction. It is of primary importance to create a picture of the current situation so that goals can be set with regard to the methods of measurement, and the attainment of goals can be followed up. (See e.g. Lönnqvist, Kujansivu & Antikainen,

2006; Lönnqvist, Kujansivu & Antola, 2005; Hannula, 2000; Yliherva, 2006; Tietoyhteiskuntaneuvosto, 2006.)

The execution of strategy requires a close connection with planning and the economic management of the activity, as well as with goal and performance management, and leadership. At Kymenlaakso University of Applied Sciences, the process unfolds on the annual level for the most part as follows:

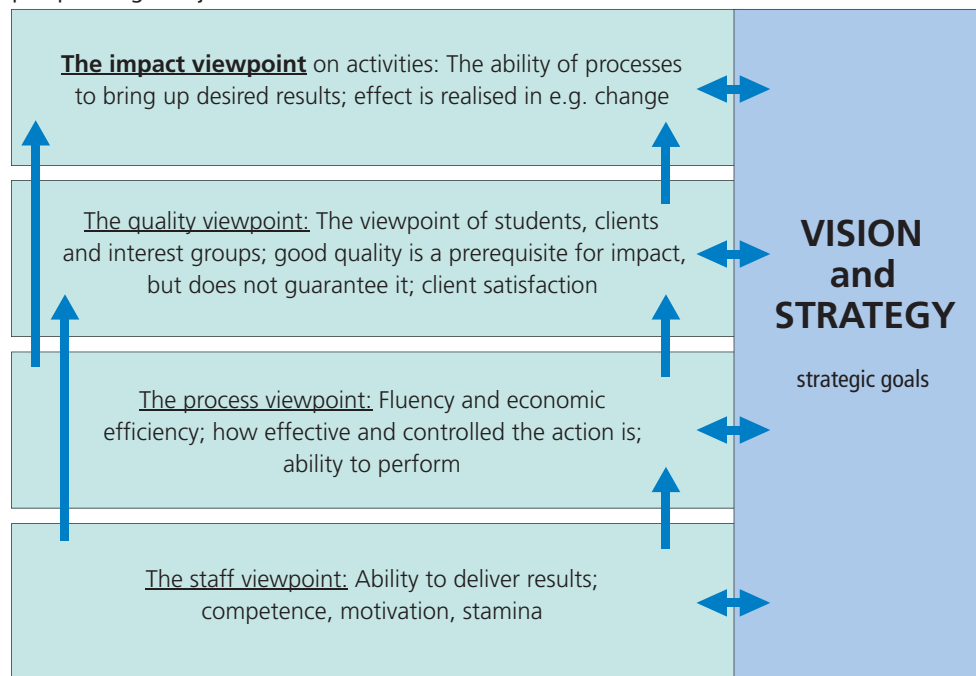
Point in time	Procedure / type of action taken	Documentation
May	Contract negotiations (Kymenlaakso University of Applied Sciences, Kymenlaakso University of Applied Sciences Ltd ,and the Ministry of Education and Culture) / negotiations once every four years, starting 2010 TOP DOWN: Management guidelines on the general development goals on the basis of the university's general strategy, the goals set for the contract period (Ministry of Education and Culture), and the previously realised quantitative and qualitative figures and indicators.	Contract documentation (2010-2012) Methods of measurement for goals and performance Qualitative indicators Current operational and financial plan Executive Group memos
August - September	Division and unit analyses, preparation for internal negotiations on goals and performance, and preparation for budget negotiations (BOTTOM-UP)	Memos by division and unit executive groups, advisory councils and planning groups, plans of execution, performance cards, methods for measuring practice and productivity, assessment and feedback information (feedback from students, interest groups and clients)
October	Internal negotiations on goals and performance, following the Balanced Scorecard system; budget negotiations (calendar year)	Performance cards Plans of execution: ventures, division of tasks Financial plans
October - December	Leadership: complementary and clarifying development appraisals BSC assessments by the executive group, the management groups in the faculties and the corporation (Kymenlaakso University of Applied Sciences Ltd)	Background information materials: strategies, contracts, operational and financial plan Forms filled at development appraisal interviews, plans for working hours Division analyses Memos from the executive group and management groups
November - December	Devising the operational and financial plan for the University of Applied Sciences	Operational and financial plan
December - January	Preparation for contract negotiation with the Ministry of Education and Culture (negotiations once every four years, starting 2010) Discussions at the executive group, the management groups and the corporation (Kymenlaakso University of Applied Sciences Ltd)	Draft contract between the university of applied sciences, the corporation (Kymenlaakso University of Applied Sciences Ltd) and the Ministry of Education and Culture; executive report on the strategic management of the university of applied sciences
February - April	Leadership: development appraisal interviews	Background information materials
May	(Contract negotiations at the Ministry of Education and Culture) General assessment of the BSC process Devising the Societal Commitment Report for the university	Summary of the assessment of the BSC process

It is a challenge for universities of applied sciences to provide proof on the impact of their activities and to distribute this information (see law on modifying the legislation on universities of applied sciences). Regional and societal impact and/or client impact is one of the central criteria for the productivity of Kymenlaakso University of Applied Sciences. Limited resources require us to consider economic efficiency. Economically run activity with high impact is based on processes and structures that function well and effectively,

as well as on competence that is correct and relevant to the situation.

Productivity is assessed from several viewpoints, and there must be connection and balance between the different dimensions, criteria and tools of measurement. In the BSC process, risk management is used to assess the risks connected to reaching the goals. Avoidance of risk scenarios and attainment of desired goals is analysed. The following image depicts the productivity chain of the university, especially its impact viewpoint:

Kymenlaakso University of Applied Sciences productivity chain, paraphrasing Lumijärvi



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Image 2. The Productivity Chain at Kymenlaakso University of Applied Sciences.

It is useful to communicate about the impact of activities and outcomes also to interested parties outside the institution. Kymenlaakso University of Applied Sciences has paid particular attention to this, among others in the case of

research and development. On the university website (www.kyamk.fi), visitors can familiarise themselves with the material and immaterial results, and the impact of our projects through the 'R&D activity bank of results'.





Image: Sanna Kivioja



Learning in Entrepreneurial Style Practise Viewpoints



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Learning and competence have always been and still remain central to the development of organisations and society. However, society expects universities of applied sciences to deliver people who are capable of more than robot-like repetition of memorised content into working life. From the viewpoint of regional development, a graduate from a university of applied sciences is expected to have not only knowledge of the subject, but also capabilities that allow working in a style typical of private enterprise: innovativeness, ability to act in networks, ability to tolerate uncertainty, and to take risks. Bringing up these meta-skills in the pedagogical solutions and the learning environments of universities of applied sciences is a crucial factor in the pedagogy practiced in such institutions; it concerns the skills a graduate should have, and the kind of learning environments needed to produce this competence. Answers to these questions are sought in the LCCE® – Learning and Competence Creating Ecosystem, the concept created by Kymenlaakso University of Applied Sciences.

In this article, I will examine the LCCE® concept from the viewpoint of daily practice; which factors in the learning environment are those that facilitate practice according to the LCCE® concept. First, I will introduce Allan A. Gibb's view on the characteristics of entrepre-

neurial style of practice in learning environments. Next, I will bring up some features I find important about the differences between a structural model and the ecosystem, the roles of the supervisor, and about the organisation in the ecosystem.

Entrepreneurial Practice in Learning Environments

The characteristics of entrepreneurial practice seem to be equal to the competences of working life that organisations are seeking, irrespective of their field. These characteristics may also be ones that a graduate from a university of applied sciences can utilise when developing an organisation's practices and promoting its competitive edge. Gibb emphasises that the development of an entrepreneurial learning environment must respond to the challenges created by globalisation, uncertainty and complexity. He has presented seven challenges which should be taken into account when developing learning environments that function in an entrepreneurial style. 1) The student must have opportunities to live the everyday life of an entrepreneur where situations connected to **uncertainty** are experienced and managed. 2) When developing the learning environment, one must be prepared to continuously **reflect on the values and beliefs**

that affect teaching practice. 3) **Pedagogical methods** must be such that they allow the promotion of *entrepreneurial behaviour* (for example detection and utilisation of possibilities, taking initiative, taking risks), as well as *characteristics typical of an entrepreneur* (for example motivation to perform, self-confidence, creativity, autonomy, control of action, commitment), and *other skills connected to private enterprise* (for example skill at negotiation, marketing skills, project management skills, creative problem solving skills). 4) The school should develop an **enterprise-like organisation**, with the task of supporting the development of behavioural characteristics typical of an entrepreneur (for example broad job descriptions, low hierarchical structures, client-centred approach, independence, and learning through action). 5) The enterprise-like organisation should function as a **learning organisation**, where learning is continuous and tied to situations, not guided from outside. 6) The structures and processes of the learning environment should extend to outside **business contexts**. 7) Behaviour characteristic of an entrepreneur should be a new form of learning, and especially a **means of creativity**.

In the entrepreneurial learning environment the goal of learning is not in “what have you remembered” and “what have you learned”, but “what do you think” and “what can you do”. (Gibb 2000a; 2002b)

From Structural Model to Ecosystem

The first of the tables below (Table 1) shows a comparison of a structural model and an ecosystem. The second table (Table 2) describes the central features of the tasks conducted by the supervisor and the organisation in an ecosystem.

In traditional structural models, the curriculum has been the factor determining the course of activities, which have been released into the contexts of real life through a set of study schedules, instructions for practice, and tight rules. Curricula are certainly still needed to provide structure to activities, but flexibility has been sought by building competence-based units with inbuilt opportunities to deviate to different working life projects. It is important

to allow the students to participate in projects already in the early stages of their studies, even for the purpose of the students learning from mistakes and discovering creative thinking, if this is their preference. At its best, a module is a complete plan only with regard to the early stages of the learning process. Later on, it shapes itself according to the situation and the background and needs of the student into a whole that produces innovations and material connected to learning in a social context.

Assessment practices connected to learning are a crucial part of the learning process. The increasing shift into group, peer and individual assessment improves the skills of providing and receiving feedback, which are required of the students in working life. It also prepares for critical assessment of processes, and develops interaction skills. Continuous feedback during projects and processes provides opportunities for corrective action during the processes. Alongside mechanistic feedback systems, it is good to have also other kinds of feedback. For example, the insight into the student's mental world provided through feedback discussions and written reflection is substantially more extensive than that provided by, for example, the use of numerical scales.

The question of what should be assessed proves to be a central issue. In learner-centred learning environments, the target of assessment should increasingly be the action of the learner and the group of learners. Assessment in traditional structural models often focuses on the action of the teacher, with the teacher's teaching style, the teacher's materials, and presentation skills being assessed. Assessment should develop the learning processes of the learners, give them information, and make their action in the learning process visible.

How do I know what I am learning? In a traditional structural model, the feedback from learning may be, for example, an examination grade which measures the facts asked for in the examination questions, these often being the required substance. Examinations can be either formative or summative. When well designed, an examination can add something useful to assessment. However, the learners will learn many other skills, in projects for example, and the learning of these skills

should be made visible to them. These are the so-called meta-skills. An employer will often give high priority to such meta-skills, for example when hiring new employees. This places great demands on the supervisors with regard to making the learners aware of what they have learned, besides the facts related to the subject matter. For example, when work in a group gets stalled because of interpersonal problems, the first thing that happens is often that the whole group becomes paralysed, and in the worst case the group assignment does not get finished. The group may, however, have learned about managing conflicts in the context of teamwork, and about how a team should normally function. It is important for the supervisor or the person in charge to have tools to make this visible to the students; what did we learn from this, despite all? Not how we failed, but what we learned. In an entrepreneurial learning environment, the supervisors should be able to detect different functions connected to learning in a broad sense. Such functions are, for example, the stages of teamwork and the conflicts between groups, innovative working methods, project management, negotiation skills, and interaction.

It is of prime importance that sufficient supportive strength exists in the learning environment to carry the project through when the student alone does not have the resources. Learning environments must allow for safe failures. A failure that is well analysed, if it has not been traumatic, may be the learning experience that becomes etched in memory more firmly than anything else.

The experiential world of the learner is rich. This richness comes out in different teams as different types of competence. In caricature, it can be said that one team member brings a cheerful atmosphere to the team, one brings skill in using technical tools, one brings experiential knowledge of the subject matter itself, one has mastered information search, one is strong in logical thinking, and another one has good presentation skills, and so on. It is good to reinforce positive learning experiences by encouraging the students to notice their own competence, also in areas other than knowledge in terms of subject matter.

From the learning point of view, it is also

significant that the learner gets to participate in seeking different opportunities in the environment, and in formulating problems on the basis of observed situations. In this way, the learner will develop innovativeness, ability to detect problems, and problem-solving skills. As the learners get to participate in projects, they will at the same time create networks. In a traditional structural model, the learners' first contacts with potential employers may be job-seeking situations after graduation. Instead, when the learners participate in different projects and work in real-life interaction with organisations throughout their studies, they will have functioning networks ready for utilisation upon graduation. Employment opportunities and placement in working life are thus greatly enhanced.

Roles of the Supervisor and the Organisation in an Ecosystem

Producing learning and competence in an ecosystem requires the organisation to have visionary pedagogical insight, with an emphasis on orientation towards the future. An organisation is a producer of resources, but it must also be willing to take risks in terms of pedagogy. By this I mean innovative experiments, trying out new kinds of practice and pedagogical projects, which can result in the creation of something new. In a pedagogically creative organisation, it is not always possible to act according to a tight set of rules; there has to be some flexibility in the way things are done. It must also be accepted that not everything will be a success and that on the other hand, the end result will not be known beforehand, even in the pedagogical sense, as is characteristic of innovative action. Pedagogical innovations can be created also in small-scale experiments.

From the viewpoint of an educational organisation, it is important that the teaching staff and other personnel understand the basic ideas of entrepreneurial practice, and act accordingly. Characteristics of entrepreneurial practice are innovativeness, detection of possibilities, tolerance for uncertainty, and capacity to take risks.

Organisations have to get used to a variety of evaluation processes, which will also utilise



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	Structural model Learning from teaching	Ecosystem Learning by producing
TEACHING PLAN	Internal matter of the school <ul style="list-style-type: none"> • curriculum dictates • rules, guidelines Planned ahead of time <ul style="list-style-type: none"> • inflexible Related to the internal life of the educational system and the administration	"Offering itself for consumption" <ul style="list-style-type: none"> • recognition of prior learning • personal learning plan Planned through reflection on results <ul style="list-style-type: none"> • flexible Related to the production of innovations The whole environment involved in the teaching plan
MODULE	Structural solution <ul style="list-style-type: none"> • "re-packaging" Predefined	Finished plan only on early stages → development through reflection Broad assessment, 360° feedback Assessment of substance, processes and project management
KNOWLEDGE	Models, ready-made knowledge <ul style="list-style-type: none"> • knowledge is transferred from one place to another Clear, predefined, same for everyone	Problematical quality Insightful Continuously constructed Critical What was learned? (i) meta-skills (ii) substance Detection of possibilities
PRACTICE	Doing by copying a model <ul style="list-style-type: none"> • predefined practices • "correct solution" → punishing	Detecting problems Creative problem-solving → right to be wrong → learning from mistakes Individual solutions End result not always known
EXPERIENCE	The learner has no experience of things <ul style="list-style-type: none"> • experience is created through assignments 	The learner has a rich experiential world ↔ transfer Making personal competence known to oneself and others
THINKING	Thinking by administration and teacher	Reflection Problematising
SKILLS	"Pre-made package" ↔ "Needs" of the working life <ul style="list-style-type: none"> • emphasis on substance 	Real-life interaction with working life <ul style="list-style-type: none"> • meta-skills • learning by "seeking"

(Pekkalin, S.; Tulkki, P. December 12th 2008)

▲ Image 1. From Structural Model to Ecosystem

	The role of the teacher in an ecosystem	The role of the organisation in an ecosystem
TEACHING PLAN	Readiness to continuously work on the teaching plan <ul style="list-style-type: none"> • continuous development of personal teaching/ practice Team work / teacher teams Critical attitude / stating problems Readiness to continuously give and receive feedback	Producing resources for the work Risk-taking ability and creativity in the whole administration Flexible leadership Readiness to receive continuous feedback → leadership for visionaries
MODULE	Co-learner Assessment; learning to apply multi-level, many-faceted assessment	Learning organisation; learning from client relationship; students, working life Multi-faceted evaluation processes
KNOWLEDGE	From "besser-wisser" to learner Right to be wrong and right to fail ↔ learning from mistakes!	Organisation admits its lack of competence → readiness to learn new things From "school-learning" to production of meta-skills (working life skills)
PRACTICE	Open learning environments <ul style="list-style-type: none"> • flexible, changeable spaces • working life spaces Breaking down barriers between disciplines	Open leadership, transparency Enabling practice Permission to fail Making competence in learning visible Strategies → visions, proactive pedagogical thinking
EXPERIENCE	Making personal competence known (supervisor, others) (i) meta-skills	Making the organisation's competence known Innovation-driven activity
THINKING	Reflection Formulating problems	Openness to new things Giving credit for work Encouragement
SKILLS	Attitude: I am never complete You can if you want to, enthusiasm	Learning, learning, learning...

(Pekkalin, S., Tulkki., December 4th 2008)

▲ Image 2. The Roles of the Supervisor and the Organisation in an Ecosystem

methods of measurement other than quantitative ones. It must also be accepted that when engaging in experimentation, we will not always succeed.

Perhaps the most crucial change in the role of the supervisor in the Learning and Competence Creating Ecosystem is that of moving towards team-based teaching practice. Being a teacher will no longer require one person to have perfect competence, instead, the teacher's competence will be complemented by the competences of the students and other instructors. New competence will be created in a social context where everyone learns. The boundaries between disciplines will come down, which will add breadth and variety to the teachers' traditional competence and guidance skills, as well as increase the transparency of the practice. Recognising the supervisors' own competence and making it transparent to themselves and others will become a key part of learning processes.

The supervisor's concept of humanity becomes important in these ecosystems of learning and competence. Our interaction between supervisor and student, within the whole organisation and between colleagues, is often dictated by how we perceive each other. A humanistic and cognitive view of humanity teaches us to see each other as unique and creative persons, with the will to develop and the responsibility for their own development. According to such a view, a person is also an active obtainer of knowledge.

This kind of ecosystem places certain demands on the spaces in a learning environment. Ecosystem learning environments must facilitate obstacle-free work by learners, organisations and other parties connected to the learning process. Spaces must be available for negotiations and for work, and those working in projects must be provided with up-to-date tools for work and communication. Spaces connected to learning can also exist outside the school itself, for example in businesses and institutions.

Conclusions

The pedagogy of universities of applied sciences has not yet been defined as a concept. Over their whole existence they have been searching for their pedagogical policies. They have conducted different working-life based pedagogical experiments, such as student co-operatives, project based learning, research-based learning, and so on. A common factor to all these experiments has been the emphasis of the learner's role in the activities, and combining learning with a variety of real working life situations.

A student who enters a university of applied sciences may have received training in accordance with the traditional view of learning where lectures are emphasised and learning results are controlled by examinations and tests. From the learner's point of view, this may even be an easier way to get through their studies instead of jumping into uncertain situations where the learner's own thinking is in the main role. In my opinion, there are continuous challenges to be faced in an ecosystem of learning and competence. Firstly, the continuous teaching of new kinds of learning concepts to learners becomes of primary importance. This could be called "student pedagogy". Why do we do this, why is it so important? Secondly, I feel that we should develop tools of measurement that are applicable in learner-centred pedagogy and that complement it to be used alongside the student questionnaires and assessment tools already in use at universities of applied sciences. These would enable us to measure the learning results produced by different learner-centred pedagogical experiments.

It would seem that the pedagogical challenge faced by universities of applied sciences is that of internalising proactive pedagogical thinking; what kind of skills will the organisations and societies of the future need in addition to substance knowledge, what kind of learning environments and methods should be used to learn them. ●●●

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2. KymiDesign & Business Examples of Projects and Framework Agreements

KymiDesign & Business

KymiDesign & Business is a learning and innovation unit of the Faculty of International Business and Culture at Kymenlaakso University of Applied Sciences. The unit's activities are directed towards providing concrete support for the activity of businesses in the region, and towards generating new business activity. The strengths of the services provided by KymiDesign & Business unit lie in connecting the functions of higher education and business life seamlessly, as well as in a thorough knowledge of the processes in different fields, in capacity for innovation, and in linking research with services.

Through its broad variety of services, KymiDesign & Business can help a business to better distinguish itself from its competitors, as well as to succeed in its business ventures, for example through marketing and stronger, more unified business and product images.

Unit's Goals

KymiDesign & Business has been established in order to create and develop connections between higher education, research and the world of business. The design and communication services provide businesses with concrete, varied and easily accessible services in the areas of design, communication, research,

and product development. The business life services support the daily functions of businesses and, among other things, promote the commercialisation of ideas created in research and development activities.

Goals that KymiDesign & Business unit strives for include the comprehensive management of projects, specialised expertise, flexible work practices, and the use of innovative methods.

Applying these principles, KymiDesign & Business is able to fulfil the requirements set for modern product development and business activity, increasingly extending to multiple fields and emphasising research and strategy.

The following pages present examples of realised projects and long-term contracts of collaboration with businesses, or so-called framework agreements. Our aim is to increase the number of these permanent partnerships with working life. This will enable better coordination of projects with regard to the requirements of the curriculum. Multidisciplinary teacher and student teams, together with the representatives of working life commissioning the work, have joint responsibility for the execution of the ventures. The staff members of KymiDesign & Business unit provide support for the activities with their specialist expertise. ● ● ●



▲ The exhibition space and café of the "Paja" ("Workshop") building.
Image: Arkkitehdit NRT Oy

The Logibox Project

Author:

Based on a project report by the students Hanna Oilinki, Mari Simonen and Marie Nuotio, summarised by Sinikka Ruohonen, Doctor of Philosophy, Principal Lecturer, Kymenlaakso University of Applied Sciences, Design and Media

Commissioner:

Plastweld Oy, www.plastweld.fi
Ekoteho Oy, www.ekoteho.fi

Execution:

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student of logistics;
Mari Simonen,
student of business economics;
Marie Nuotio,
student of organisational
communication;
Kukka-Maaria Tuomola,
student of graphic design.

The students were supervised by:

Research Director Teija Vainio
Senior Lecturer Eeva-Liisa Kauhanen
Principal Lecturer Markku Nikkanen
Research Director Jari Handelberg
Project Manager Heta Vilén

Time of execution:

May 2008 to August 2008

This project has been awarded an honorary prize of 500 € by the trade union ERTO ry. In a rationale for the award, the following was stated: *Hanna Oilinki succeeded excellently in executing the logistical analysis for the launching of a new product, a transportation and storage box. Oilinki's work was broad-ranging and interactive, and results from this work will be utilised in marketing the product.*

The project aimed to develop a description of the logistical system, a marketing plan, a communication plan and a logo for a new type of transportation container. Four students from different study programmes worked on the project, representing logistics, marketing, organisational communication, and graphic design. The project was considered as the students' practical training period.

Product

The Logibox is 100 % recyclable, in other words, the material can be reused. The material is UV protected and non-toxic. The product has been moulded in one piece, and it is highly resistant to wear and tear. The Logibox can be marked with a "highly durable" label or with a logo, and the colour can be individualised for each client.

The product features sturdy legs, which

means that wooden platforms are not needed. The boxes can be manipulated with a forklift. The Logibox provides good protection for the cargo, and it can be used for a variety of different transportation needs.

Businesses

Ekoteho Oy is a company operating in the town of Pieksämäki. The company processes most of the fluorescent lighting tubes and mercury-vapour lamps used in Finland. Ekoteho Oy has developed an entirely new type of logistical system for transportation. The system in question centres around the "Ekoboksi" Logibox, manufactured of HDPE. The product is produced by Plastweld Oy, situated in Tervajoki. The Logibox has been developed for the purpose of collecting and recycling fluorescent tube waste in order to facilitate bringing the material to the factory for processing. The Logibox can be used in many different ways in storage and transportation. The aim is to create a logistical solution that improves the cost-effectiveness of the transportation and replaces the previously used solutions.

Description of the Logistical System

The efficiency of the new system was described with the aid of several numerical indicators.

During the project, the placing of the boxes into different vehicles was planned, as well as their loading and unloading, and the whole process was modelled. In order to define ecological efficiency, the cost incurred by cardboard packaging was defined.

Distribution targets were also mapped. In internal distribution, the Logibox would eradicate the need for cardboard boxes in places where they are not otherwise necessary, and/or the handled items are awkwardly shaped. The boxes can also carry loads that are specific to a target company, which means that such loads are easy to keep separate from other material and to deliver further as a unit. Compared to cardboard boxes, one of the advantages of the Logibox is that it can be stored outdoors without problems developing because of moisture.

Marketing and Communication Plan

The starting points for the marketing and communication plan are a market analysis, mapping potentially competing products, and a SWOT analysis.

Based on the marketing and communication analyses, the students set goals for the marketing and communication of the product. They also defined the target groups for internal and external communication.

The students suggested that the means to do marketing and communication should focus on the product's appearance and usability, as well as its price, availability and marketability. Suggested procedures for conducting

marketing and communication were budgeted and scheduled. In addition, four different suggestions for a logo were designed. Suggestions were generated for sales arguments, name, slogan and target locations where the product could be used. The ten most important characteristics of the product were mapped.

Market Analysis

By the company's request, Scandinavia and the Baltic countries were considered as market areas. In the market analysis, factors to be taken into account while selecting a transportation method were considered. While analysing international marketing, information was sought on the target countries and on businesses in those countries; one student did a small-scale mapping of the situation in the target market, and collected contact information for businesses.

Results

The commissioning company was very satisfied with the end result, and the expectations were to some degree exceeded; a number of new suggestions for ways to use the product were created, as well as useful tips for marketing and communication. One of the suggested logos was adopted for use. The visual and advertising material generated for the description of the logistical system was utilised, for example, in the Alihankinta 2007 trade fair and in brochures. ●●●

← Logibox-containers provide protection for the cargo. They are easy to stack and load.

Image by Kukka-Maaria Tuomola



Market Research and Renewing Business Image for Trendi Spa Ltd.

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student of graphic design

Project steering group:
Executive Director
Eija Venäläinen,
Programme Head
Auli Mattila-Möller,
Project Manager Ari Utriainen,
Project Planner Heta Vilén

Time of execution:
October 2006 to June 2007

Project Description

As a thesis project in graphic design, a new business image was designed for Trendi Spa Ltd in a situation where the company had expanded its business activity. The project included mapping of background information from a variety of sources, an analysis of the environment, and extensive planning and practical application of the business image. The project was submitted as a candidate for an award by ERTORY (Federation of Special Service and Clerical Employees).

In this thesis, factors related to the style and content were defined jointly with the company during the project. These factors were then conveyed using visual means, with excellent success. The new image fits in with the company's stated goals and with the field it works in.

In the process of creating the business image, the following things were examined, outlined, defined and also executed at the level of plans (as different graphics files): the image of the company was defined with regard to its goals; a visual map of the business was created and also described verbally. The business identifier and logo were further developed, and the identifying colours were given more precise definitions. The fonts used by the busi-

ness in its communication or the typography of the business, was defined. The creation of the business image included also designing a general introductory brochure, photographing the business premises, and designing formats for a price list, an advertising flyer, and a background for advertisements. The job description also included work that supported the production of printed materials, such as dealing with printing presses and handling offers for printing jobs. The style of the business website designed and coded. Finally, the business image was combined into an extensive graphic manual for the business, including also all the original files.

Effects of Collaboration

Trendi Spa Ltd adopted for use the entire extensive business image created as an undergraduate thesis. The business image has received considerable praise from the customers of the company, as well as from other interested parties, and it has been publicised by the press (e.g. Kymen Yrittäjät newsletter, issue 7, 2008).

This successful project has also brought Kymenlaakso University of Applied Sciences more opportunities for collaboration in similar business development ventures. ●●●



▲ Designing a visual image for Trendi Spa Ltd.
Image by Jukka-Petteri Eronen

Developing the Concept of a Library Vehicle for Kiitokori Ltd.

Text:
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Design and Media

Commissioner:
Kiitokori Oy
Olli Aarnio

Project group:
Project Manager Jouni Silfver
and a group of third-year
students of product design and
communication

Time of execution:
Autumn 2008

Background and Purpose

Kiitokori Oy is a company operating Kausala that produces heavy specialised vehicles. The company has been in business since 1968. The company's main products are library vehicles, buses, and airport vehicles. All vehicles are custom-made to suit the client's needs, and a total of about 55-60 of them are built annually. Kiitokori is the market leader in manufacturing library vehicles in Finland. Kymenlaakso University of Applied Sciences has cooperated with Kiitokori Oy since 2003 in a variety of projects connected to vehicle production. The forms of business cooperation have extended from future concept development, in connection with new products, to product development with the aim of starting production. As a sample project, a concept development project with Kiitokori Oy is presented below. This project was linked to the curriculum for students of product design and communication in the autumn of 2008.

The aim of the study period was to familiarise the students with charting the client's needs as the starting point for product design and development. The topic of the assignment was creating a concept for a new type of library vehicle intended to represent a new variant of current Nordic library vehicle products, to be launched in the near future (within the next 2-10 years). In the course of the work, the

students analysed both the attractiveness of the service concept associated with the product, and the product created by transforming this concept into a physical form. The physical product would utilise the road network to move around in either densely populated areas or in the countryside, and it would provide the customers with library services representing both the expansion of previous services and completely novel services.

Process

Based on the results of information searches conducted during an earlier research methodology course, the current usage of library vehicles was mapped, the target groups and their needs were delineated, and design solutions were envisioned based on this data. Possible users and user groups in this project were children, young people, students, working-age people, the elderly, summer cottage occupants, and distance workers. The students conducted, among other things, interview-based surveys among the abovementioned user groups. The following factors were considered when developing the concept:

- User groups; how will they benefit?
- Services; what will be offered?
- Cooperation with different parties
- Local requirements

- Meeting modern standards
- Brand development
- Ease of customising, adaptability for different client groups

As the final outcome of the project, Kiitokori Oy was presented with the finished visual and written work of four student groups where the students introduced the background research connected to the library vehicle concept, the rationale for the concept, and the design solutions based on the results from the background research. The design solutions were outlined and drawn both manually and

by using computer-assisted 3D modelling. The company provided feedback during the project work. In the concepts created by all four groups, the needs of future client groups had been considered quite thoroughly, and innovative ideas had been used as starting points for the vehicle's design. The feedback received from Kiitokori Oy was positive. Since the goals of the project had been set in terms of envisioning future possibilities, the company did not make direct plans to start production. Some of the ideas can be used in the near future, after iteration. ●●●

▼ Pen and paper are important tools in outlining an idea.

Image by
Annika Koskelainen

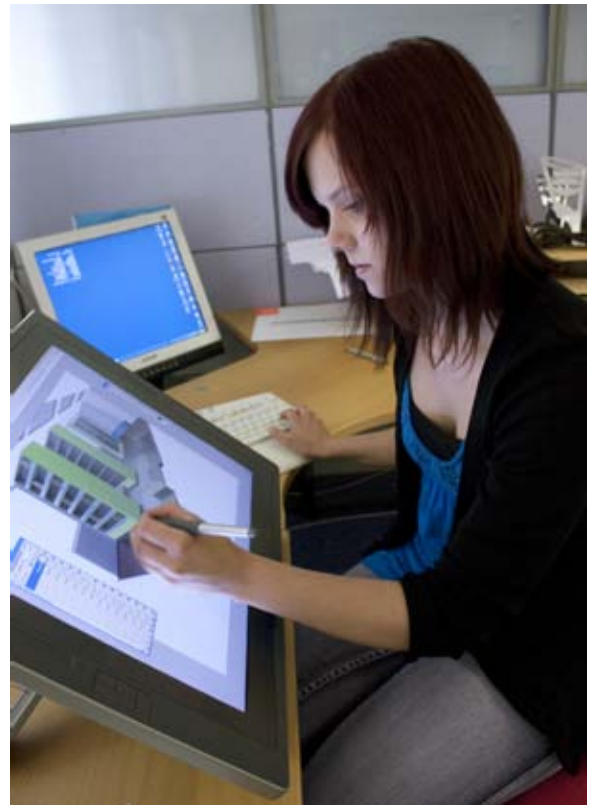


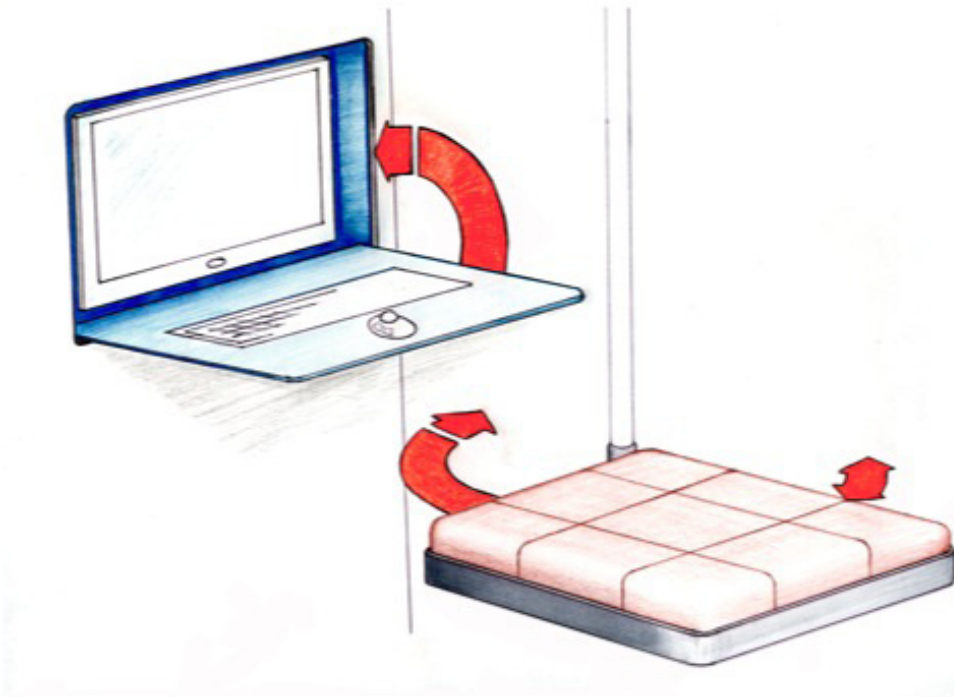
- ▶ Processing presentation images on a computer terminal.

Image by:
Annika Koskelainen

- ▼ Ideas were also outlined digitally.

Drawing by:
Tiina Lassi





◀ Sketch to illustrate the functioning of an IT service point.

Drawing by:
Antti Viitanen

▼ Team work in process, planning the library vehicle concept.

Image by:
Annika Koskelainen



DIGMA

the Digital Archive of Method Combinations

Text:

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Jaakko Kempainen, Research
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Commissioner:

The Finnish Funding Agency for
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Project group:

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Project Manager Teuvo Karvonen,
Project Manager Ari Haapanen,
Research Assistant Jaakko
Kempainen

Parts of the project were
supervised by lecturers in different
areas of design, participation by
groups of industrial design and
boat construction students

Thesis work:

1. Ilari Nummi, Silver-veneet Oy
2. Petri Jormanainen, Termalin Ky

Project period:

November 2004 to December 2006

Background and Purpose

In Digma project, a practice model was developed to support joint concept development by the fields of Finnish boat construction and technological design. The practice model was tested using the methods of future studies and by conducting real-life design projects. The work was needs-based research, based on predicting the future needs of business life. This venture produced knowledge, design methods and basic technological solutions for the constructed environment. After some further development, these may provide businesses with a competitive advantage in the medium or long-term time frame.

The goal in Digma was to exert positive influence on utilising innovations in industrial production. With the help of the environment that was developed, attempts were made to speed up product development and to ensure the precision of product segmentation. An important practical consideration in this venture was improving the functioning capacity and decision-making ability in the boat construction pilot businesses that participated in the project.

The core of the research problem was the question of combining the knowledge and skill in industrial design and in the technical field of planning, and how to utilise these in the early stages of product development, namely concept formation. A concept formation model was developed in Digma in order to respond

to future challenges in product development and in business or community strategies. The model was based, on the PESTE method which is used in future scenarios. The method takes into account political, economical, sociological, technological and ecological variables in the global environment.

The pilot businesses that participate in Digma are:

Artekno, Silver-Veneet Oy, Termalin, Heinalahden veistämö Oy, Tristan Boats Oy, MV-Marin Oy, VA-Varuste Ky, Planson Oy, Khimaira Oy, HT-Lasertekniikka.

The main funding body for the project is The Finnish Funding Agency for Technology and Innovation (Tekes). As substantive experts and developers of the basic research material, the project used the services of the Degree Programme of Industrial Design in University of Art and Design Helsinki, the Department of Industrial Management in Lappeenranta University of Technology, and the Department of Plastic Technology in Tampere University of Technology. Substantive expertise in terms of application-level material was provided by the Boat Construction Engineering and Program Engineering Programmes in the Faculty of Technology, and the Programme of Information Technology in the Faculty of Business Economics in Kymenlaakso University of Applied Sciences. In addition, expert organi-

sations at our disposal were the Department of Products and Manufacturing in VTT Technical Research Center of Finland, and the Wood Composite Development Unit in Joensuu Science Park.

The core group involved in the research project consisted of the research director, an industrial designer (project manager), and two research assistants (a student of industrial design and a boat construction engineer). Digma project generated two Master of Art and Design theses compiled by students of the University of Art and Design Helsinki, two Bachelor's Theses from Kymenlaakso University of Applied Sciences and finally, a number of advanced-level projects concerning a total of about ten students in Kymenlaakso University of Applied Sciences. In addition, several lecturers supervised smaller sub-projects as part of their classroom work in various stages of the research.

Process

The needs of the pilot businesses were mapped at the beginning of the project. The needs of the companies varied from concept development and improving planning processes within the company all the way to construction of a functioning prototype boat. The businesses were financially committed to the project. Below is a brief list of the needs and goals expressed by the businesses regarding the content of Digma:

- **Artekno-metalli Oy:** Finding materials for the construction of prototype moulds, with the aim of making the production of so-called “unique concept boats” cheaper.
- **Silver-veneet Oy:** An analysis of the visual language of existing boat models, and the mapping of identifiable features. Concepts for new models that fit in with the company's product family were developed in the project.
- **Termalin Ky:** Advantages and drawbacks of 3D-design were analysed with regard to situations where the company commissions the manufacturing of products through subcontractors in Finland.
- **Heinlahden veneveistämö Oy:** The goal was to create sample marketing materials for client-specified customising of old boats. In this context, customising meant selecting the

colour scheme.

- **Tristan Boats Oy:** The purpose was to examine the possibility of using an old boat hull as the basis for an entirely new boat model.
- **MV-Marin Oy:** The purpose was to study a boat concept created on the basis of an existing model, with additional analysis of the effects of spatial solutions on the study of design-related masses.
- **VA-Varuste Oy:** The company wished to develop its own design and process management. The objective was to provide expertise in 3D-design, so that the company could offer more extensive services and expertise as a subcontractor.
- **Planson Oy:** The basis for concept formation was provided by a prototype boat that the company had created, with the aim of getting it ready for production and marketing in terms of both appearance and usability. The prototype boat had been used to test the technical characteristics of the boat, and it had been previously subjected to approval by VTT Technical Research Center of Finland.
- **Khimaira Oy:** The company sought to find new ideas for boat seats and their uses.
- **HT-Lasertekniikka:** The aim was to survey and analyse the needs of people using boats in the course of their work, and to create a concept boat for these users. Another goal of the study was to explore the possibilities offered by laser technology and automation in the manufacturing of boats, and to seek to understand the process as a whole.

Digma project was very closely linked to educational modules at Kymenlaakso University of Applied Sciences. Students of design or technology were guided to join Digma's company-specific sub-projects as the needs of the projects and the students' interests dictated. These smaller projects proceeded alongside the practice model which developed at a conceptual level. One development method, which proved to be among the most important and functional from the concept point of view, was interaction between multidisciplinary student groups and brainstorming workshops connected to the development of future scenarios run at Innostudio in Kouvola.

In addition to the ideas generated for the companies, two concept boats were created



in the project on the basis of the future scenarios. The DIGMA 1 conceptual boat model (scale model), built for exhibition at Alihankintamessut 2005 (a subcontractors' trade fair), tested for its part the studied concept formation model from the technological viewpoint. Furthermore, the earlier work on the scenarios provided a basis for an imaginary product brief, which was used as a starting point in the development of the boat model. The project aimed to develop a boat concept that was used to test the functioning of the research model in boating culture 20 years into the future.

Ideas Involved in the Concept

- summer / winter “cottage”
- architectural image
- stable displacement hull
- catamaran
- insulating composite structure
- hybrid technology as a power source
 - solar panel surface
 - combustion chamber
- advanced battery technology
- PDX jet (“propeller free” water jet)
- internal spaces
 - cabin
 - 3 bedrooms
 - 3 toilet / bathrooms
 - sauna
 - well-equipped pantry
 - fireplace
 - grill
 - storage space
 - terrace
- composting waste disposal system

Digma 2 conceptual boat presented at the Boat Show in Helsinki in 2006 continued the testing and development of the concept creation model. The project aimed to create a new type of boat concept which will be used to test the function of the research model in the boating culture 65 years into the future. The technical characteristics of the boat were either well-established ones that had not ended up in mass production, or completely new ones in experimental stages.

Ideas generated through the second conceptual model:

- wave-piercing hull
- telescopic wing sails
- tilting rig → hull always remains horizontal

- anchor integrated into the hull, also acting as a stabiliser for the hull
- shuttle-like shape → space technology

Conclusions

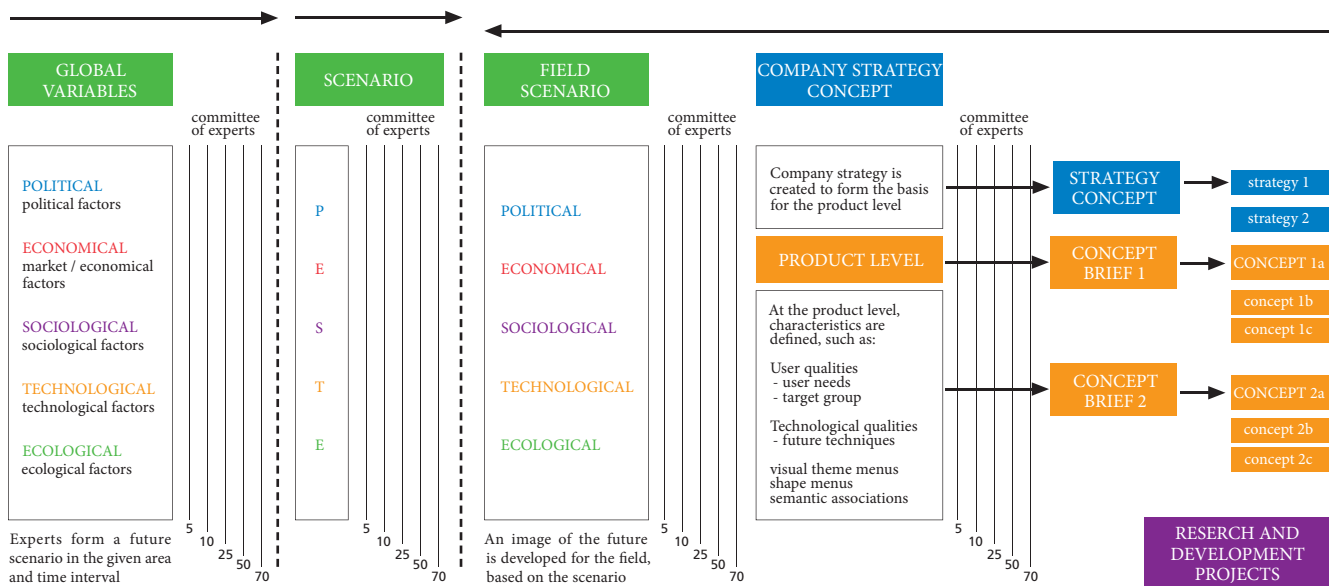
This project focused on developing a unified system of concept formation to be used in technical planning and design, with consideration for the different starting points of each professional field in the design process. A unifying feature was the need to predict future situations in order to be able to develop products that can successfully compete against other products in the international scene. To provide background for the development of the model, it was necessary to gain thorough understanding of the fields of boat construction and future studies methodology. In becoming familiar with the boat construction business, useful support was provided by the cooperating companies, each of which represented its own unique views and ways of designing and producing boats, all slightly different from each other. Development of the design process is necessary both at the basic level and when reacting to the future.

Efforts were made to optimise the concept formation model that resulted from the research, so as to make it efficient and practical, and thus easy and time-saving to use. While testing the model, the idea of the system was repeatedly reworked, in order to prevent it from growing too large and thus impractical. As a result, the model was successfully shaped to be relatively clear and sufficiently accurate in its projection of future scenarios. In this system there is, however, still room for further improvement, which is natural in the case of a continuously developing system. Targets for further development can still be found in making the concept formation model work in IT environments, and in the programs needed to accomplish this. ●●●



▲ Oy HT Engineering Ltd,
concept development for an
aluminium hull catamaran boat.
Created by:
Ari Haapanen and Nicolas V. Flittner

▼ Process diagram for Digma project



Karaoke Festival & Marathon 2008

the Event through the Eyes of a Publicist

Text:
Annika Valsti,
student of organisational
communication

In the summer 2008, I worked as a trainee in the field of communication at KymiDesign & Business through June and July. I currently study organisational communication for my fourth year at Kymenlaakso University of Applied Sciences, and while working at KymiDesign & Business unit, I was completing a work practice period required as part of my studies. During the summer, I participated in several projects, of which by far the most memorable and important was the Karaoke Festival & Marathon 2008 event, where my task was to be in charge of publicising the event. My job started in the beginning of June, and ended in the end of July – early August, when the event was over. The karaoke event was run in Kouvola during July, and it aimed to break - as it successfully did – the previous world record of continuous karaoke by singing non-stop for almost the whole July. The organiser was Karaoke Club Kouvola. In addition to myself, there were three trainees from KymiDesign & Business unit involved in the project; one a student of marketing, one of graphic design, and one of networks.

As a publicist, I had the sole responsibility for publicity and communication for the event. I devised weekly releases for the media, handled media relationships and gave interviews

to, among others, the radio stations Kymenlaakson Radio, Iskelmäradio, Radio Voima, and Radio Helsinki, as well as the newspaper Helsingin Sanomat. In the early stages of the project, I outlined a communication plan for the event, along with a small-scale crisis communication plan. In addition, I compiled press folders and handed out press passes.

The event received extensive attention in the media. News of the event was publicised both in Finland and abroad. As the event proceeded, we followed closely the publicity in different media, and I was delighted to see that my releases were published, especially on newspaper websites, quite soon after I had sent them. I was in the habit of sending a weekly release every Tuesday, with slightly more frequent releases towards the end of the event.

My practice period at KymiDesign & Business was highly informative and interesting. The summer passed nicely while working in my chosen field. I feel I learned a lot about being a publicist, and I hope that this practice period and work experience will help me in finding employment in the future. I find it wonderful that my skills were trusted at KymiDesign & Business, as this also gave me confidence in my abilities. ●●●



▲ Raimo Häyrinen opened the Karaoke Marathon in Kouvola in July 2nd 2008.

◀ The marathon area was located next to the Pohjola building in Kouvola. At night-time the area was closed to the public, but during the day it was open to all the friends of karaoke.

Images by: Annika Valsti

Market Research and Product Concept Development for a New Type of Yacht / Houseboat

Text:

Jouni Silfver,
Master of Fine Arts, Project Manager,
KymiDesign & Business

Commissioner:

Lummelautta Oy
Eero Lumme

Project group:

Project Managers Ari Haapanen and
Ari Utriainen,
Project Manager Heta Vilén,
Designer Mikko Määttänen.
Thesis by student of design
Kari Kempainen,
student of interior design Satu Dolk,
students of graphic design Salla
Jaatinen and Jukka-Petteri Eronen,
student of marketing Aino Hämäläinen

Project period:

May to June 2006
The business economics part

June to December 2007
The design part

The “Lummelautta” (“Water-lily Raft”) project is a joint venture between Kymenlaakso University of Applied Sciences business economics study programme and KymiDesign & Business. The project aimed to determine the market potential for an entirely new type of pleasure boat, and to create a plan on this basis to guide the building of a prototype-stage model of the boat. Kymenlaakso TE-centre, Tekes and VTT Technical Research Center of Finland participated in the project as external parties.

Lummelautta Oy is a company started by Eero Lumme in 2007 in Kouvolaa. Eero Lumme was not satisfied with the boats available on the market, which sparked the idea of an entirely new kind of boat. He was dissatisfied with both the look and the internal spatial solutions of the boats. According to his original idea, the living space in a boat with modern design should be built on top of two pontoons, in a way that is familiar from the pontoon structures used in catamaran boats. The goal of the project was to design a new kind of boat, the like of which has not yet been seen in the Finnish boat market. The basic assumption was that the boat would be meant for the domestic market. Because of the houseboat-like quality of the product, the theme was both thought-provoking and relevant to the current needs. The entrepreneur’s goals were shaped with the

help of the TE-centre’s Tuotestart consulting service, where the commercial potential of the idea was charted. The company’s project was partly funded by Tekes, and VTT Technical Research Center of Finland offered its services in terms of technological expertise.

Process

The market survey co-ordinated by the business economics study programme was started with an interview survey part, the results of which were later utilised in the product development. The interview survey was conducted at Koli Holiday Housing Fair (Kolin loma-asuntomessut) in the summer 2006. The interviews were meant to provide answers to the following questions, among others:

- possible uses of the boat
- mental images of a pleasure boat
- the level of features available
 - characteristics
 - size
 - price
 - interest in purchasing
- internal space solutions

According to the market survey, nearly 50% of interviewees were interested in buying a product that corresponded to the idea presented to them. The sauna turned out to form





- ▲ A 3D environment helped to create an image of the pleasure boat that is as close to real life as possible.

Created by:
Kari Kempainen

an important theme that became part of the basis of the concept boat.

In addition to the client survey, competitors were charted. "Houseboat" type boats built on top of pontoons are mainly manufactured and sold in the United States. Dozens of draft ideas accumulated before the desired shape was found.

In addition to design connected to the thesis work, KymiDesign & Business designed the boat's hull, the product graphics connected to the boat, the interior design of the boat, and the visual image of the company that markets the boat also devising the graphic manual for it.

Results

KymiDesign & Business completed the design of the boat's hull, the planning of the graphic manual for the company that markets the boat, the design of the product graphics connected to the boat, the interior design of the boat, and the description of the finished boat concept. The following is an excerpt from the manufacturer's product brochure:

"Flotty is a waterfront sauna, a gazebo and a place for a summer-time barbeque party. A boat does not require a building permit, or even expensive waterfront property. Flotty will fit next to your summer cottage, in a marina, or by Kaivopuisto shore if you so desire. You can enjoy the sun on the spacious roof terrace. The indoor space protects you from wind and rain. Two adults can be comfortably accommodated on the sofa-bed. In designing this product, we have paid special attention to making it environmentally friendly. All waste water is

collected. High motor power is not needed, and the boat can even be equipped with electric motors. Flotty is the new way to enjoy the beauty of Nature with your friends and family."

Eero Lumme received KymiDesign & Business business idea award in 2007 for Lummelautta. The panel of judges was impressed by the idea because of the way it meets the needs of the 21st century consumer. Especially a mobile sauna opens whole new vistas. The purpose of the business idea competition was to find new local business ideas worthy of developing and realising as well as people interested in starting businesses.

Lumme Boats and KymiDesign & Business are engaged in cooperation for further development, in the context of the TULVA project, a part of the Tekes boat program which will end in 2010.

Commissioner's View on the Pleasure Boat Project

Eero Lumme, Executive Director,
Lummelautta Oy

The project with KymiDesign & Business proceeded very fluently. Schedules were kept, the client's views were heard, and services were actively offered. The best feature was that dealing with KymiDesign & Business worked on a "one counter" basis. All parts of the project were under the control of the people in charge. This was a crucial factor in making my work easier and in building confidence towards KymiDesign & Business. ●●●



- ▲ The sunlit interior spaces have been designed with relaxed free time and travel in mind.

Created by:
Kari Kempainen

- ▼ A 3D model of KSS Energy power plant, created on the basis of a colour scheme by Katri Katajisto.
Created by:
Elina Halme and Simon Örnberg



KSS Energia

Mutual Learning

A framework agreement between KSS Energia and Kymenlaakso University of Applied Sciences signed in September 2007 has been one of the most important and successful projects that our company has engaged in. One of the purposes of cooperation is maximising mutual benefit. We feel that we have been highly successful in this. We have had opportunities to show our own strong expertise and professional skills as a company in the field of energy production, for example by lecturing on study-related topics, in addition to demonstrating these through engaging in the work itself. Similarly, business students have performed periods of work practice in several different fields in our company as part of their studies.

We, as workers with experience and long stretches in working life behind us, have learned many things from today's business students that make work easier: questioning things, enjoying the work, and the enthusiasm that goes with youth. All this has certainly left marks on us in a very positive sense. Equally, the students have learned from our way of

working, and through this they have become a very important link in our organisation. We have found that there is no need to spare positive comments. We have had the pleasure of offering summer jobs in addition to practice placements, more than we have in the previous years. During a practice period or a summer job, the students have had opportunities to perform the same tasks as the permanent employees. Through this process of familiarisation, the students have proceeded step by step into more demanding and varied tasks, ending up at the same skill level as our current staff in, for example, customer service.

The seamless and productive cooperation with the teachers and the contact person has also been particularly fruitful for our company. I believe that through this cooperation, all the parties involved have learned from each other. To summarise KSS Energia's point of view: The students at Kymenlaakso University of Applied Sciences are competent, enthusiastic and quick to learn – perhaps our future employees and experts in the field of energy production.



Text: Tiina Pakkanen

Tiina Pakkanen is the Customer Service Manager of KSS Energia. She is in charge of developing customer services in the whole corporation, and of the cooperation with Kymenlaakso University of Applied Sciences.

Framework Agreement on Cooperation between KSS Energia and Kymenlaakso University of Applied Sciences

Text:

Heta Vilén, Bachelor of Business Administration, Project Manager, KymiDesign & Business

KSS Energia Oy and Kymenlaakso University of Applied Sciences signed a framework agreement on cooperation in September 2007.

This had been preceded by several years of cooperation connected to KSS Energia's annual client satisfaction survey.

The newly established arrangement was meant to broaden the cooperation, for example by setting up cooperative projects, thesis work, work training periods, and lectures on the marketing of electricity and other areas of competence connected to KSS Energia's business activity.

KSS Energia is a company that produces and sells electricity and central heating, employing about 100 workers. One of the most central goals according to KSS Energia was getting to know future employees. The students become familiar with KSS Energia as an employer through training periods, summer jobs, or part-time work.

After signing the agreement, the partners agreed on the following goals for the academic year 2007-2008:

Intensifying cooperation and increasing the visibility of the partner to the students and staff:

- A classroom dedicated to KSS Energia, Kymenlaakso University of Applied Sciences, business economics
- Establishing contact persons for student recruitment (Kymenlaakso University of Applied Sciences / KSS Energia)
- "Student reserve" for temporary workforce demands (incl. training)
- Research cooperation (study theses) to be done on an individual basis, subject to a separate agreement
- annual business image / client satisfaction survey, along with
- another research project, defined by KSS Energia, on a similar level

- training for staff and students at Kymenlaakso University of Applied Sciences

As the cooperation developed, the student reserve turned out to be a form of cooperation that functioned excellently. KSS Energia wished to attain highly trained experts of the electricity market, who would go through their basic training at Kymenlaakso University of Applied Sciences, and at the same time work at KSS Energia according to their personal resources. The company arranges the job descriptions to fit the student's competence and study stage. Every year, KSS Energia recruits a few first-year students who are interested in the electricity market and in working at KSS Energia. The students do the work practice period required for their studies at KSS Energia. The training period is in the spring and after this, the student proceeds to a summer job at the company also doing other study projects for KSS Energia, if possible. The process continues all the way to the thesis work, at which point a topic suited to the student's interests is found within the company, and the company commits to close supervision of the work.

After graduation, the student has both the competence provided by the MBA degree and specialised expertise in the marketing of electricity. The aim is to become employed in the company.

KSS Energia also contributes to the education provided for all the students of business economics by delivering lectures by experts, covering a broad variety of topics from the different areas of its business activities. Several extensive study theses and projects are also completed for the company on a yearly basis.

Both Kymenlaakso University of Applied Sciences and KSS Energia are highly satisfied with their cooperation. Contact persons map the progress of cooperative processes regularly on a monthly basis, and new possibilities are planned.

A Student's Experiences of Working for KSS Energia

I started my MBA studies at Kymenlaakso University of Applied Sciences in the autumn of 2007. During the first study year, I got to hear about KSS Energia in an information event in which the company introduced itself at our school. They were looking for students who would be interested in seasonal temping or in working as assistants in different projects. I put my name on the list, and that is where the cooperation started.

In February 2008, I worked in the company for the first time, doing data entry during the winter holiday. After this, I returned to work there on April 1st, starting my practical training period. This began with alternation between the job and classroom work. Then my work continued until the end of August as a summer job. Since then, I have worked in the company alongside my studies, aiming to do about 50 hours per month.

I work in the so-called Energy Building, situated in the centre of Kouvola. My job description has consisted of a variety of tasks, both in customer service and in invoicing. I have also participated, among other things, in the

Raksa trade fair.

My experiences of cooperation have been entirely positive. The company has received us very well, with well-planned induction. The material to be studied has been divided into units, with time allotted for studying each one. The demand level of the tasks has gradually increased, building on previously learned material. In this way, the level of knowledge on the field of energy production is continuously growing. Support in this has been provided by truly professional colleagues and supervisors, whom I want to thank sincerely. An important part of the sense of job satisfaction has been a feeling of belonging to the work community, as well as the development appraisal interviews. I have also found it very important that the company has been flexible with the arrangement of working hours: the primary importance of studying has been emphasised throughout.

To conclude, I can add that I am eagerly looking forward to the challenges that the cooperation will bring in the future. I can also warmly recommend KSS Energia to others, for example as a future work practice place. ●●●

Text:
Camilla Grönlund



◀ Image: The Economical Manager of KSS Energia, Markku Tommiska (left) and the President of Kymenlaakso University of Applied Sciences, Ragnar Lundqvist, shake hands.

Image by: Juha Pyykkönen

Design Carpets

for Lindström Oy

Initiating Cooperation between Kymenlaakso University of Applied Sciences and Lindström Oy

Text:
Heta Vilén,
Bachelor of Business
Administration,
Project Manager,
KymiDesign & Business

Kymenlaakso University of Applied Sciences and Lindström Oy signed a framework agreement for cooperation on February 2nd 2008. The agreement was signed by the Manager of the South-East Finland unit **Kari Turkia** from Lindström Oy, and the President of Kymenlaakso University of Applied Sciences, **Ragnar Lundqvist**.

The cooperation between Lindström Oy and Kymenlaakso University of Applied Sciences is set up with the aim of furthering cooperation between working life and education. This cooperation is intended to provide the students and staff of Kymenlaakso University of Applied Sciences with training on topics such as sustainable business activity, as well as opportunities to do thesis work, and other projects to be agreed upon on an individual basis.

The parties have also each named a contact person, whose duty it is to manage and follow the execution of the agreement on a practical level, and to inform on matters concerning the planning and implementation of cooperation, both within their own organisation and to other involved parties. The contact person is Project Manager **Heta Vilén**, and the Lindström Oy contact person is the Manager of the South-East Finland unit, **Kari Turkia**.

The cooperation is set up with the aim of setting up cooperative projects, of offering opportunities to do thesis work and work training periods, as needed, and possibly also opportunities to do other kinds of work. Lectures by visiting lecturers will be arranged at the university of applied sciences and students will be provided opportunities to visit the company.

Through this cooperation, Lindström Oy seeks a model of cooperation that is genuine and supports both the parties involved. For its part, Lindström brings in the messages and the experiences of practical business life, from the viewpoint of an international textile services company. Sustainability is one of Lindström's core values, and Lindström wishes to spread a message of sustainability as part of the daily operation of businesses. From the university, Lindström wishes to gain a genuine channel to the future decision-makers, to graduating students and their thoughts and opinions, also ones concerning the development of Lindström's business activities.

Lindström is the market leader in its field in Finland, as well as one of the largest textile services companies in Europe. The company has activity in 18 countries in Europe and Asia, run by its staff of 2200 workers. In Finland, Lindström covers services in hygiene, workwear, carpets, shop towels, personal protective

equipment, and restaurant and hotel textiles. In its foreign activities, Lindström focuses on workwear, carpets, and restaurant and hotel textile services.

Lindström Oy visits Kymenlaakso University of Applied Sciences regularly to deliver lectures on, for example, sustainable business activity, client management, and marketing. The students have conducted several training-related projects, as well as study theses, for the company. The cooperation is close and multi-disciplinary. The goals set for this have been reached excellently, with both parties expressing satisfaction.

Example: Experiences of Project Based Learning and Assessment from a Project that Trained Designer-stylist Students through Project Work

Pirkko Anttila, Professor Emerita of Craft Science, University of Helsinki, and Liisa Palmujoki, Master of Fine Arts, lecturer of textile design, Kymenlaakso University of Applied Sciences, Design and Media

The project that aimed to promote project-based learning was realised on the courses of creative design, computer-assisted drawing, and marketing and target group skills, since they all served the project and associated learning from different viewpoints.

- The commissioners in this project were representatives of Lindström Oy who are responsible for manufacturing design carpets, and for providing related services, along with the companies that were offered the carpet collections created in the project. The students participated as a group of 16, each being responsible for different tasks.
- The students' skill levels at the beginning of the project were not specifically defined, which meant that the students were working on their first-year basic studies. The project shows how even first-year students can exceed expectations when they get the opportunity to really design something for a company.
- From the learning point of view, the project's goals were becoming familiar with the design

process, learning to use computer programs, studying the analysis of target groups, and studying the marketing of personal competence.

- The stages of the project work were: The **planning stage**, where ideas were generated to provide starting points for the carpet. On the basis of the pattern thus created, **targeted company selection** was performed. A **company analysis** was conducted on the basis of internet material, concerning the business image, values and target group. As **output**, the project created patterns suitable for design carpets, worked to the level of fine detail.
- A carpet based on Laura Rinta-Jouppi's design was made for Aarikka, and it is currently at Aarikka shop in Helsinki (Images 1 and 2 on page 81).
- Individualising study and learning: The students each worked on their own task. Some went to company visits in pairs. The students had the opportunity to make their own decisions: which company they wanted to offer their design to, and how they wanted to do it. The teacher provided guidance upon request.
- The end assessment of the project shows that as a whole, project based learning was achieved in this project.
 - External assessment shows that the project succeeded beyond expectation from the commissioning company's point of view. The company was positively surprised by the level of the students' competence. The target companies became interested in Lindström's new design carpet concept. The companies were very interested in hearing outside opinions on their business images.
 - The students' self-assessment was conducted, stating what had been learned during the project.
 - Joint assessment between students and teachers was conducted, and it was concluded that the project had fulfilled the expectations placed on it. ▶▶▶

The Lindström Project from a Lecturer's Viewpoint

Liisa Palmujoki, Master of Fine Arts, lecturer of textile design, Kymenlaakso University of Applied Sciences, Design and Media

In autumn 2008, our first-year design students got the opportunity to plan design carpets for Lindström Oy. The carpets in question are a more sophisticated form of the so-called standard or wind chamber carpet. The idea of the product is to offer each client an individualised design for the carpet that dominates their entrance, suiting their decor or business image.

The technical possibilities for the product, in terms of pattern and colouring, are nearly limitless, while the environment where the carpet is to be used and especially the target company create rather more demanding challenges for design.

For the early stages of the project, I chose an approach focusing on fairly long-term processes. First, we worked thoroughly on designing surface patterns on the creative design course. First-year students could not have managed the process in the usual order, being appointed a client first, offering the product to them, and then proceeding to starting design on this basis. I reversed the order of the work stages. As the students were selecting target companies, an idea for a carpet already existed.

Each student got to choose a client company, based on the visual principles of their own design. The design was then modified to match the public visual image of the selected company. The students contacted the companies of their choice personally in order to agree on appointments to present their suggestions.

Reception of the students in the companies was surprisingly positive. Apart from some practical difficulties, the companies were very interested in carpets designed specifically for them, and especially in the students' views concerning the visual qualities of their business images.

The companies where carpet designs were presented were Nordea, Hilton Kalastajatorppa, Enso Gutzeit, Skanno, Sanoma Oy, Body Shop, Tapiola, Aarikka and DNA. In these

companies, the contacts were usually the head of marketing or persons responsible for design management. Of the carpet sketches that were introduced, two ended up being manufactured, and five companies were very interested in the product itself, considering developing the sketches further. In any case, Lindström Oy got company-specific, targeted marketing for its design carpet concept. The students got practise in interacting with a client and in expressing their ideas very early in the course of their studies.

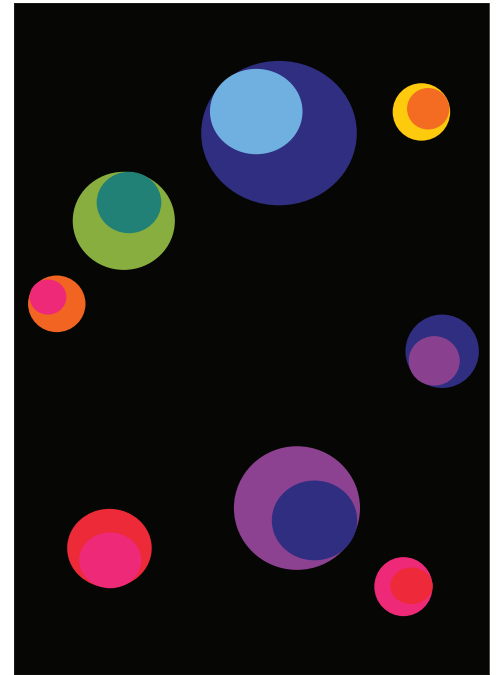
The Lindström Project from a Student's Viewpoint

Virve Turkia, designer-stylist student, Kymenlaakso University of Applied Sciences, Degree Programme in Design

In autumn 2008, we conducted a project in cooperation with Lindström Oy. Our task was to design the pattern for a carpet for a company of our own choice. Lindström would manufacture the design carpets based on our plans. It was also a part of the students' tasks to contact the company, and to visit it in order to present the sketches.

We were free to make our own designs. It was, however, essential that the design should fit the business image and visual style of the chosen company. If the client turned out to be interested in a sketch, and wanted the depicted carpet for their premises, a Lindström design carpet would be manufactured on the basis of a corrected and modified design. Although the lecturer was supervising our work being in charge of the project as a whole, we had the opportunity to work independently from the beginning of the project all the way to the end. This will certainly prove useful in the future when we will plan similar projects by ourselves.

As a learning experience, the project was excellent. We learned a broad variety of new things: different methods for planning new designs, studying a client and client needs, and integrating this knowledge into the design under construction. Working with a real client also taught practical skills: how the client is contacted, how to generate interest towards one's own work, how to present one's message



▲ Image 2. A Sketch for the Carpet Designed for Aarikka by Laura Rinta-Jouppi

▼ Image 1. The Carpet Designed for Aarikka Premises by Laura Rinta-Jouppi.

Photo / design by: Laura Rinta-Jouppi

as convincingly as possible, and how to act in a presentation situation.

Most members of our group got a chance to present their own sketches in the companies that we chose for ourselves. The clients expressed interest in the patterns, and the feedback we received during the visits was very positive. Although not very many sketches proceeded all the way to finished carpets, we were left with a positive feeling: we gained valuable experience of acting in client interaction situations, which will be useful in future projects.



A Framework Agreement on Cooperation

KOUVOT – KYMENLAAKSO UNIVERSITY OF APPLIED SCIENCES

Text:
Heta Vilén, Bachelor of
Business Administration,
Project Manager,
KymiDesign & Business

Kymenlaakso University of Applied Sciences and the basketball team Kouvot signed a framework agreement on cooperation in autumn 2008, focusing on the development of basketball coaching and youth sports activities. In addition, the framework agreement was meant to help Kouvot in developing the marketing of its home team.

The agreement was signed by Matti Laaksonen, the Chairman of Kouvot, by Jukka Kyöstitilä, the Executive Director of Kouvot, and by Raimo Pelli, the Director of the Faculty of International Business and Culture at Kymenlaakso University of Applied Sciences. One aim of the agreement was to get more students who are interested in basketball coaching to study in Kymenlaakso area. While Kouvot offers coaching studies and practice opportunities at its Coach Academy, the university of applied sciences offers the opportunity to graduate with a degree in higher education. In this way, a coach could simultaneously study both coaching and a degree programme.

The effective training of coaches is important for the future of the sport. On the other hand, a regular professional degree provides security for the coach in case of unexpected events, and it facilitates, for example, working as a part-time coach. The Coach Academy was

launched this autumn, with an agreement between Kouvot and Kouvola Region Vocational College. The current agreement broadens the range of educational options available to the students.

Kymenlaakso University of Applied Sciences wishes to support young people's sports activities in a variety of ways through this agreement. The agreement will also benefit regional sports activities by offering development projects of varying extent. For the students, the cooperation offers new opportunities for working life based projects and thesis work.

The plans for the academic year 2008-2009 include, for example, conducting client surveys for Kouvot as student projects helping Kouvot to further improve the quality of its activities. Kymenlaakso University of Applied Sciences also offers expert assistance in improving the comfort and practicality of the premises used by the clients, as well as expertise in utilisation and development of digital materials.

The cooperation has started in a variety of forms. Projects under way for Kouvot team at the moment include a viewer satisfaction survey, a sponsor survey, interior design plans for VIP premises, and development of digital materials. ● ● ●

Starting Cooperation between

Kymenlaakso University of Applied Sciences and the Finnish Armed Forces
Eastern Command headquarters and Eastern Finland Logistics Regiment headquarters

The agreement was signed on November 26th 2008 by Chief of Headquarters, Colonel Pekka Tynkkynen on behalf of the EFMR, and by Chief of Headquarters, Lieutenant Colonel Raimo Raivio on behalf of the EFSR. Director Raimo Pelli and Department Manager Markku Puustelli signed for Kymenlaakso University of Applied Sciences.

The Eastern Finland Military Region needs to, among other things, maintain and develop language training for its staff. Both organisations need to cooperate on matters connected to communication. EFMR can offer students a variety of projects, from different events to image surveys. They also intend to offer different compilations of lectures for the students. Topics can include communication in crisis situations, management, or leadership. Both organisations are situated in Kouvola Kasarminmäki area, and a joint Kasarmin-

mäki Day is being planned for 2010. There are already good experiences of cooperation between Kymenlaakso University of Applied Sciences and the Defence Forces from an earlier contract of cooperation with the Karelia Brigade, and from the projects that stemmed from this.

An annual plan of cooperation, containing intended action and goals, will be drafted for each academic year. The first period of cooperation starts in the academic year 2008-2009. Goals for the first year include, among other things, research cooperation (in the area of the public image of Defence Forces), communication cooperation (multimedia solutions), and furniture restoration projects. EFMR will offer lectures for the students and staff at Kymenlaakso University of Applied Sciences, on the topics of management and public procurement, among other things. ●●●

Text:

Heta Vilén, Bachelor of Business Administration, Project Manager, KymiDesign & Business

Renewed Public Image and Visual Style of Kouvola Union of Parishes

Text:
Jarkko Sibenberg,
student of graphic design,
Kymenlaakso University of
Applied Sciences

As the municipalities of Kouvola region were joined, Kouvola Union of Parishes was established to function as a connecting entity between the parishes of the area. This union needed a visual image, and a decision was made to also renew the look and visual image of the six parishes belonging to it. KymiDesign & Business unit of Kymenlaakso University of Applied Sciences coordinated the project. Project Manager Pasi Jaskari collected the image-related objectives. The graphic design was carried out by the graphic design student Jarkko Sibenberg.

A uniform series of logos was designed to form the basis for the visual image. The goal was to create for each parish a unique logo with personal characteristics, signalling membership in this group through shared elements.

In addition to religious symbolism, the identities of the individual municipalities and

parishes in the union were examined. In practice, this was conducted by doing a tour of the municipalities, during which we got to know the local parish workers, churches and other significant factors. We sought for things typical of each municipality, which were then used as the basis for designing the logos. Vicars were asked to complete a SWOT analysis in connection with the interviews, as well as the Imagery Best image analysis created at KymiDesign & Business unit. These helped, for their part, to form accurate mental images.

From among three suggestions, the workers of the union of parishes selected a series which was then developed further. Each logo is characterised by its own unique colour, and each depicts a cross in its own characteristic way. The completed logos were presented at the beginning of 2009, as Kouvola Union of Parishes started its work. ●●●



KOUVOLAN EV.LUT.
SEURAKUNNAT



ANJALANKOSKEN
SEURAKUNTA



ELIMÄEN
SEURAKUNTA



JAALAN KAPPELI-
SEURAKUNTA



KOUVOLAN
SEURAKUNTA



KUUSANKOSKEN
SEURAKUNTA



VALKEALAN
SEURAKUNTA

◀ At the top, the logo for Kouvola Union of Parishes. Below, the new logos for the six parishes belonging to the group.

Created by:
Jarkko Sibenberg

Summary

From Individual Projects to Framework Agreements



Text:
Sinikka Ruohonen,
Doctor of Philosophy,
Principal Lecturer,
Kymenlaakso University of
Applied Sciences,
Design and Media

The Learning and Competence Creating Ecosystem (LCCE®) has been developed as a response to increasingly tough challenges in the international arena, with jobs moving into countries with low production costs where the levels of expertise and skills are continuously rising. The purpose of this book is to provide a rationale for the significance of the LCCE® concept, and to shed light on the ecosystem concept as a mode of practice. The articles in the first chapter create theoretical background for the formation of the LCCE® concept. In the second chapter, the emphasis is on sample projects carried out at the Faculty of International Business and Culture at Kymenlaakso University of Applied Sciences.

In his article, Esa Poikela offers a multi-faceted analysis of the production of space for learning, as a physical as well as a social, cultural, and virtual learning environment. The old curricula based on academic discipline, subject matter and educational institution are crumbling. Poikela calls for a new functional and ecological curriculum. In this, the worlds of work and education merge, and the curriculum can offer the students integrated experiential competence of lasting quality. Reflection from many viewpoints is necessary at the different stages of action. Learning, as well as the planning and assessment of learning, happen

in groups where knowledge is constructed.

Pirkko Anttila sheds light on the viewpoint of project based learning, and the processes of learning and assessment involved in it. As a new dimension for research, development and innovation ventures, she presents the method of realistic evaluation (RE), which directs observational assessment towards all elements, from problem setting to the actions of all participants and interest groups, and to the end results. In projects, learning is produced jointly by all participants, and it is also assessed jointly. Anttila proposes the use of learning logs or portfolios to support assessment, and she also presents practical examples of targets for assessment. A practical example of assessment by Anttila, as applied to a concrete project, is presented in connection with the project carried out with Lindström Oy, described in the second chapter of this book.

Raimo Pelli and Pasi Tulkki describe the development of the LCCE® concept at Kymenlaakso University of Applied Sciences. Pelli estimates and compares the need for change in the educational context in relation to the changes happening in society, business life, and innovation systems. The European Qualifications Framework creates its own pressures in terms of required changes. By applying the ecosystem, solutions are sought to develop practice that is characteristic of universities

of applied sciences. These universities must find their own ways alongside the traditional universities. In the ecosystem pedagogy, there is a move from division by subject matter to a module-based curriculum and a new pedagogical script, which in turn creates demands to change the planning of working hours and the system of work contracts.

Pasi Tulkki describes the ecosystem of innovations as a network formed by different active parties, with a dynamic and self-directing quality. From the ecosystem viewpoint, it is especially important that the users are involved in the development of innovations. The production of innovations requires a working environment that is as open as possible. The idea of the ecosystem is also to speed up the production of innovations in a situation of continuous societal change. The motto is that work becomes a way of learning and learning becomes a way of working. Continuous learning is as important in the business world as it is in the world of education. The ecosystem creates new practices for the interaction between institutes of higher education and business life.

Mirja Toikka handles systems and strategies of leadership, and analyses parameters of the future that need to be considered in strategic planning and quality control. Toikka introduces the utilisation of the Balanced Scorecard (BSC), adopted as a method and a management system at Kymenlaakso University of Applied Sciences. Areas of assessment for performance at Kymenlaakso University of Applied Sciences are impact, output and experienced quality of processes, staff, and economy. It is also desirable to convey a message concerning the impact of exemplary practice and results to external parties.

In her article, Sinikka Pekkalin brings the viewpoint of pedagogical practice and entrepreneurial working methods into the ecosystem concept. She compares the traditional structural model with its stiff curriculum, its schedules and regulations, to the flexible and adaptable ecosystem concept. In addition, she depicts in detail the roles of the supervisor and the organisation in the ecosystem where everyone is a learner and everyone must have the capacity to take risks. Assessment is an integral part of the learning process, and it must be

continuous and varied, not exclusively quantitative. Pekkalin emphasises the importance of learning meta-skills, and making these visible to the student. A failed project is not necessarily a bad project from the learning point of view.

From pedagogical views, it is natural to move on to the projects presented as examples in the second chapter. These have been collected over the past few years to provide as broad a picture as possible of the practical cooperation between businesses and communities and the Faculty of International Business and Culture. Both extensive projects spanning several years (DIGMA) and smaller projects conducted by a single person (Trendi Spa, KSS Energia, Kouvola parishes) or in multidisciplinary groups (Logibox, Lummelautta) have been included. Two examples represent projects carried out among same-year students (Kiitokori, Lindström), with several different study periods integrated into the whole. In addition to project descriptions, comments and experiences by teachers, students and commissioners have been included. Asking for feedback is a part of quality control. A few examples of framework agreements with companies are included (KSS Energia, Lindström Oy, Kouvot, the Defence Forces). The number of such agreements will increase in connection with the adoption of the LCCE® concept.

Writing this book has been a process of seeking new, shared guidelines for project based learning, which has a long history at Kymenlaakso University of Applied Sciences. As late as at the beginning of the millennium, the principle was that only the best students were selected to work on company projects. Now we think differently: all students must have the opportunity to do projects in cooperation with businesses during their studies. The learning and innovation unit of the Faculty of International Business and Culture, KymiDesign & Business, brings together students of design, media communication, restoration, and business economics to do project work in multidisciplinary teams. The number of projects has multiplied substantially from the early stages. These can be extensive international ventures, or projects conducted in small groups, focused on learning or research and development.

Moving the whole faculty to Kouvola Kasarminmäki campus will facilitate maintaining connections between different parties, and the continuation of the script for the culture of creativity, which Pekka Himanen called for in his lecture at Kasarminmäki in 2006, at *Luovuuden Lumo (Spell of Creativity)* seminar. We will no longer survive the competition by simply accumulating knowledge and improving our skills. The main task of a university of applied sciences is to produce new competence which will maintain and create jobs. This requires continuous development of methods and models for working in a spirit of future-directed orientation, and seamless cooperation between the university of applied sciences and the working life. Students do not only find positions in working life, but renew and create it by writing their own scripts of the culture of creativity, in cooperation with the teachers and representatives of working life.

The LCCE® concept requires teachers to have the courage to give students real working life problems to solve, ones to which no one knows the correct answers. The teacher is an organiser of learning situations, a person who provides inspiration, encouragement and support for the students. Teachers will increasingly do teamwork with each other, and cooperate with representatives of working life. Students have also often become accustomed to a different style of working. Solving problems or completing assignments will no longer be accomplished simply by sitting in classrooms. The student has to grow to develop, among other

things, initiative, capacity to take risks, commitment, and tolerance for uncertainty. The teacher has a crucial role in creating an open and innovative learning environment, where the students can safely search for alternative solutions, and where they also have permission to make mistakes. New innovations cannot be created without errors. It is advisable to involve the students in the earliest stages, such as in generating ideas for the launching of a new project. This helps to develop commitment, and cultivates sensitivity for detecting problems and development needs.

Projects help students to create their own professional networks. Virtual environments have a significant role in the lives of young people, and their increasingly varied utilisation as learning environments is a challenge for the future. In terms of technology, there remains room for improvement before they can serve a wide variety of needs, and before they become maximally user-friendly.

The next step will be to train all teachers to adopt the new LCCE® concept, a task that some have already accomplished. Creating a shared system and agreement on the rules is important in a large organisation in order to ensure quality performance in all areas. Signing agreements of cooperation with companies helps in planning the content of the projects, and in timing and assessing it to create units that serve the purpose of learning as well as possible. The work of developing the LCCE® concept will continue after the publication of this book. ●●●





◀▶ Interior Views of the "Workshop"

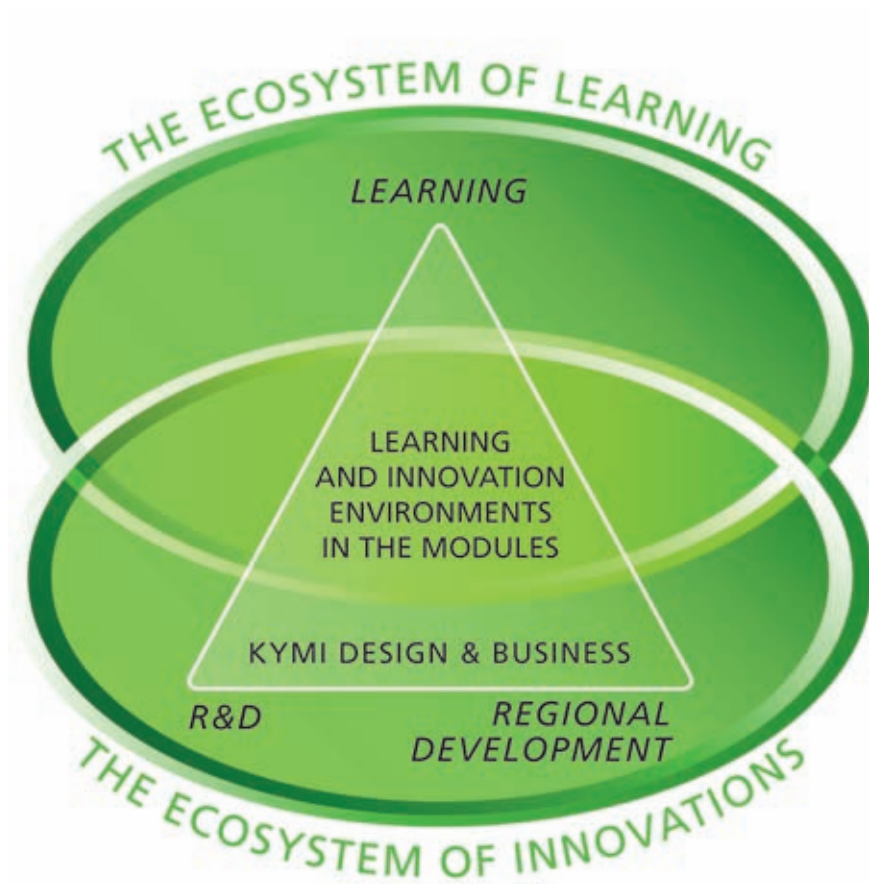
Images by:
Arkitehdit NRT Oy

▶ The Building under Construction, "Paja" ("Workshop")

LEARNING AND COMPETENCE CREATING

ECOSYSTEM

• participants • environment • network



PRAXIS-KNOWLEDGE

- theory
- practice
- experience

PEDAGOGICAL INNOVATIONS

SPACES FOR LEARNING

- spatial
- social
- virtual

The Finnish Higher Education Evaluation Council

Evaluation for Centres of Excellence in University of Applied Sciences Education for the Academic and Fiscal Period Starting in 2010

Proposition for a Centre of Excellence in University of Applied Sciences Education

Title: Kymenlaakso University of Applied Sciences
Learning and Competence Creating Ecosystem – LCCE®

Contact Person: Faculty Director Raimo Pelli

Contact Information: raimo.pelli@kyamk.fi; Prikaatintie 2, 45100 Kouvola

A Activities

Description of the activities of the educational unit, its connection to the general strategy of Kymenlaakso University of Applied Sciences, and to the central policy formation on pedagogical and working life cooperation issues

1. Description of the Activity of the Educational Unit in Relation to the Strategic Policy Formation of Kymenlaakso University of Applied Sciences

The Learning and Competence Creating Ecosystem (LCCE®) is an open innovation and learning environment situated in the Faculty of International Business and Culture, with functional integration and compatibility with Kymenlaakso University of Applied Sciences strategic policy formation. The policy development guidelines according to Kymenlaakso University of Applied Sciences general strategy are 1) development of teaching practice and learning environments, 2) improving regional impact, 3) increasing productivity, and 4) structural development.

In the general strategy, the profile of the Faculty of International Business and Culture is defined as innovation and international business. Its task is to be an educator of innovative professionals and a dynamic developer of the region, in cooperation with regional, national and international partners and development organisations. The idea behind the formation of the faculty is combining creative fields (design and media) with business expertise (business economics), which facilitates innovative processes. As a practical measure, KymiDesign & Business was founded as a centre of expertise, which has helped in organising research, development and innovation, as well as project activities to become part of educational practice, and facilitated the formation of multidisciplinary teams.

The application of the LCCE® will intensify beyond the current level as Kasarminmäki campus is completed in 2010. All Kymenlaakso University of Applied Sciences activities located in Kouvola will be gathered to the campus. The university is investing a total of about 27 M€ in the campus. Also Palmenia centre of the University of Helsinki, a unit of Lappeenranta University of Technology, and the development company Kouvola Innovation Oy will be based on the campus. Likewise, a number of innovative businesses have chosen to operate there.

1.1 Core Competence of the Educational Unit in Relation to the Predicted Demand for Competence in the Environment

The Faculty of International Business and Culture at Kymenlaakso University of Applied Sciences produces practically oriented expertise and learning-related competence for the needs of the local business life. **The core competence of the faculty is in executing and managing the processes of developing product and business innovations.** The Faculty offers training in the fields of business economics, design and media. The educational programmes in the field of business economics are the English-language International Business, Business Economics and Commerce, and the Programme of Management Assistance and Languages. The Business Management Programme leads to a higher level university of applied sciences degree. Programmes under the field of design and media are Design, Media Communication, Restoration, and the English-language Design Programme.

A drastic change of economic structure is taking place in Kymenlaakso. The most tangible expressions of this are the difficulties and downsizing of the paper and pulp industry, which has traditionally supported the region. In the conditions of intense structural change, it is important to find new economic activities to replace the ones that have been cut down. The faculty has invested effort especially in supporting international trade (Russia), railway business, and the prerequisites for business activity in creative fields, as well as in generating new business activity. In the ongoing reform of the curriculum, entrepreneurial modes of working form a central theme in the new curriculum.

The focal areas of Kymenlaakso regional programme for the years 2007-2010, the focal areas for development in the new Kouvola economic strategy, and the cutting edge of R&D activity and competence at Kymenlaakso University of Applied Sciences are shown in the table below in relation to the core competence of the Faculty of International Business and Culture.

Regional Programme 2007 - 2010	New Kouvola economic strategy	Kymenlaakso University of Applied Sciences strategy of R&D activity and expertise 2008 - 2010	Core competence at the Faculty of International Business and Culture
Technology clusters	Environment, forest and energy cluster	Emission measurements	(design and communication) (international trade) Kymenlaakso University of Applied Sciences Technology
Environmental expertise			
Logistics cluster	Railway cluster	Safety of transportation chains	Business economy logistics Kymenlaakso UAS technology and traffic
Security cluster	Security cluster		
Basis for developing expertise	Creative fields, especially digital content cluster	Product and business innovation processes	communication design restoration business economy international trade
Living and leisure	Travel and free time cluster		
Consumer and personal services			

The faculty develops its teaching practice, and the research and development integrated into it, in order to respond to the challenges presented by the changes in business life. Finnish economy and business are becoming increasingly **innovation-powered**. Before, the motors of economy were work, raw materials, and capital. Now the new crucial factors in competition are the ability to produce innovations, the ability to collect and utilise information from different sources and on different targets, and the ability to build networks of active participants in a constantly changing environment. This puts the focus on the significance of learning, both in society generally, and especially as the factor ensuring the success of business life. Thus it can be justified that learning should be defined as a central core competence produced by a university of applied sciences. In developed countries, **the speed of producing innovations** is replacing the traditional enhancement of the efficiency of producing goods as the factor ensuring the success of a company. The ability to produce innovations fast requires education and working life to be in direct and close interaction with each other.

The Faculty of International Business and Culture at Kymenlaakso University of Applied Sciences approaches innovation with a broad perspective, defining **innovation as an competence-based competitive advantage**. From this viewpoint, social and pedagogical innovations are at least as important as the “traditional” technological innovations. In the practical work of the faculty, an innovative way of working is mainly understood as equalling an entrepreneurial way of working; both entail detecting possibilities, being prepared to take risks, and strengthening a culture of creativity.

In the faculty’s practice, the principles of **open learning and innovation environments** are observed. From this starting point, open production and free access to knowledge, ideas, and product sketches are an essential part of the new development that is being pursued. The faculty also builds open learning and innovation environments; these facilitate the maximally effective utilisation of resources. Building open working environments requires breaking and erasing boundaries.

The faculty aims to develop its practice and to shape the expanding Kouvola Kasarminmäki campus area according to the **Living Lab** model into a space for learning and innovation that can support the region’s economic development and renewal. In Kasarminmäki, different parties conduct their activities in close interaction with each other. The activity of the faculty’s KymiDesign & Business community considerably broadens the faculty’s interest groups and the scope of businesses available for cooperation, and brings end users into the development process, as well as solid expertise in usability research.

Intertwining and intersecting **spaces for learning and innovation** will be constructed and developed in three directions: (1) in the spatial form, as rooms that promote the physical proximity of different parties, (2) in the form of social spaces that promote interaction and a parallel quality of activities, and (3) in the form of building virtual spaces that facilitate widespread networking among the involved parties. The faculty will develop spaces for learning and innovative activity by participating in relevant ventures run by the University of Lapland, among others, as well as by conducting its own research and development project Luoto with Lahti University of Applied Sciences, Metropolia University of Applied Sciences, and Turku University of Applied Sciences.

The faculty’s response to changes and development in its environment is defining the environment as an **ecosystem of innovations** (see image on the cover). This means building a dynamic, self-directing system where new ideas are produced and tested, a system is able to adapt to changes in the environment. The ecosystem of innovations is a network formed by different active parties, where innovations are generated and developed, and where they evolve. Such a viewpoint emphasises cooperation between the participants, as well as a culture of creativity, which signifies willingness to take risks, an entrepreneurial style of working, and an innovative attitude.

1.2 Practices of Managing, Assessing and Developing the Educational Unit's Working Life Partnerships

Kymenlaakso University of Applied Sciences Faculty of International Business and Culture serves in all its activities the best interest of its students, and the production of new expertise. **KymiDesign & Business** expertise cluster has been appointed the task of establishing and maintaining working life connections and partnerships for the faculty. KymiDesign & Business structure has been planned to correspond as closely as possible with the structure of the educational practice of the faculty, i.e. the structure of the departments and the educational programmes. The structural reform has been linked to the process of integrating teaching and R&D activity with each other, which has been carried out as simultaneous reform of both the curriculum and the practices connected to the R&D activity. KymiDesign & Business is divided into the following sections:

- Design services: *Boat laboratory services*
- R&D services for traditional culture and restoration
- Communication services
- Business services: *Emerging markets research (especially Russia) and railway business*

The working life partnerships of the faculty have significantly expanded and gained depth over the past couple of years. In KymiDesign & Business practice, partnerships are created through three different types of activity, namely research ventures and projects, commercial service provision, and learning laboratory activity.

- **Venture and project activity using external funding obtained by competing** is the primary significant form of activity at KymiDesign & Business.
- **Commercial service provision** is traditional service activity, subject to VAT. The ventures are different TEKES-funded service projects aimed at businesses (Tuote Start, TULI), or speed modelling services that support the functioning of businesses.
- **Learning laboratory activities** carry out projects commissioned by businesses as part of the educational activity of the faculty's educational programmes.

KymiDesign & Business is an ecosystem for cooperative activity between the university of applied sciences and businesses, as well as a learning environment for the students. The activity of KymiDesign & Business provides links between the teachers and students of Kymenlaakso University of Applied Sciences and other contacts and partners in cooperation, as part of the projects and ventures that form a part of the faculty's educational practice. For this part, KymiDesign & Business functions as a local builder of cooperative networks in the fields of design, research into communication and business economics, and product development. Through its activity, businesses in the area are offered opportunities to expand, develop, and speed up their different development projects. Above all, KymiDesign & Business activities offer students the opportunity to gain both scope and depth in their studies, their competence and their networks.

The learning laboratory practice especially has resulted in partnerships with working life that are closer and more lasting than individual commissions. In these cases, **permanent contracts of cooperation** have been signed with businesses and other working life parties (framework agreements). The goal is to increase the number of these permanent partnerships with working life. This facilitates a better coordination of projects in terms of the needs dictated by the curriculum. Both the competence-based, modular curriculum and KymiDesign & Business project activities connected to it require multidisciplinary team work. This concerns supervising teachers as well as students. Multidisciplinary teacher and student teams will share the responsibility, together with commissioners, for the execution of the projects. KymiDesign & Business staff members provide support for this with their specialised expertise.

The Faculty has an **Advisory Council**, with the leading MP of the region acting as Chair, and key decision makers of the region, the area and the town as members. The Council meets 2-3 times a year in connection with the Future Forum at Kasarminmäki campus in Kouvola. The educational programmes have **development teams**, which focus on developing curricula and promoting networking.

KymiDesign & Business continuously collects information as the projects and ventures progress. The results of the project and venture activity are assessed at the final meeting of each project, and the material thus produced is collected to the shared “bank of results” of Kymenlaakso University of Applied Sciences. In the case of the learning laboratory practice, the so-called 360 degree continuous assessment is applied, in which continuous feedback is generated to serve the development of the activity, by means of questionnaires aimed at students, teachers, and commissioners representing working life.

A Research Director and two Research Managers have been employed at the faculty with the support of the town of Kouvola. In addition, the town contributes to the funding of two Principal Lecturer positions. The town funding requires close and continuous cooperation with other development organisations in the area, especially with Kouvola Innovations Oy

1.3 Developing Networks with Interest Groups and Inside Kymenlaakso University of Applied Sciences, and International Networking

The three faculties of Kymenlaakso University of Applied Sciences each have their own clusters of expertise that carry out research and development activities. Of these, KymiDesign & Business is the oldest, forming a good benchmark for the others. Each faculty has its Research Director and Research Managers, working at their cluster of expertise, who handle matters related to research, development and innovation together with the researchers. Inter-faculty cooperation in R&D&I activities is built in the Steering Group for Kymenlaakso University of Applied Sciences R&D, through direct contacts between researchers, and through cooperation on projects and ventures.

The faculty has agreements of cooperation with several institutions of higher education abroad. In 2008, 360 of the students went abroad as part of student exchange, and the faculty received 237 foreign exchange students. Closer cooperation has taken place with the University of Art and Design Halle and the Estonian Academy of Arts in organising the MODO 2009 design contest (<http://www.balticmodo.com/>). Students from Halle and Tallinn also participated in the Tekes-funded TULVA project with their own designs. The Media MODO contest, to be held in 2010, will likewise be carried out as international cooperation with five foreign institutes of higher education. In 2008, an agreement on student, teacher and researcher exchange was signed with the Chinese Wenzhou University, in connection with realising the Finina concept aiming to promote international development in Kouvola businesses. In the Business Economics Programme, an annual International Workshop is arranged to bring together students of the cooperating universities, especially from the St Petersburg area.

1.4 Interconnecting Teaching, R&D Activities and the Task of Regional Development

Succeeding in the three tasks defined in the Decree on Universities of Applied Sciences, as well as attaining high levels of effectiveness and quality in practice, requires close interconnection between the three tasks, and utilisation of synergy to best advantage. The aim of the working life cooperation at Kymenlaakso University of Applied Sciences is to develop both the students' competence and working life itself. Therefore, studying and working life are intertwined, and the students' competence and social adaptation to real working life situations are promoted throughout their studies. **The way the university of applied sciences builds connections between learning, R&D activity, and regional development, becomes a question of prime importance. At the same time, this also pertains to seeking**

our own pedagogical solutions and modes of practice characteristic of universities of applied sciences. The solution applied by the Faculty of International Business and Culture is the Learning and Competence Creating Ecosystem (see cover image).

Above all else, the ecosystem approach is utilised by the faculty in the production of pedagogical innovation. The Learning and Competence Creating Ecosystem is both an environment for action and a type of practice for the production of innovative and business expertise. Observed from the viewpoint of the ecosystem and project based learning, it is necessary that the research and development carried out in universities of applied sciences is local and practical. In practice, research, development and innovation means carrying out different projects together with active parties in the region and in the field in question. In the LCCE® concept, ventures and projects are brought inside the process of education, making them part of competence-based study units in concrete terms (see the image on the Appendix cover, and Chapter 2.2.2).

1.5 Linking to the Objectives of the European area of Higher Education

In developing the degree programmes, the recommendations and objectives for promoting international mobility and life-long learning given in the Bologna process have been systematically taken into consideration. The objectives of education have been tied to concrete demands for competence based on working life, and the curricula emphasise learning results and attained competence, complying with the European Qualifications Framework (EQF). The quantification system for study credits is based on the European Credit Transfer and Accumulation System (ECTS). The starting point in the quantification is the amount of work required of the student to attain the objectives of the educational programme. In the curricula, the starting point is the student's learning process, which is described in terms of learning outcomes and as competences. The curricula are competence based, which has meant a shift from a curriculum divided according to academic subjects to one that supports the student's development as a professional. The learning outcomes of a study unit are assessed in relation to the objectives in terms of competence. Clear policies and practices have also been devised for recognising and giving credit for prior learning.

The level of competence provided by the completion of a degree at a university of applied sciences (Bachelor level) corresponds to the EQF level 6, where the faculty places special emphasis on the expected skill level: *“Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study”* and the competence level: *“Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts”*. The pedagogical concept of the faculty is especially well suited to respond to the abovementioned challenges (see part 2.2).

2. Planning, Executing, Assessing and Developing the Practice of the Educational Unit

The educational and other practices of the faculty are based on the general and pedagogical strategies of Kymenlaakso University of Applied Sciences (see chapter 2.2) and on the Balanced Scorecard (BSC) management system (see chapter 2.4). Overall strategic guidelines are discussed at the faculty's Future Forums and in the Department Steering Group seminars. Following the BSC system, the faculty prepares the previous year's performance analyses and creates goal and performance cards, as well as the budget and the operation plan for the faculty. Practice is developed in development teams consisting of teachers and students. Regular self-assessments, morale surveys and external audits are also used as tools for development.

2.1 Core Competences Involved in Degrees, and Ways to Define Them

Students of the Faculty of International Business and Culture grow to have expertise in the field defined by their degree (MBA, Designer and Bachelor of Arts), to work in creative ways in multidisciplinary networks, and to understand the significance of viable, economical and innovative action from a future-oriented viewpoint. A future-oriented viewpoint means proactive thinking and orientation when making decisions. The students grow to become developers, capable of taking risks, and capable of acting in unpredictable situations. They are able to detect opportunities for action in their environments, and to apply their capacity for innovation to these opportunities.

2.2 Pedagogical Solutions and Practices of Pedagogical Management

According to the **pedagogical strategy of Kymenlaakso University of Applied Sciences**, instruction is built on the basis of humanistic views, and socio-constructivist views of learning. In practice, these show as good interaction between student and teacher, as a responsible and active attitude towards acquisition of information on the student's part, in the guiding role of the teacher, and in regular joint assessment based on goals. Experiences of success in learning, preparedness for working life and for conducting professional work, development of a professional identity, ability to apply new knowledge, ability to assess the reliability of information, capacity for life-long learning, and assuming an entrepreneurial attitude to life are all emphasised as quality criteria for good learning. Learning environments are developed to be close to working life, and to support project based learning.

Agreements on developing the faculty's curricula, and on pedagogical guidelines, are generally made in the so-called Extended Executive Group, which in addition to the Faculty Director, the Research Director and the Department Managers includes the persons responsible for each educational programme. **Project based learning** is widely applied as the teaching method of choice. As a concept, this refers to the way the teaching is organised, rather than the learning process; the project provides meaning for the whole learning event. In authentic working life projects, a working life development-oriented viewpoint is involved, often one based on client or user needs, and in these projects the students practise multidisciplinary teamwork and sharing expertise. In project based study, the learning process is shared between the individual student and the entire project team. The student's learning is guided by a variety of goals, from their own personal goals to the shared learning goals of the multidisciplinary team responsible for the execution of the project.

Learning in LCCE® environments provides the students with the innovative skills and ability to cope in unpredictable working environments required by the EQF level 6. **Innovative competence** is needed, and the **constituent parts** of this are capacity to take risks, ability to detect and understand opportunities, ability to produce innovative ideas and thoughts, ability to develop innovations into new or renewed products and services, and skill in commercialising these. Commercialising also includes the development of new business concepts and the branding of new, viable products and services. Business creativity transforms ideas into economically sound and productive activity. Participation in the open environments of information and experience exchange, and the ability to detect opportunities require the students to possess continuously growing, specialised competence in their own fields.

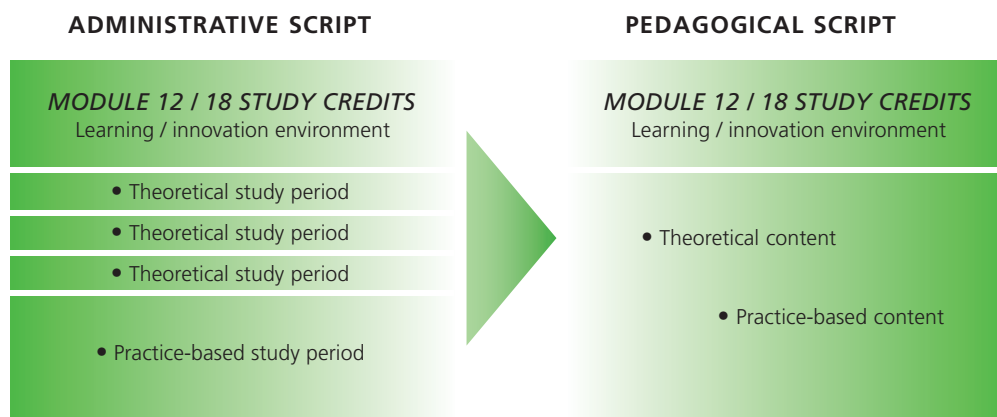
The goals of innovative competence are attained by building learning processes where the students get to practise their innovative skills, in other words, where they have to seek new, innovative solutions to the assignments and problems provided. The tasks in the projects are planned to suit the ability levels and progress of the students. The characteristics of the projects vary in terms of how open-ended the assignment is, and to what extent the end results of the project can be predicted. The learning processes are planned according to the nature of the project, and vice versa.

2.2.1 Process of Compiling the Curriculum, and Practices Applied in Its Development

Kyminlaakso University of Applied Sciences curriculum reform, complying with the ECTS framework, was first conducted in the academic year 2006-2007. The second stage of the reform is currently under way in the year 2009. The curriculum planning process of the academic year 2006-2007 comprised, according to national guidelines, first a hearing of working life parties, and then devising competences and overall objectives for educational programmes, planning of professional growth along with its annual themes, dividing the overall objectives into competence based units, load calculations and defining the core material for study periods. In the ongoing curriculum planning process, special attention is given to the definition of levels in relation to the EQF, to the competence based quality of the curriculum, and the assessment systems. In the academic year 2006-2007, students participated in a variety of curriculum planning groups, while in the current process students and student organisations are asked to comment on the curriculum in the draft stage. The departments will invite key cooperative companies to participate in the negotiations on targets for curricular development, and in addition discussions will be conducted in departmental development groups, consisting of company and community representatives.

2.2.2 Learning Process and the Means to Guide It

The general competence-related objectives of the educational programmes have been divided into modules, mainly into competence-based units of 12 or 18 study credits each. A module forms a learning environment where the students assume control of their competence. The study periods are not defined on the so-called subject basis, but on the requirements of the competence-based unit. A competence-based unit is divided into study periods and placed within a single module. The module also always contains a period of practice based learning, usually an authentic project for a business, suited to the module in question. In this way, the **administrative script** for the module is created (see image), facilitating the timing of studies and their division into modules, the planning of central core objectives and content, and the preparation of preliminary annual plans and work schedules. The timing technique is a crucial stage also in arranging opportunities for multidisciplinary teacher and student teams to meet.



A module as a whole is planned on the basis of study periods, but **the team of teachers, students and KymiDesign & Business project staff plan the practical learning process of the module on the basis of learning processes**. They also have the opportunity to define in more detail the timing of the studies, the division of tasks between the teachers, and the resourcing of study hours. In this way, the “**pedagogical script**” of the module is created.

The faculty’s network of businesses and communities offers an extensive menu of projects from which practice-based studies can be selected to be included in the modules. The volume of the activity has been brought up successfully in the past years to correspond to the educational needs (224 commissions in the year 2008). Now the emphasis has shifted to further refining the projects on the basis of pedagogical needs.

Kymenlaakso University of Applied Sciences guidance and counselling services serve the purpose of promoting the students’ learning and progress through their studies. The services are divided into basic guidance, distributing information, and intensive counselling. Basic guidance consists of orientating study periods, initial interviews conducted by group instructors, devising personal learning plans, and yearly discussions on the personal learning plans to promote professional development. Intensive counselling is handled by student counsellors. The students are also supported by student tutors, a psychologist, and a student minister.

2.2.3 Practices for Assessing Competence

The assessment methods of the educational programmes have been planned to suit the stated objectives. In assessment and in providing feedback, it is observed that conveying content is not central, but rather promoting the student’s development. The table below shows the targets for assessment and feedback.

Target	Assessment	Feedback	Conducted by
The entire degree		OPALA	
Annual themes	Based on the criteria of the annual themes	Personal learning plan development discussion	Persons in charge of the education programme Group supervisors
Modules	Based on mastery of the competence involved in the module	Final discussion; shared conversation and constructive criticism	Module teachers and students together with the person in charge of the module
Theoretical study periods	Mastery and critical handling of the knowledge involved in the professional field	Electronic feedback system	Students to the teacher of the study period, information to the head of department
Practice-based study periods	Focuses on assessing skills Self-reflection Targets for assessment for example products, reports and portfolios	Viewpoints: 1. Professional 2. Teaching 3. Learning	Students Teachers of the study period, representatives of KymiDesign & Business and businesses

2.2.4 Learning Environments

Kymenlaakso University of Applied Sciences is developing the **physical learning environment** of the Faculty of International Business and Culture by concentrating its activities at Kouvola Kasarminmäki campus (see chapter 1.). The construction process, started in 2008 and continues until 2010, providing the faculty's activities with a modern setting.

Modern digital and networking technology holds an important position in the construction of learning environments for Kymenlaakso University of Applied Sciences. The university uses the Moodle course management environment in its educational practice. A Moodle course platform is developed for every study period. Moodle is used in the management of study periods and study units, and in asynchronised teaching-related communication. Alongside Moodle, also the Acrobat Connect Pro (ACP) remote communication system is used in teaching. In addition, an ACP environment running on Kymenlaakso University of Applied Sciences server is used, administered by Kymiedu Centre of Learning Technology. Each teacher and staff member has the opportunity to obtain their personal ACP room with their own password to conduct real-time instruction or to provide remote guidance for a student. ACP supports Moodle in synchronised teaching-related communication.

Video communication is used to support teaching in a variety of ways. Kymiedu unit assists teachers also in the use of video conferencing, video meetings, video materials to be displayed on websites, and streaming videos. Video material, either recorded or broadcast live through the net, is available for use in all teaching situations. During the current academic year, the development of video communication in teaching will receive further attention, in the form of investments in video conferencing equipment suitable for the auditorium, and a system for capturing lectures, which can be used to capture a teaching situation directly on video, to save it automatically on a net server, and to distribute it automatically to students from the server, for example through websites.

Learning environments in the learning and competence creating ecosystem differ from learning environments built on the basis of traditional teaching models and student cooperation. The ecosystem viewpoint contains the assumption that all instruction and all students participate in the learning process. Entrepreneurial and innovative spaces and methods for working are no longer available only for a few select students. They concern all students equally. This puts the focus on instruction and a systematic way of proceeding. Acquiring projects and generating ideas for projects are no longer the responsibility of a randomly selected teacher or group of students alone. Rather, these are done in a systematic and co-ordinated manner by the whole faculty. This in turn facilitates the linking of teaching and authentic working life development projects, and the inclusion of expertise from working life and other sources in all instruction.

In the LCCE® concept, the role of the teacher becomes one of guiding the progression of the learning process and the projects. In this transition, teaching does not, however, become equal to consulting. The teacher's pedagogical expertise expands past the traditional boundaries of the classroom, towards development of working life. The objective of LCCE® concept is to give learning more depth through authentic working life based projects.

2.3 Processes and Development Practices of Research and Development, and Linking Research and Development with Teaching

The building of LCCE® learning environments requires the faculty to increasingly cooperate and interact with working life. In close cooperation, there is also an increase in the exchange of ideas regarding development of knowledge and practice. From the faculty's viewpoint, a central goal is increasing the participation of students in Kymenlaakso University of Applied Sciences research and development activities. Success in attaining this objective is evidenced by the number of R&D study credits earned by the faculty's students nearly quadrupling in the years 2006-2008.

In the **assessment** of all research and development ventures carried out at Kymenlaakso University of Applied Sciences, the R&D activity quality criteria approved by the executive group on August 25th 2008 are applied, along with the decision concerning their indicators. In assessment, attention is given to the following factors:

- (1) the project's agreement with strategy, and speed of reacting
- (2) continuing development of personal competence and knowledge, and
- (3) economical and process management

From the viewpoint of developing working life partnerships, the first point is especially important. In this, the focus of attention is on the regional and local impact of projects that have been planned and carried out, whether they are needs-based, and how well situations are predicted. Other points of interest in assessment are satisfaction among interest groups, the projects' capacity for continuity, and added value created by the projects.

In KymiDesign & Business learning laboratory activities, an assessment procedure has been developed where the projects are, in addition to the working life commissioner, also assessed by the participating teachers and students. The learning laboratory assessments are compiled once every academic year, and they are used as the basis for planning the development of the unit's practice.

The faculty's Advisory Council has provided input into the wide-ranging, in-depth development of the LCCE® learning environments by arranging two Future Forum seminars. In addition, representatives of the faculty actively participate in developing the business and working life strategy for the new Kouvola.

2.4 Managing, Assessing and Developing Resources

The general strategy of Kymenlaakso University of Applied Sciences, the documented quality management system (EFQM), the methods of measurement, and the follow-up of procedures and performance have been integrated into the Balanced Scorecard management system (BSC). The use of the BSC management system at Kymenlaakso University of Applied Sciences has gained attention, among other places, at the 2008 national event for the economy and administration of universities of applied sciences. The strategy and vision have been used to derive strategic goals for all the organisations within the university of applied sciences. Each strategic goal and its attainment are assessed from several different viewpoints according to the BSC system. The areas of assessment for productivity (BSC viewpoints) are impact, productivity and experienced quality of processes, economy, and staff. Key measurement methods and complementary measurement methods have been selected for the viewpoints, and target goals have also been set for these. On the practical level, these mean:

- 1) annual internal negotiations with departments and units on objectives and performance, with a concomitant assessment of performance, and agreements made on objectives in terms of productivity, on development procedures and the financial resources to be invested in these, on staff work input and needs related to the infrastructure (documentation: goal and productivity cards, procedural plans, productivity analyses, budgets),
- 2) on the basis of the above mentioned information, the general action and economical strategy (AES) for Kymenlaakso University of Applied Sciences is devised,
- 3) on the basis of all the above, and taking into consideration policies concerning higher education, preparations are made for the contractual process with the Ministry of Education and Culture (qualitative and quantitative goals and the administrative review of the strategic management of Kymenlaakso University of Applied Sciences),
- 4) the management regularly reviews the execution of procedures and the progress of numerical indicators that have been agreed on in the internal negotiations on goals and performance. Assessment is also regularly carried out at Kymenlaakso University of Applied Sciences and the faculties' management groups. Decisions on further action are made on the basis of the assessments.

The faculty is cost-efficient, because the level of costs is below the national average, especially in the education in the cultural field. The accumulation of study credits is followed systematically by the student office and by the group instructors. In addition to the group instructors, the study counsellors and the psychologist provide guidance and support, when necessary.

The faculty is currently conducting a mapping of the teachers' expertise. A digital program creates outlines to be used in discussions with the faculty directors. In the discussions, a personal development plan is agreed on for each teacher.

2.5 Means of Quality Control and Procedures for Developing Quality

The quality control system employed at Kymenlaakso University of Applied Sciences consists of quality management that aims to develop practice, results, and quality, using the following levels: 1) the level of strategy, procedural plan, and planning, 2) the functional whole, decision-making and resourcing, follow-up and assessment, 3) the documented quality control system ("quality manual", with quality-Moodle as the technical environment, <http://laatu.kyamk.fi>), and 4) the TWeb content management system, integrated to the abovementioned parts, emphasising transparency and openness. The frameworks for the quality control system are provided by EFQM and the Balanced Scorecard management system (BSC), which integrate well into each other. The documented quality control system (the "quality manual") agrees with the EFQM framework. The structure is divided into the areas of practice and results. As a basic principle, the results regarding performance, students, interest groups, staff, and regional development are attained by utilising strategy, principles and guidelines for practice, staff, interest group cooperation, resources, and processes. Practice is developed, among other things, by using the assessment and feedback system, and the quantitative tools of measurement (numerical indicators).

The practices and procedures involved in the quality control system from individual to international level are described in the table on the next page.

THE LEVEL OR VIEWPOINT OF THE QUALITY CONTROL PRACTICE	PRACTICES	GOALS AND PROCEDURES FOR DEVELOPING QUALITY	DOCUMENTATION (→ TRANSPARENCY, OPENNESS)
Student (individual)	Personal learning plan and annual development discussions connected to it Recognition of prior learning	Goals: Supporting the student's study process and professional growth Development procedures: Support from group instructor and study counsellor	Personal learning plans and development discussion forms
Department	Feedback on study period Concise OPALA feedback Client satisfaction surveys for support services "Product improvement" –process Expertise surveys Development discussions Departmental development groups	Goals: Developing teaching and learning processes, and the teachers' expertise Development procedures: Immediate corrective procedures, feedback to the students on their feedback	Study period feedback documents to the teacher and a summary of these to the teacher's superior "Product improvement" memos Signed development appraisal forms from the teachers Staff strategy and the teachers' personal development plans
The Faculty of International Business and Culture / KymiDesign & Business	OPALA-feedback 360 degree measurement of R&D activity Key and complementary tools of measurement in the BSC system The faculty's Advisory Council and Future Forum events	Goals: Development of the faculty as a whole, development of curricula, and fluency of working life cooperation Development procedures: Continuing improvement of personal learning plans, projects and regional impact	The faculty's own processes at the quality control system* Summaries and decisions regarding development at the content management system TWeb Curricula at SoleOps
Kymenlaakso University of Applied Sciences	Auditing of the quality control system* performed by the Finnish Higher Education Evaluation Council The Balanced Scorecard management system + internal negotiations on goals and performance The EFQM selfassessment Internal and external benchmarking The quality management group	Goals: Goal-oriented administration of Kymenlaakso University of Applied Sciences in accordance with the strategies Development procedures: Assessment and feedback information is analysed and collected into development procedures in the goals and performance card. Budgeting for development procedures is done and parties in charge of them are named.	Audit reports at the quality control system General processes and guidelines at the shared quality control system http://laatu.kyamk.fi Following up on strategic goals with the BSC measurements Agreements on goals and performance, budgets and memos at TWeb KyUAS practice and financial strategy The report on sustainability
International level	Curricula to agree with the EQF level 6 International auditing	Goals: Unifying the levels of higher education in Europe Development procedures: Developing the LCCE® and curricula	Documentation into SoleOps Audit reports

* documented quality control system shared by the whole Kymenlaakso University of Applied Sciences

B Results

The results of the educational unit's activities in relation to the objectives of Kymenlaakso University of Applied Sciences unit and the department

1. Results Pertaining to Students

The application of the LCCE® concept has generated significant results especially in terms of the production of **R&D credits**. From 2006 to 2008, the number of these credits has nearly tripled both as a whole and in terms of credits per student.

	2006	2007	2008	Change 06-08 (%)	Difference from national average
1.1. R&D credits (total)	1247	3250	4649	273 %	
1.2. R&D credits per student	0,88	2,34	3,50	298 %	
1.2.1. Culture 2008			5,34		2,35
1.2.2. Business economics 2008			1,85		-1,33
1.3. Number of students in projects	170	210	310	82 %	

The amount of **thesis work done as projects** has also grown; 80 % of the theses completed at the faculty in 2008 were done as projects.

Study theses done as projects in 2008	Total	As projects	Percentage of total (%)	Difference from national average
1.4. Faculty	256	205	80 %	
1.4.1. Culture	103	84	82 %	19,04
1.4.2. Business economics	153	121	79 %	-1,32

The faculty's results have been above the national average also in terms of **virtual studies**. Especially the department of business economics has invested in realising virtual education.

Virtual studies in 2008	Total	Virtual credits per student	Difference – all Universities of Applied Sciences
1.5. Faculty	5594	3,99	
1.5.1. Culture	1276	2,37	0,12
1.5.2. Business economics	4318	5,00	0,75

There are positive results in terms of **progress in studies**.

Progress in studies in 2008	<i>Number of students who had completed a minimum of 45 credits</i>	<i>Proportion of students who had completed a minimum of 45 credits</i>	<i>Difference – all Universities of Applied Sciences</i>
1.6. Faculty	559	59,59 %	
1.6.1. Culture	256	66,15 %	6,49
1.6.2. Business economics	303	54,99 %	- 1,20

2. Results Pertaining to Working Life

The launching of the learning laboratory activity, connected to the building and application of the LCCE® concept that integrates the faculty's teaching and R&D activities, has considerably increased the **number of commissions** received from businesses and other working life parties. Compared to the traditional service provider concept, these results are highly significant. In 2006, KymiDesign & Business carried out 97 commissions, in 2007 this had already risen to 148, and in 2008 to a total of 224 commissions. This adds up to a 131 % increase in two years.

Students who have graduated from the Faculty of International Business and Culture have good employment prospects. Employment figures are above the national averages especially for the graduates in the cultural field.

Graduate employment	<i>Number of degrees awarded 2006</i>	<i>Number of graduates in employment 2006</i>	<i>Proportion of graduates in employment 2006</i>	<i>Difference – all UAS</i>	<i>Proportions of graduates in employment 2005</i>	<i>Change 05-06</i>
2.2. Faculty	293	235	80,2 %		77,7 %	2,5 %
2.2.1. Culture	127	101	79,5 %	5,53	76,3 %	3,3 %
2.2..2. Business economics	166	134	80,7 %	-4,32	79,1 %	1,7 %

A **project feedback system** has been developed to serve the development needs of the faculty and KymiDesign & Business practice. In this system, feedback is collected from working life commissioners, from students, and from teachers. The development of the system was done by testing different types of surveys. The feedback received from working life has been quite positive (2007).



In the surveys it also turned out that two thirds of working life commissioners (61 %) felt that the completed projects had performed according to the goals set for them. As many as 70 % felt that the completed projects had benefited the business.

3. Results Pertaining to Staff

Building the LCCE® concept and establishing it in practice has continuously increased the teachers' participation in project work. From 2006 to 2008, participation by the teachers has doubled, so that in 2006, 17 teachers did project work, and in 2008, a total of 33. In addition, four teachers and principal lecturers participated in KymiDesign & Business activities as part-time project managers, or in equivalent positions performing acquisitions and organising tasks for the projects.

4. Results Pertaining to Economic Performance

The cost of studies per student at both departments of the Faculty of International Business and Culture are below the national average. In 2007, training in the cultural field cost nearly 2000 Euros less, and training in the business economics field 322 Euros less than similar training costs in the whole country on average.

ECONOMY	2005		2006		2007	
	Cost per student	Difference from national average	Cost per student	Difference from national average	Cost per student	Difference from national average
Business economics	5 132 €	+47 €	4 928 €	-212 €	5 138 €	-322 €
Culture	7 974 €	-1 335 €	8 000 €	-1 817 €	8 070 €	-1 904 €

The development of the LCCE® concept has thus resulted in an improved economic capacity.

5. Results Pertaining to International Relations

In terms of international student and teacher exchange, the results do not differ from the national averages. In 2008, a total of 17 teachers from the faculty participated in teacher exchange, and five teachers were received from abroad. The department of business economics is the more active one in an internal comparison; the department is responsible for 80 % of the teacher exchange.

Student exchange in 2008	Study credits completed abroad	Study credits completed abroad per student	International exchange from Finland	International exchange to Finland
5.1. Faculty	1591	1,30	360	237
5.1.1. Culture	399	0,79	139	101
5.1.2. Business economics	1192	1,66	221	136

6. Results Pertaining to Regional Development

Of the learning laboratory projects carried out by the faculty and KymiDesign & Business, about three quarters focus on businesses and other working life parties that function in Kymenlaakso region. More than half of the graduates found employment in the region, and over three quarters in the Greater Metropolitan area (including the regions of Uusimaa, Kanta-Häme, Päijät-Häme and Kymenlaakso).

Student employment rate	Kymenlaakso (%)	South Karelia (%)	Greater Metropolitan area (%)
6.1. Faculty	53,3 %	3,1 %	77,3 %
6.1.1. Culture	33,7 %	3,2 %	67,4 %
6.1.2. Business economics	67,2 %	3,0 %	84,3 %

7. Results Pertaining to R&D Activity

The development and application of the LCCE® concept has considerably increased (1) the integration of teaching and R&D activities, and (2) the volume of activity, especially in learning laboratory practice directly related to teaching (see part 2).

In the years 2006-2008, the Faculty and KymiDesign & Business have carried out a total of 11 different research projects, one of which is funded by the EU Commission, two by Tekes, and the rest by EU structural funds, the Finnish Regional Council, or similar bodies. In 2008, KymiDesign & Business was in the process of conducting four research projects:

The name of the project	The funding body	Number of collaborating partners
TULVA – The future of the boat business	Tekes	13
CULTURA – Cultural heritage services in Southeast Finland	EAKR, Regional Government in Southeast Finland	9
TuoHa II – Production Management	Tekes	8
Brandi -project	Kymenlaakson liitto	9

In the area of service production subject to VAT, KymiDesign & Business has completed several development projects and a variety of service activities annually. The proportion of this activity in KymiDesign & Business has however declined, as the learning laboratory activity has increased. In 2006, the volume of services subject to VAT was nearly 200 000 €, and in 2008 less than 30 000 €.

C. Writing the Application

The executive group of Kymenlaakso University of Applied Sciences decided in December 2007 that an application for the Centre of Excellence status should be made for the expertise cluster of the Faculty of International Business and Culture, KymiDesign & Business, because of its exceptional working life based project volume and its regional impact. Later, in January 2009, the decision was given further definition, so that the award was sought for the “Learning and Competence Creating Ecosystem” created by the faculty, which shows the connections created over several years by the faculty between R&D&I, project activities, and teaching. The management considered this concept to be excellently suited for Kasarminmäki campus which is currently taking shape.

The application has been mainly written by Research Director Pasi Tulkki and Faculty Director Raimo Pelli. Contributions to the development and description of the concept have also been made by the Lecturers of Business Economics Sinikka Pekkalin and Wenla Väisälä, Department Manager Kata Lyytikäinen and Principal Lecturer Sinikka Ruohonen from the Department of Design and Media, and Development Manager Mirja Toikka. Visions that have contributed to the building of the ecosystem have been presented especially by Professor Esa Poikela from the University of Lapland and by Professor Emerita Pirkko Anttila from the University of Helsinki. Views on the open innovation system have been contributed by Professor Markku Torkkeli of Lappeenranta University of Technology, and by Executive Director Merja Vainio of Kouvola Innovation Oy. The concept has also been processed by the management of Kymenlaakso University of Applied Sciences. The faculty’s Advisory Council has worked on the practice concept and on the Centre of Excellence application twice. The ecosystem concept has been processed and developed further on several occasions among the faculty’s teaching staff and in its management. The concept is also a central starting point as we currently proceed with the creation of the new curriculum.

PUBLICATIONS IN KYMENLAAKSO UNIVERSITY OF APPLIED SCIENCES
PUBLICATION SERIES

SERIES A STUDY MATERIAL

- A1 Hilikka Ahtola-Mutikainen, Helena Sohlman, Salme Taubert:
Opinnäytetyön dokumentointiohje [1998]. 2. painos [1999].
- A2 Hilikka Ahtola-Mutikainen, Helena Sohlman, Salme Taubert:
Opinnäytetyön dokumentointiohje [2000]. 5. korjattu painos [2002].
- A3 Sam Inkinen (toim.)
Sivistyksen haaste: kirjoituksia kulttuurista, kasvatuksesta ja teknologiasta [2003].
- A4 Sinikka Pulli:
Pedagogiset ratkaisut verkko-opiskeluympäristössä: tapaustutkimus ammattikorkeakoulun verkko-opintojaksoista [2003].
- A5 Reijo Oksanen:
Kuljetustuotannon toimintolaskenta. Kuljetustalouden perusteista moderniin toimintolaskentaan [2004].
- A6 Pasi Jaskari (toim.)
Design management – yrityskuvan johtaminen [2004].
- A7 Jyri Hänninen:
Verkkokoulutuksen skenaariomalli ja lähitulevaisuuden kehittämistavat pk-yrityksissä [2004].
- A8 Ritva Varis:
Sahakoulusta ammattikorkeaan 1921 – 2005 [2005].
- A9 Jorma Fagerström & al.:
Muotoilu ja media 120 vuotta [2005].
- A10 Altti Kuusamo, Sam Inkinen, Sanna Tomperi:
KIIDE, Kulttuurisen aluekehityksen haasteita Pohjois-Kymenlaaksossa [2006]
- A11 Seppo Rainisto, Markkinoinnin ABC [2006]
- A12 Riikka Komonen, Valaiseva kangas [2006]
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Ei yksin innovaatioita – Monialainen tiimityöskentely MUTEMA-projektissa [2007]
- A17 Pasi Tulkki
Omia polkuja. Kymen Sanomien Ylänurkka-artikkeleita vuosilta 2004 – 2007 [2008]
- A18 Tuula Huittinen, Muodon taju. Muotoilun metafysiikkaa. [2008]
- A19 Aija Seppänen, Hanna Korhonen
OMA-kansio. Oma Mahtava Ajatus. Ohjauskansio nuoren painonhallintaan terveydenhoitajille [2008]
- A20 Timo-Tapani Kunttu, Tuula Kivilaakso
Wiipurista Pookinmäelle – Kotkan merenkulkukoulutuksen historia 1868-2008 [2008]
- A21 Seppo Laaksonen, Seppo Rainisto, Brändin tarina [2008]
- A22 Sanna Vainikka
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Kohti Oppimisen ja Osaamisen Ekosysteemiä - Learning and Competence Creating Ecosystem - LCCE [2009]
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Designing a Deaf culture specific web site – Participatory design research for knack.fi [2009]
- A26 Sinikka Pekkalin, Ilkka Virolainen, Pekka Olkku, Heta Vilén (toim.)
Yrittäjyyden haasteet. Kymen Yrittäjät 70 vuotta [2010]
- A27 Riitta Myllylahti, Riikka Vauhkonen
Rakasta minut vahvaksi. Opas vauvan ja vanhemman varhaisesta vuorovaikutuksesta. [2010]



Rising out of recession, Finland needs a new kind of orientation in order to compete successfully in the international market. Business practices must be developed in ways that facilitate faster updating and production of innovations. Continuous change also means continuous learning, which requires that higher education and working life intertwine and cooperate more tightly than before, adopting new forms of learning.

In this book, several writers describe a new style of learning, or actually a number of different styles, developed at Kymenlaakso University of Applied Sciences. The ecosystem of learning, which has been named the LCCE[®] concept (Learning and Competence Creating Ecosystem), is the term for a highly varied style of working, which enables the university of applied sciences to respond to the abovementioned change in society. In the LCCE[®] concept, all students work in cooperation with businesses in real working life situations solving problems or completing assignments that have been designed together. The teacher's task becomes one of planning, guiding and coordinating learning processes. Businesses function as partners on a contractual basis, with representatives contributing for their part by giving continuous feedback on the students' work and performance. In the LCCE[®] process, the student, teacher and business are all learning.

The Learning and Competence Creating Ecosystem (LCCE[®]) has been presented by Kymenlaakso University of Applied Science department of international trade and culture as a candidate for a Centre of Excellence in University of Applied Sciences Education for the years 2010-2013.

