FUAS
FEDERATION
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Collaborating to achieve a strategic vision

An evaluation of curriculum development in FUAS institutions

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John Pratt, Gene Roth & Pekka Auvinen

HAMK
HÄMEEN AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES

LAHDEN AMMATTIKORKEAKOULU
Lahti University of Applied Sciences

LAUREA
AMMATTIKORKEAKOULU
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Preface

This report could not have been written without the help of many people. The first and most important of these are the staff and students of the three universities of applied sciences (HAMK, Lahti and Laurea) involved in the study, who gave up their valuable time to prepare their self evaluations (and this would not have been the first or last of these that they have had to undertake) and to discuss these both freely and helpfully in our visits. Their professionalism was exemplary, especially amongst those who engaged in thoughtful and enthusiastic discussion about their programmes even though these had been identified as candidates for closure. All this made the visits a real pleasure for us, and I hope it was not too much of an imposition for them. And we could not fail to be grateful for the impressive hospitality offered to us at each of the UASs.

The review team is also grateful to the FUAS Curriculum Review Project group who invited us to take part in this project, and to Päivi Huotari and Eeva Lassila for the help, guidance and kindness they provided.

Finally, as chair of the review team I thank my two colleagues, Gene and Pekka for their unfailing support, humour (even if at times subversive), and valuable intellectual and practical guidance. With support like theirs you do not need to be a leader (even if they would let you).

John Pratt

Chapter One

The background to the FUAS curriculum review

Higher education is seen as a driving force for the future economic and social wellbeing of Finland. In a challenging economic environment, Finnish higher education needs to be internationally competitive. The goal for Finland's government is to make Finland the most competent country in the world by 2020 and that Finland will be placed among the top OECD countries in comparisons of the number of higher education graduates among young and older adults.

An increasingly open and dynamic environment sets demanding challenges for Finland's competitive edge and welfare in the 2010s. Like all countries, it faces major challenges, such as climate change and environmental sustainability, food and energy supply, unpredictable economic development, ageing of the population and multiculturalism. These challenges are seen as requiring joint solutions and new ways of working and operating, new earnings logics, successful sectors and products, as well as innovative and completely new companies and sectors. The Finnish universities of applied sciences (UASs) have an important role in facing these challenges nationally and internationally. Their education and competence-based curricula are seen as offering a framework for developing existing innovation environments and the European higher education area. In this, curriculum development is a phase where a view of the future operating environment, expertise, core competence areas and possible qualifications required by the professions serve as a background for the higher education institutions. Competence-based curricula emphasise learning results described by learning outcomes.

Finnish higher education and current development targets

The higher education system in Finland comprises universities and universities of applied sciences. The dual system was established to emphasise the two higher education sectors' different missions in Finnish society. Universities focus on research and education based on research. They confer bachelor, master's, licentiate and doctoral degrees. Universities of applied sciences (UASs, or *ammattikorkeakoulut* (AMKs), sometimes referred to as 'polytechnics') were established in the 1990s and are important regional actors. They train professionals in response to labour market needs and conduct research, development and innovation (RDI) activities which support and promote regional development in particular. At universities of applied sciences students can study for bachelor's and master's degrees. A bachelor degree (210–270 ECTS) requires 3.5–4.5 years of full-time study. The bachelor's degree graduates from universities of applied sciences generally enter the labour market after graduation, whereas the university bachelor's graduates primarily continue studying for master's degrees (Ministry of Education and Culture, 2012: 3). Master's degree programmes at universities of applied sciences were established experimentally in 2003 and the law on UAS master's degrees came into force in 2005. The requirement for entry to a UAS master's programme is a bachelor degree from a university of applied sciences or equivalent, plus a minimum of three years of work experience in an appropriate field. The master's degree (60–90 ECTS) requires 1.5–2 years of full-time study and is equivalent to a university master's in the labour market.

The purpose of universities of applied sciences is to generate the expertise and innovations needed by the world of business, industry and public sector. Universities of applied sciences mostly conduct RDI geared to the needs of business, industry and public sector. UASs offer also professional specialisation and other adult education programmes, open UAS education and vocational teacher training. There are currently 25 universities of applied sciences with 118,000 students in bachelor's programmes and 6,500 in master's programmes. Four are run by local authorities, seven by municipal education consortia and 14 by private organisations.

The Finnish universities of applied sciences took a positive view of the Bologna process (ARENE, 2007) and have used the ECTS system since 2005. They have also adopted the Diploma Supplement which provides information about the studies completed by the student, the status of the degree and the qualification provided by the degree for further studies and for jobs. In recent years the Bologna process has focused on quality assurance systems and their recognition. The Finnish Higher Education Evaluation Council (FINHEEC) has been active in quality assurance cooperation and has conducted audits of the quality systems of higher education institutions since 2005. Altogether 26 UASs have been audited by FINHEEC. A second round of audits began in 2011 (FINHEEC, 2011).

There are currently several reforms aiming at increasing the strengths, quality and attractiveness of the Finnish higher education system. According to the Finnish government programme, the universities and universities of applied sciences will be developed as different, complementary forms of education with different degrees, degree titles and missions (Ministry of Education and Culture, 2012: 43 – 47). It sees the global market as requiring concentration of resources into regional knowledge clusters and strengthening of RDI activities. The Ministry emphasises stronger profiles and priorities in universities of applied sciences in serving the development needs in the regions; the universities of applied sciences need to develop their RDI activities to increase their capacity to cater for the needs of the SMEs and service sectors in their regions in a more planned way. RDI is an essential part in the job descriptions of the teaching personnel. The Ministry of Education and Culture will seek to strengthen links between universities of applied sciences, regional development and working life. The RDI funding base is to be diversified by making more efficient use of funding allocated by the Finnish Funding Agency for Technology and Innovation (TEKES). The representation of the world of work and business and industry on the key administrative bodies will be increased. The mission of universities of applied sciences will underscore links with business and industry and regional impact.

Structural change in the UAS sector has proceeded in recent years. This process has decreased the number of universities of applied sciences from 30 to 25. According to the development plan of the Ministry of Education and Culture, the Finnish higher education network is still too fragmented and further reductions in the number of UASs are anticipated. The control of universities of applied sciences will also be reformed from the beginning of 2014. The licence to provide UAS education will be revised, with emphasis on quality and impact (Ministerial working group on educational policy, 2012). The responsibility for funding as a whole will be transferred to the government, and universities of applied sciences will be made independent legal entities. Their financing will be overhauled to better support current objectives, such as speedy transfer to the labour market. Institutional funding will be primarily determined on the basis of degrees awarded, and the quality and efficiency of study processes and placement in the labour market. These measures are intended to reduce some of the weaknesses in the current Finnish higher education system of delayed placement in education and delayed graduation. In Finland over 40 per cent of the 20 to 29 age group are in education, whereas the figure in other OECD countries is only 25 per cent. The aim is that graduates enter the labour market one year earlier than now. These reforms will hit the UAS sector hard: intakes in universities of applied sciences will be reduced by 2,200 entrants in 2013, whereas the overall volume of university education will be kept unchanged. The cuts will be primarily made in the fields of culture, tourism, catering and domestic services, and technology, communications and transport. A small increase is needed in health care and social services (Ministry of Education and Culture, 2012: 43 – 47.)

The strategy for the internationalisation of Finnish higher education institutions system is to create a genuinely international higher education community (Ministry of Education and Culture, 2009). The higher education system should promote society's ability to function in an open international environment, support the development of a multicultural society and participate actively in solving global problems. Furthermore, higher education institutions should actively utilise international cooperation opportunities, in particular, within the EU and Nordic countries. An important aim is to increase the quality and attractiveness of higher education institutions with internationally renowned and attractive study and work environments. To promote the export of expertise, Finnish higher education institutions aim to be attractive and reliable cooperation partners that engage in high-quality and mutually beneficial international research, education and cultural cooperation. Higher education institutions' active participation in supporting a multicultural higher education community and civil society is seen as a resource that promotes internationalisation at home. Promoting global responsibility is based on utilising research and expertise to solve global problems and to consolidate competence in developing countries. The activities of higher education institutions aim to be ethically sustainable and support students' prerequisites to function in a global environment as well as to understand the global effects of their activities.

The FUAS federation

It is in this context that the FUAS federation (Federation of Universities of Applied Sciences) was established by Häme, Lahti and Laurea Universities of Applied Sciences to serve students, business life and the public sector in an improved capacity as well as to seize the opportunities of a strongly internationalising operating environment. The FUAS federation and its network-based operating model are intended to ensure that the competence of three major universities of applied sciences brings advantage to the entire operating area. The broad-based alliance aims to be an influential operator also in the context of national policy preparation. Each of the institutions still maintains its independence and continues to be responsible for the educational, RDI and regional development tasks in the region. The FUAS institutions conduct applied research and development and offer education working closely with the labour sector, particularly with SMEs, public administration and the third sector. The alliance intends to play an instrumental role in building the innovation environment of the Helsinki Metropolitan Area and supporting the development of top-level expertise. The Greater Helsinki Metropolitan Area produces approximately 50% of Finland's gross domestic product. The FUAS institutions are to work together closely to find the competence that is required by working life, either within their own ranks or in their extensive networks, and to turn it into projects and/or competence development services as needed.

The three FUAS institutions have many similar basic characteristics. Laurea has about 8,000 students and 500 personnel. It offers 17 bachelor's and 14 master's programmes as well as adult programmes at seven sites spread widely across the north west and east of metropolitan Helsinki. Lahti (LAMK) has about 5,300 students studying on over 20 bachelor's or master's programmes, and a staff of 400 (of whom about 260 are full-time) located in 12 sites within the city of Lahti which lies about 100 km from Helsinki. Häme (HAMK) has over 8,000 full and part time students on 29 bachelor's and seven master's programmes and just over 400 teaching staff at eight sites up to 100 km apart around Helsinki. Overall in FUAS there are about 21,000 students and 1,700 staff.

FUAS has set a range of goals for itself and has produced a comprehensive statement of its strategic policies for 2011 - 2015 (Appendix 1). The educational profile of FUAS is focused on being an international pioneer in workplace oriented pedagogical solutions integrated into RDI (FUAS, 2011). The FUAS institutions offer degree education (bachelor's and master's degree), open UAS studies, further education and specialisation studies, as well as training and development services for private individuals, businesses and public bodies. Education is offered in all fields of study and can also be multidisciplinary when necessary. Education services are also offered to the international market. The FUAS research, development and innovation activities focus mainly on four different areas: ensuring welfare, technological competence and entrepreneurship, societal security and integrity and environment and energy efficiency. Within these focus areas are several sub-themes which include but are not limited to: ageing, digital solutions, design, international business and service development and environmental management. The focus areas are developed on the basis of changes in the operating environment and this international Curriculum Review and Research Review. FUAS aims to strengthen its network-based cooperation through Summer Studies, Graduate School, International Services, Quality Assurance, RDI Consortia and Services, Virtual Campus, Continuing Education and Information Management.

FUAS vision for 2020 is to be an:

> 'Internationally acknowledged alliance of independent UASs, which strengthens international competitiveness of the Helsinki metropolitan region by offering educational and regional development services and RDI expertise needed by the people and business of the region.' (FUAS, 2011: 4).

Its strategic targets for 2011 – 2015, will be in education, profiling and internationalisation of degree programmes, lifelong learning, developing pedagogy, education quality and impact, RDI, development of the wider metropolitan area and shared services.

The purpose of the international curriculum review

The focus of the Finnish policy for the UAS sector is on anticipating future competence needs to ensure the development of innovation competence, by forecasting changes in the regional, national and international operating environments. Curriculum evaluation is the starting point for this process. The purpose of the international curriculum review of FUAS institutions was to support the quality work of degree programmes. From this perspective, it is relevant to evaluate curricula as a whole as well as the links of the three FUAS institutions to the FUAS alliance and to the strategy and focus areas of each institution. This curriculum review thus focused on curricula and on RDI integration into learning. The curriculum review also examined stated learning outcomes from the viewpoint of the European Qualifications Framework, EQF, because the purpose of EQF is to increase the comparability and transparency of qualifications, clarify the qualification system, promote mobility between educational fields, and support the principles of lifelong learning. The project also serves as the first step towards FUAS alliance accreditation.

The specific objectives of the FUAS curriculum review were thus to:

1. Evaluate UAS curricula as a whole in relation to national and international targets, the vision and strategic focus areas of the FUAS alliance and the strategies and focus areas of the UASs themselves, RDI in particular
2. Combine the strengths, development areas and best practices of the participating degree programmes.

The curriculum review has a clear link to FUAS vision for 2020 to be internationally acknowledged alliance of independent UASs and review is closely linked to the Action Plan 2011–2012. Furthermore, the curriculum review provides a perspective for developing a joint, international quality system for FUAS, in the context of forthcoming audits of the Finnish Higher Education Evaluation Council (FINHEEC).

Chapter Two

The review process

The FUAS international curriculum review followed a process broadly based on the established methodology of the Finnish Higher Education Evaluation Council (FINHEEC) for the evaluation of programmes in all Finnish higher education institutions. The review was based on a sample of 12 programmes (selected by FUAS) from the FUAS institutions (four from each), and one of which in each institution was a master's programme. These programmes were:

HAMK University of Applied Sciences

- Degree Programme in International Business
- Degree Programme in Mechanical Engineering
- Degree Programme in Social and Health Care Development and Management (Master's degree)
- Professional Teacher Education Unit

Lahti University of Applied Sciences

- Degree Programme in Fine Art
- Degree Programme in Environmental Technology
- Degree Programme in Nursing
- Degree Programme in Service Operations (Master's degree)

Laurea University of Applied Sciences

- Degree Programme in Nursing
- Degree Programme in Business Management
- Degree Programme in Security Management
- Degree Programme in Service Innovation and Design (Master's degree)

The review process started with a self evaluation of each programmes, which took place in Autumn 2011 (before the review team was appointed). Seven topics were identified on the self evaluation form and these addressed two broad issues. First, at a strategic level, was integration of the learning outcomes of the degree programme into the strategies of FUAS and the relevant university of applied sciences (UAS). Second, were six topics at the programme level (see Appendix 2). For each of these topics, the institutions were asked to identify strengths and areas for development. The programmes provided various forms of supporting information, such as curriculum and course documents etc. We note that the six topics, whilst appropriate for curriculum review in general and matching the criteria of FINHEEC, do not necessarily map directly onto the strategic aims of FUAS (as set out in FUAS, 2011). For example, internationalisation was not one of the self evaluation topics, though it was a subject often mentioned in responses in other topics; if FUAS plans to undertake further evaluations of its strategy it may need to customise self evaluations.

The self evaluation forms were the basis for a full day visit to each institution in March 2012. In each of these visits, the institution first set out its quality management and curriculum development processes; this was followed by discussions with each of the programme teams, after which the review team offered a short summary of their conclusions. This report draws on all these sources of evidence, together with other background and policy documents.

Although twelve individual programmes were reviewed, our remit emphasised that we were to evaluate the curriculum 'as a whole'. Given also the limitations of time in the one day discussions, and our desire to make these reviews as frank as possible, we do not offer evaluations of individual programmes in this report, though we cite examples of good practice from programmes where appropriate. At the same time, we are conscious that this was only a sample of programmes and that it is possible that it included those that showed the institutions to best advantage. However, even if this was the case, it is valuable to have them as examples of good practice that others might seek to emulate.

The responses to the self evaluations themselves were varied. This variation – within the UASs as well as between them – is not necessarily a cause for concern, and may even be expected as showing a healthy diversity. But the responses did show varying degrees of criticality. The majority, perhaps understandably, offered more strengths than areas for development; programmes would wish to show themselves in the best light. Others were more frank and thoughtful, and we recognised in them both the real commitment and concerns of programme teams to maintain and enhance the quality of their programmes and to address the problems that they typically face. These variations may reflect the different circumstances and prospects for the future of some of the programmes. As reviewers we were dismayed to learn that two of the programmes had been identified as candidates for closure after they had been selected for the review – and this feeling was compounded when we learned of the positive aspects of these programmes during the review.

However, one self evaluation was so brief as to make us wonder if it had been taken seriously, and sometimes responses from programmes in the same institution used identical phrases in their summaries of strengths and weaknesses – again, in itself not a cause for concern if staff from different programmes met to prepare their documents. But these outcomes suggest that there may be some 'evaluation fatigue', a matter that could be of concern should FUAS seek (as we anticipate it would wish to) to further assess its progress at later dates.

This finding helped to remind us that higher education institutions in Finland have been subject to many reviews and that systematic evaluations are part of the sector's culture, and that our review was but the latest of many that have taken place over recent decades. We have located our findings in the context of some of these previous reports, as many of the topics of current concern to FUAS have also been reviewed in the past. Happily, one of the overall findings of our review has been that considerable progress is evident in areas that had been identified by some of these earlier evaluations as needing attention.

Given the policy context (set out in Chapter One) and the aims of the review, it seemed to us that one aspect of the curriculum review was the 'value added' that the formation of the FUAS alliance was intended to offer. The formation of FUAS has to be seen in the context of the intention of the Ministry of Education and Culture to reduce the number of student places, change the funding mechanism in the UAS sector, and reduce the number of UAS institutions. As a voluntary alliance of three institutions, the creation of FUAS is not the result of direct coercion and not a merger in the conventional sense – and is seen by its creators as preferable to this. The formation of FUAS is, nevertheless, a response to the demands of the Ministry of Education and Culture, intended to create a larger network, nationally and internationally, and better competitiveness, larger volume and better quality in key strategic projects, and to develop and build on the strengths of FUAS members. Its success is crucial for the development of the three UASs involved and for the students and staff within them. We asked ourselves: if FUAS was working as hoped, what would we expect to see happening? Our review therefore sought to identify from the evidence presented the ways in which FUAS might be seen as benefitting the institutions in achieving the aims set for them, and in which ways further development might be desirable and possible.

As we saw in Chapter One, FUAS has set out an ambitious programme and our review could not look in detail at all of these topics and targets, but it sought to assess progress towards them in the programmes and the UASs as a whole.

We were conscious also of the possibility that a new form of organisation, even though voluntary, might nevertheless bring unintended and deleterious outcomes. For example, that a desire to create a single organisational entity might promote uniformity rather than diversity. There is cautionary advice on alliances and mergers from the Higher Education Funding Council for England (HEFCE, 2012) based on experience in the UK. For example, staff from the different institutions may have dissimilar and even incompatible cultural norms and expectations, that might result in friction and inefficiency. HEFCE warns that 'there is a strong case for acknowledging that culture will affect the success or otherwise of attempts to achieve organisational change. That being so, institutions will need to focus on communication and consultation, and on the social integration of staff and students' (*op cit:* 46–47).

We were also aware, not least from previous experience of reviewing policy developments in a number of countries, that the success of a development such as this depends also on factors outside the control of the organisations concerned, and the policy, financial and managerial environment in which they are placed. We make some observations about the impact of these factors in later chapters.

Summary

- The topics identified for the self evaluation do not directly correspond to the strategic aims of FUAS, so if FUAS plans to undertake further evaluations of its progress it may need to customise self evaluations.
- The responses to the self evaluations themselves were varied. There may be some 'evaluation fatigue', a matter that could be of concern should FUAS seek to further assess its progress at later dates.
- One of the overall findings of our evaluation has been that considerable progress is evident in areas that had been identified by earlier reviews as needing attention.

Chapter Three

Curriculum development and quality assurance

The formation of an alliance such as FUAS raises a question at the level of overall educational philosophy: to what extent is there to be a common overall approach, and are individual institutions to maintain a distinctive different identity within the alliance? FUAS is an alliance, not a merger: the strategic intent of FUAS for 2020 is that it will be a 'federation of *independent* higher education institutions' (FUAS 2011:4, emphasis added), and the intention is that 'each of the institutions maintains its independence and continues to be responsible for the educational, RDI and regional development tasks in the region'. However, the formation of FUAS is clearly intended to achieve greater uniformity in some respects. It is claimed, for example, that it 'enables the strategic steering of innovation' (*op cit:* 7). Further, one of the strategic aims of FUAS is the development of shared services, including in particular, a shared quality assurance system (*op cit:* 11). Amongst FUAS's targets for the future is a 'shared operating culture' embodying 'Functional uniformity' and a 'shared quality assurance system' (*op cit:* 10). FUAS identifies as one of its strategic indicators of success: 'Degree programme structure (description: uniformity, functionality, profiling, comprehensiveness, development in line with the new degree programme structure)' (*op cit:* 10). 'FUAS Quality Assurance' is listed as one of the areas of network based cooperation to be strengthened (*op cit:* 6). It is therefore a question for the FUAS leadership and its separate member institutions how far uniformity has been achieved – but also how, within the development of common systems of curriculum development and quality assurance, it is possible or desirable to maintain diversity.

In Finland as in many other European countries, the Bologna process has been seen as an opportunity to reform curriculum content and pedagogical solutions (Tauch, 2006: 11). During the past few years Finnish universities of applied sciences have started to make new openings in curriculum development. The expansion in their sphere of activity and integration with the EHEA have caused them to review and renew their curricula alongside the establishment of the ECTS credit system.

All three members of FUAS have been active in curriculum development in keeping with the principles of the Bologna process. Each has successfully made a transfer towards a competence-based curriculum, which facilitates closer cooperation within the federation. All three FUAS institutions base curriculum on workplace needs, involving stakeholders from working life in various ways. All state that they use the EQF (levels 6 and 7), NQF and national generic competences, although some also report that the exact wording of EQF themes is not easy to use in the curriculum. All have extensive feedback mechanisms. Laurea, for example, states that curriculum is 'drawn up based on forecasts, studies, employer interviews and reports'. There are yearly evaluations and development, with working life representatives and students involved, and 'student feedback is collected continuously'. The institutions have a great deal in common with regard to pedagogical solutions and the values guiding their operations. On the other hand, the operations of the institutions and the tuition planning processes vary significantly. These differences enable the institutions to learn from one another, but they can also be obstacles to closer cooperation.

Currently, curricular thinking is moving from the atomistic lehrplan composed of disconnected subjects towards a holistic competence-based curriculum that takes into account and scaffolds personal and professional growth. At the universities of applied sciences this approach entails the reinforcement of flexibility, integration of subjects, working life orientation and student-centeredness.

When renewing the curriculum, one has to ask what kind of a curriculum structure can be best applied in the degree programme, considering the time and other resources available for studies and learning. The needs and requirements of cooperation within and between institutions should also be taken into account when deciding which structures and models are used. Too rigid, inflexible or fragmented curriculum structures complicate cooperation and integration. Furthermore, very different curriculum structures may prohibit interdisciplinary cooperation between different professional and study fields (Isaacs, 2006: 7–8; Auvinen et al, 2007: 59). Integrating learning into genuine real-life contexts, realising teaching through projects and flexible implementation of R and D tasks is challenging to a fragmented, subject-oriented and rigid curriculum (Auvinen, 2004: 320.)

Traditionally the objectives and learning attainments have been defined (and foreign degrees validated) on the basis of the course units, content and duration of education. Lately, however, the actual competences of an individual have been deemed more important than the way in which s/he has accumulated his/her knowledge, skills or attitudes (Bergan, 2006: 20.) In recommendations made by Rectors' Conference of Finnish Universities of Applied Sciences (ARENE, 2007: 31) UASs are advised to present learning outcomes and objectives at degree level as subject-specific and generic competences. The subject-specific competences are the basis for the professional development of a student. Generic competences are shared by all degree programmes and lay the foundations for participation and collaboration in working life and for the further development of professional knowledge and skills.

Pedagogic strategies

Each of the FUAS institutions has created its own pedagogic strategies that guide its educational processes (HAMK University of Applied Sciences, 2009; Lahden ammattikorkeakoulu, 2009; Laurea University of Applied Sciences, 2011). Our review revealed that the development strategies, educational philosophies and systems of curriculum development and quality assurance of all three institutions, although differently expressed, show considerable comparability. All emphasise their relevance to the economy and their region, but also seek to be internationally recognised:

> 'HAMK University of Applied Sciences is the leading competence developer and promoter of business strategy in its operational area… Our main goals are to achieve high quality, to fulfil the needs of the world of work and internationalisation, and to see that our graduates have good employment prospects' (HAMK website)

> LAMK: 'We are an international centre of excellence committed to learning and sustainable renewal' (presentation in site visit)

> 'In 2015 Laurea will be an internationally acknowledged university of applied sciences specialising in future expertise and regional development in the metropolitan area' (Laurea website).

To achieve these strategic goals, all the educational philosophies of the institutions emphasise student centred learning, though with interesting differences in terminology and the form in which this learning is implemented. We were pleased to see that *learning*, rather than *teaching* was the key idea in the educational approach of all three institutions, though at the level of individual programmes, the extent to which this was apparent varied somewhat, with some taking a more traditional teaching oriented approach than others, some of which were radically student-oriented.

HAMK claims to be its region's leading promoter of innovation and entrepreneurship. Its Education Strategy is an extensive and thoroughly compiled document. The main strategies are: education based on the needs of the working life, flexible educational processes that support life-long learning, integrating R and D and tuition as well as intercultural competence and entrepreneurship. The basis for the pedagogical solutions is the Model of Integrative Pedagogy introduced by Tynjälä (2007) which seeks to integrate conceptual, experiential and self-management knowledge. It aims to link concrete professional action and abstract thought, field-specific competences and generic workplace skills, learning and work, formal and informal learning, individual and communal learning, and is multidisciplinary. This is implemented through 'blended learning', where different learning methods – face-to-face teaching, experiential learning at school and/or in a work environment, and independent learning, and extensive use of e-learning opportunities – complement one another. Learning processes are closely linked to authentic work environments and, according to the strategy, integrative pedagogy integrates:

- conceptual, experiential and self-management knowledge
- concrete professional action and abstract thought
- professional skills (field-specific competences) and generic workplace skills
- learning and work
- formal and informal learning
- individual and communal learning
- various fields (being multidisciplinary) and diverse courses and modules

In Lahti University of Applied Sciences, LAMK, the basis for the model of good learning is customer service orientation, multidisciplinary and community-oriented training, and contacts with industry; it too emphasises the development of competences. The key competences of all curricula should include entrepreneurship, customer service, sustainable development as well as intercultural competence and innovation competence. According to the strategy, the model for good learning is to be implemented, as at HAMK, with the help of integration pedagogy, where core competences are the following: functional counselling, constructive assessment and a versatile and flexible learning environment. As in HAMK, the basis is Tynjälä's (2007) Model of Integrative Pedagogy. In LAMK, special emphasis is given to practical training which promotes and strengthens learning as well as integrating theory and practice with learning in projects. In other words, learning by doing and abstract thinking are combined. In addition, different methods of progressive inquiry, i.e. searching, testing, trying out and learning by doing are considered important in LAMK. Students' learning is central, and the purpose of teaching is seen as 'adding value to learning'.

Laurea identifies itself as a 'Networked, Multi-disciplinary and International Promoter of Students' Professional Growth' and emphasises that students can supplement their basic studies with optional studies from any other degree programme. Each student participates in project partnerships with companies and organisations. Central to this approach is 'an operating model that promotes the development of working life by integrating learning and R and D'. This is summarised in the term: 'Learning by Developing' (LbD).

Laurea's Learning by Developing (LbD) strategy is based on the shared values of the organisation: sense of community, social responsibility and creativity. The LbD model is based on authenticity, partnership, experiential learning, creativity and research-oriented approach. The LbD strategy process and the development of Laurea's pedagogic practice began at the start of the new millennium with long-term development work designed to facilitate the integration of teaching, R and D and regional development. In recent years, the LbD model has seen strong development in areas such as the reinforced role of student-centred RDI activities as part of the learning process (Auvinen, et al, 2010: 146–148). Laurea therefore does not have separate RDI units: research and development activities have been 'strategically integrated' into the educational task. The aim is that working together, students, lecturers, experts and workplace representatives generate knowledge and competence. The communal work method is seen as enforcing commitment to the learning process as the project team members have a joint responsibility for the outcome. Competence is developed through project based work and displayed as R and D credits and project based theses. As a result, Laurea claims to produce the highest number of ECTS credits from R and D among universities of applied sciences in Finland.

Systems of quality assurance and curriculum development

It is within these overall educational philosophies that systems of quality assurance and curriculum development are located. The systems of quality assurance in all three institutions have been subject to audits of FINHEEC in recent years and all received complimentary reports, though there were a number of areas for development. All three were found to have strongly structured and well organised QA systems. The system at LAMK was audited in 2006 (Karppanen *et al*, 2007), so the results of that audit are somewhat out-of-date. However, FINHEEC reported that its quality assurance was comprehensively documented and the Quality Pyramid was a well-functioning way to bring together all documentation. The LAMK development strategy was focused to a great extent on client and societal impacts and the scorecard associated with the strategy included versatile qualitative and quantitative measures for the assessment of regional impacts. The QA system of HAMK was audited in autumn 2010. It was found to cover all the essential operations and had a strong strategy base. The established system of target and performance negotiations appeared to constitute a good quality assurance practice. The performance of the sub-sectors of the quality assurance system was monitored, assessed and developed in a goal-oriented way by means of self-evaluations, cross-evaluations and external evaluations. The QA system of Laurea University of Applied Sciences was also audited in autumn 2010 (Lampelo *et al*, 2010). The strengths of Laurea's QA system were its comprehensiveness, accessibility, transparency and extensive implementation. The system was well organised and effective and promoted quality assurance. Learning by Developing (LbD) has been adopted as a framework and the teaching staff were highly committed to it. Local units were entrusted with extensive freedom and responsibility. The QA system was a tool used by Laurea's entire staff and formed part of their everyday activities. Strong societal interaction and regular external evaluations helped Laurea steer its activities towards strategically important areas.

Our review confirmed many of these findings. Although they differ in nomenclature and in structure, the systems of curriculum development and quality assurance in all three institutions have common features and substantial strengths. The foundations of the pedagogic strategies are similar in all the FUAS institutions. They all emphasise working life-oriented learning, social-constructive theory of learning and a comprehensive learning with integration between subjects. In Laurea and HAMK, the strategies especially focus on close integration of tuition and R and D. LAMK, however, does not specifically mention this integration in its model for good learning. Although the foundation for HAMK and LAMK is Tynjälä's (2007) Model of Integrative Pedagogy, these UASs, in part, stress different aspects in applying it in practice. The pedagogical model is considered a relatively loose framework, which different fields and degree programmes can apply as they see fit. The LbD model created at Laurea is, instead, a guiding line and central factor that describes the practices throughout the institution.

The curriculum solutions and curriculum development processes have great significance in cooperation and student mobility between the FUAS institutions. Our review found that there are some excellent practices in all of the FUAS institutions' curricula, which can offer competitive edge and success factors crucial to the federation. However, practices in tuition planning differ a great deal, which can ultimately hinder cooperation in the future.

Common processes throughout the institution are characteristic of HAMK. It has a long tradition as well as functioning and established practices in quality assurance. Quality assurance has become an integral part of the everyday functions of HAMK. Quality assurance is linked to studies and cooperation with industry in a natural way. HAMK is the only institution in Finland whose educational quality assurance is at an excellent level (Malinen et al, 2011: 26.). All the Finnish universities and universities of applied sciences were audited using the same criteria in years 2007–2011.

HAMK has a long standing, clear process of developing and updating curricula yearly, and the process is realised in a unified way throughout the institution. It is explicitly linked to its strategy and the management has a strong role in the process. Implementation of curriculum strategy is through development plans produced every three years, and an annual process agreeing results and targets plus annual budgets, an annual structured curriculum process and regular discussions with staff and students. Decisions on curriculum development are taken executively by the relevant Vice-President. The point of departure is the annual curricular development objectives defined by the management. These objectives are discussed in collective seminars and curriculum development negotiations between the degree programmes and the management. The curriculum negotiations between the management and the degree programmes seem to be a good practice, which could be implemented in other FUAS institutions. In addition, combining all the masters level education in one unit seems to have proven a good practice.

HAMK has had structurally unified curricula since the 1990s. Each curriculum includes common basic studies for all students, field-specific basic studies, compulsory professional studies, optional major and secondary subjects, free-choice optional studies, practical training and thesis. The unified structure and unified processes enable cooperation between the degree programmes within HAMK, which brings synergy gain. Moreover, extensive use of the e-learning/blended learning studies enhances the cooperation between the different units in the region.

Competence based education is clearly seen in HAMK curricular documents. The competence objectives of degrees have been defined in a unified way, according to the ARENE recommendations, throughout HAMK. These objectives are for the most part clear, but in some programmes there is apparent overlap of generic and subject-specific competences. The objectives of the courses are mentioned in the form of tangible learning outcomes. The curricula appear to be for the most part subject-oriented and comprise relatively short courses. R and D operations are integrated into the studies on many courses, but the restricted nature of the course can hinder taking on larger commissions.

In HAMK is one of the five Professional Teacher Education Units in Finland. The HAMK unit is the largest in Finland and its operation has a great significance in the pedagogical education of the teachers in FUAS. In addition to basic teacher education, it organises extensive further training. Extensive training modules were arranged for the staff on implementing the integrative pedagogy model. In our view, the knowledge of the teacher education unit could be utilised even further to support curriculum development work and pedagogical development in HAMK and across FUAS.

Laurea has adopted vision-based management, which allows the units to have fairly large freedom in implementing the strategic goals of the institution. The LbD model is a central factor guiding practice, though applying it requires strong pedagogic leadership. Pedagogic management complies with the common management model in Laurea, which emphasises openness, transparency of actions, creativity and cost-effectiveness. Networked practices, cooperation and shared management of an expert organisation are also considered extremely significant at Laurea.

Unity of practice and curricula is not regarded as the primary objective at Laurea. Instead, the institution gives priority to strategy-based actions, innovation, opening new doors and achieving good results. Evaluating practice frequently and with different methods is characteristic of Laurea. In addition, the curriculum development process and the implementation of the LbD model have been regularly audited by national and international groups of auditors. External audits are seen as an important part of the development process. Besides the audits ordered by the institution itself, Laurea has been extremely successful in the Centres of Excellence evaluations conducted by the Finnish Higher Education Evaluation Council (FINHEEC). It was the only institution in Finland given the Centre of Excellence nomination as a whole university (Auvinen *et al*, 2010: 122–148).

These practices have led to the curriculum at Laurea being diverse. It appears that curriculum development work is done primarily within the regional units and some curricula within the same field and unit can differ from one another a great deal. Common to the curricula is the composition of competence-based entities of 5 to 10 credit points integrating different subjects. Large study modules enable the integration of R and D and teaching. Laurea does not collectively update curricula annually, but a large-scale curriculum development process throughout the institution is organised every few years. In addition to this collective process, different units and degree programmes constantly develop new curricular solutions.

These practices at Laurea produce educational innovations which were evident in this review: examples include being the first in Finland to launch degree training in the security field, and Laurea Business Ventures, a business degree programme focusing on enhancing development in entrepreneurship. From the point of view of cooperation within FUAS, challenges could be presented by the structural and contextual diversity of the different curricula, as in this respect, the practices of HAMK and LAMK differ from those at Laurea. Furthermore, the differences between curricula even within a single field pose some challenges to cooperation between different units as well as achieving synergy gain.

LAMK is a university of applied sciences with effective practices and all its units are located in close proximity in the city of Lahti. However, our review found that short distances do not seem to guarantee close cooperation between the units. We believe that the geographical proximity of LAMK units could offer significant possibilities for closer cooperation, also bringing synergy benefits.

LAMK has a strongly structured system of curriculum development and QA, employing a 'Plan-Do-Check-Act' model, but the actions do not seem as cohesive as the practices of HAMK. At LAMK, the curricula are updated yearly, similarly to HAMK. The management makes decisions on the plan of actions for educational development and gives the degree programmes assignments on the curriculum structure and layout. The actual curriculum development work seems to primarily take place in the units. The curriculum development team sets the work in action and coordinates development work in the degree programmes. However, the role of management in development work was not clear to the review team.

The curricula in LAMK are for the most part module-based. The modules are formed of 15 credit units on average. According to the pedagogical strategy, the term module means a compact and intensive educational element. The aim of these is to understand extensive phenomena and whole complexes of issues. We found that the curricula in different degree programmes at LAMK are not unified in structure. On the whole, the courses are relatively short and based on single subjects. The importance of the modular structure as a unifying factor remained unclear.

The pedagogical strategies are not shown in a unified way at LAMK, but innovative pedagogical openings have been made and good results have been achieved in many of the degree programmes. Several units have been chosen as centres of excellence. Some of the example cases of new pedagogical solutions were the following: applying the model of Problem Based Learning in the field of Nursing, networking approach in Hospitality Management and development of Environmental Technology in the engineering field.

Areas for development

Our review identified a number of areas for development in relation to quality assurance and curriculum development, as did earlier FINHEEC reports. At LAMK in 2006, FINHEEC found that the quality assurance system did not comprise all areas of learning, and a need for consistent development was identified. It also noted that at the institutional level, the model of balanced result-oriented management worked as a strategic management tool but at department and unit level there was still extensive variation. At HAMK, although curricula were based on descriptions of learning outcomes, the focus in education was on the evaluation of teaching content and teaching methods. The learning outcome aspect could have been more prominent in the evaluation of education. At Laurea also, FINHEEC found that the evaluation of learning had fallen behind the development of teaching based on the LbD method and was methodologically teacher-centred. It recommended that the QA system should be developed so that it produces more information on the achievement of the objectives set in the pedagogic strategy.

The self evaluations for our review, whilst citing the development of a competence based curriculum as a strength, also reported some difficulties with this approach. Needs were identified for further development as were ways of describing the approach in a way that others could understand:

> 'The competence-based curriculum requires further development'
>
> 'Competence base should be seen throughout the curriculum'
>
> 'Students should be able to do studies according to their individual competence levels more clearly'
>
> 'Some challenges in planning the competence evaluation criteria due to the heterogeneity of the students (different backgrounds)'
>
> 'Writing the curriculum in a style that makes it easy to understand for stakeholders and students'
>
> 'competence base could be described better'

It was clear also from our review that other aspects of curriculum development and quality assurance were areas for development. For example, whilst students are involved in the process and there are regular processes to collect feedback in all the institutions, there is both a need and an opportunity to integrate these processes as part of students' learning. Several self evaluations cited feedback mechanisms at institutional and individual levels as strengths:

> 'Clear and diverse feedback system, open to all'
>
> 'Diversified monitoring and evaluation of effectiveness'
>
> 'Extensive feedback system'
>
> 'Systematic .. student surveys and result analyzing'.
>
> 'Comprehensive feedback system is in use'.

Associated with feedback was the strength of peer evaluation and student involvement cited by several programmes:

> 'Students' self- and peer evaluation is used in every course'
>
> 'peer-learning and social communications among students is high'
>
> 'Students influence activities'.

However, several programmes reported areas for development in relation to feedback and monitoring, particularly of employment of graduates and reporting of feedback:

> 'Employment rate of graduates is not monitored'
>
> 'Employment rate of foreign graduates is not monitored well'
>
> 'Organized alumni activity after graduation'.
>
> 'Students should be better informed of the survey results'
>
> 'Course feedback should be done more systematically'
>
> 'Systematic measures for career development are lacking'

One programme perceptively noticed:

> 'A great deal of student feedback is gathered. This poses the risk of reduced motivation to respond among students'.

Others saw the need for further involvement of stakeholders, especially of involvement of students, and there is clearly scope for extending good practice in some programmes (eg involvement of alumni) to others:

> 'More active participating of stakeholders in the workshops where the curriculum is under restructuring or feedback'
>
> 'Student involvement to the curriculum work needs to be improved'.
>
> 'More systematic and continuous collection of feedback from all stakeholders including students, teachers, part-time teachers'
>
> 'Steering group including alumni is needed in the future'
>
> 'Alumni club could build extra value for students and programme'.

Whilst students are involved in the process and there are regular processes to collect feedback in all the institutions, there is both a need and an opportunity to integrate these processes as part of students' learning. As quality assurance systems and feedback mechanisms are now a familiar part of virtually all forms of working life, those QA methods in the FUAS institutions can be used as part of the learning process for students. Similarly, students were not always aware of the importance of the feedback information that they were required to produce, nor of the ways in which it is used. This finding echoes those of FINHEEC that the student feedback system at HAMK could be further developed to systemise information to the students about the measures taken, and that at Laurea the student and stakeholder feedback system should be developed to strengthen its response to feedback.

The FUAS strategy for 2011 – 2015 introduces ambitious targets for the development of educational practices. The supply of studies throughout the year will be reinforced, a proven case of which is the active FUAS Summer School. The operation of FUAS Virtual Campus will add to the e-learning studies offered in the FUAS institutions. In addition, one of the aims is to strengthen student recruitment in vocational education and to encourage flexible solutions in studies as well as build study paths within FUAS. Based on the evidence of our review (see Chapter Four), only a small percentage of students currently exploit the opportunities offered through the cooperation within the federation.

Cooperation in curriculum development is of utmost importance for attaining the objectives. The Finnish universities of applied sciences are moving towards taking larger responsibilities in education in the next few years. At the same time, universities intend to distance themselves from the current structure of degree programmes and replace it with more extensive entities for prospective students. In this kind of development work, the FUAS federation, utilising the strengths of its members, can offer excellent opportunities.

Summary

- It is a question for the FUAS leadership and its member institutions how, within the development of common systems of curriculum development and quality assurance, to maintain desirable diversity.
- All three members of FUAS have been active in curriculum development in keeping with the principles of the Bologna process. Each UAS has successfully made a transfer towards a competence-based curriculum.
- The development strategies, educational philosophies and systems of curriculum development and quality assurance of all three institutions, although differently expressed, show considerable comparability. All emphasise their relevance to the economy and their region, but also seek to be internationally recognised.
- The operations of the institutions and the curriculum design processes vary significantly. These differences enable the institutions to learn from one another, but they can also be obstacles to closer cooperation.
- Learning, rather than teaching was the key idea in the educational approach of all three institutions, though the extent to which this was apparent varied somewhat between the programmes, some of which were radically student-oriented.
- All three institutions have strongly structured and well organised QA systems. All base curriculum on workplace needs, involving stakeholders from working life in various ways.
- The QA systems permit the development of a diverse range of programmes, many of which are innovative, but challenges could be presented by the structural and contextual diversity of the different curricula.
- Evaluation systems need to be directed more towards learning outcomes.
- There is a need and an opportunity to integrate QA and student feedback systems into student learning.

Chapter Four

Student learning: flexibility, approaches, and alternatives

The people who teach and provide student services in the FUAS institutions are committed to providing the best learning opportunities to their students. The review team was very impressed with the quality of the educational services at all three institutions. This chapter highlights several approaches to student learning that are present in the FUAS institutions. Although these overlap, for the purposes of this chapter the learning approaches are discussed in the following sections:

- Flexibility: individualised learning, engagement of learners, and self-directed learning
- Diverse learners, learning strategies, and assessment
- Collaborative learning, problem based learning, and project based learning
- Recognition and accreditation of prior learning
- E-learning and virtual connections

Although, as we have already noted, the role of the evaluation team was not to evaluate individual programmes, the examples cited below provide insights about how some of the programmes are attempting to implement institutional strategies for curriculum and learning. The descriptions that follow are intended to help FUAS recognise possibilities of becoming more effective and efficient with system-wide objectives.

Flexibility: individualised learning, engagement of learners, and self-directed learning

The review team was impressed with examples of flexibility within curriculum and teaching in the institutions. Those who designed curricula, and those who taught courses seemed to provide students with options that might not be present in prescribed, traditional university programmes. For example, in many countries nursing curricula are prescribed with few options for elective courses. However, one of the nursing students stated that she was very pleased with the Laurea Nursing programme because she could develop her own personal study programme. She could select course content from different areas.

In its review of Finland's polytechnic policy in 2003, OECD encouraged the 'further development of elements' to enhance students' capacity to 'begin to manage their own learning' (OECD 2003:163). Evidence was plentiful from our review that self-directedness and self-monitoring were now integral aspects of course design and teaching. Several of the programmes reported aspects of student-centredness as strengths:

> 'The LbD [programme philosophy] focuses on students'
>
> 'Tutoring, mentoring and coaching instead of classroom teaching'
>
> 'Student centered study methods'
>
> 'Student-oriented study methods'
>
> 'Individual study plans'.

The potential for development of this was recognised by other programmes:

> 'More Peer Learning is needed'.
>
> 'LbD is a completely new learning and study method for many new students, requiring solid self-directiveness and study planning'.

It was also clear that the potential was not always fulfilled. Student mobility was an area for development reported by several programmes:

> 'International and FUAS mobility of students'
>
> 'Student mobility in FUAS is still at a low level'.
>
> 'Course timetables needs better coordination'
>
> 'Possibilities to choose different kind of course implementations should be increased'

Neverthless, the value of student motivation resulting from this approach was also noted:

> 'Students are cross-cultural, motivated, eager to learn and present in contact learning activities'
>
> 'students are motivated'
>
> 'High motivation of students; they are always present in the contact sessions'

On these programmes, students are guided in searching for knowledge from different sources and making judgments about the quality of knowledge. Course design and teaching strategies are consistent with curricular goals and values: Lifelong learning (skills for continuous learning), entrepreneurship (skills for entrepreneurial activity and functioning as an entrepreneur), communication and co-operation skills (different communication tools and styles), intercultural adaptability and internationality (skills for international activity) and sustainable development (social, economic, cultural and ecological). The review team saw several examples in which these goals are relevantly integrated into the curriculum.

Central to individualised learning is the guidance students are offered. A majority of programmes identified tutoring and guidance services as strengths, though two programmes (in the same UAS) identified a need for more resources for tutors.

> 'The degree programme has its own study adviser who meets actively with the students throughout their studies'
>
> 'The program has a virtual student guidance services
>
> 'Every student has a personal teacher tutor'
>
> 'Student tutor system'
>
> 'student guidance'.

Examples of flexibility were evident in which students were systemically involved in the teaching and learning processes. Students were viewed as key stakeholders and active participants in the processes of curriculum and teaching. On these programmes, they shared the responsibility for their learning through the creation of their personal study plans. In such situations, the role of the teacher is also altered from traditional teaching roles. Rather than transmitting information to large groups of learners, the teacher is involved more in tutoring and mentoring individual students, as for example, on the Laurea Business Ventures programme. These roles for teachers can be translated into heavy workloads. Some programmes allow students to progress through the projects at their own pace. Therefore, the number of projects can vary considerably among students.

Members of the review team have ample experience visiting universities in a variety of roles. They have read many teaching materials and heard teachers and administrators profess to serve students' needs. Such rhetoric is common. However, it is much easier to proclaim students' needs are being met than actually being able to do it. Students may not be aware of their own needs, and their needs can fluctuate based on life circumstances. The review team found a refreshing perspective on this dilemma during one of the site visits. The LAMK Hospitality Management self evaluation stated that 'We do not know what students' needs are but we take them to their uncomfortable zone and give them new ways of taking the holistic view of the hospitality industry'. A teacher clarified this statement by explaining that given the rapid nature of change in the industry, staff cannot predict what students might find in the workplace. The working world can change considerably between the periods of intake and graduation. The curriculum process and teaching need to be flexible in order to adapt to industry trends. One-third of her respective programme was compulsory studies and the remainder consisted of the students' personal study plans (PSP). She explained that individual student backgrounds affected their individual needs: some have limited language skills, some have limited knowledge of specific content areas (such as accounting), and the personal study plans can vary considerably. Furthermore, for each year of intake the backgrounds of the students can be quite different.

Diverse learners, learning strategies, and assessment

The self evaluation reports covered programmes that serve a wide range of students. During our visits, staff discussed the challenges of serving diverse students and students talked about the challenges of completing their programmes. For example, several of the programmes serve part-time students who are working simultaneously in various jobs. These adult students have busy lives that can involve family roles and responsibilities in work. The review team found systems in place to help students cope with the extra burden of studying. For example, most HAMK International Business full-time students and all part-time students work in jobs during their academic studies. Students have a personal tutor and explanation of the tutorial assistance is provided when students begin the programme. The tutor becomes an important resource in case the academic workload becomes overbearing because of other life demands. The self evaluation report explained how this process is institutionalised:

> 'The curriculum is planned in SoleOps and the director as well as the director of education of the education and research centre and IB senior lecturers are participating in the curriculum meetings carried out every year. The curriculum planning process is supervised by HAMK educational support services. The President/Rector accepts the final curriculum. SoleOps software shows every student's personal study plan (PSP) which is planned together with the student in tutorial discussions in the beginning of the studies.'

The review team saw other evidence that teachers recognise the diverse nature of the students and the busy lives that they lead. Options are provided that allow working adult students to demonstrate their competence in different ways. Some students prefer written essays and others prefer completing exams. Criteria are listed in study units, and each unit lists the knowledge, skills, attitudes (KSAs), and the criteria for each grade level. Staff on the Laurea Security Management programme noted that technical learning outcomes should be on the same general level so that they may be compared to other bachelor degree programmes. This is secured by using EQF-criteria, benchmarking to other like programmes, and workplace relevance. But on the other hand, learning outcomes can vary, based on the difference among students. Expectations should be the same at the minimal level, but various focus areas inside the field or industry are accepted and seen as positive, as the Laurea Business Ventures self evaluation noted.

One teacher spoke about the challenge of designing and teaching on an innovative programme and yet still trying to meet institutional and national assessment indicators. For example, programmes need to be attentive to the Ministry of Education and Culture indicators, such as degrees attractiveness, pass rate, pass time, recruitment, RDI study units/student and so forth. However, the working methods or operational characteristics of a programme can make it challenging to achieve some of these goals. Individual projects and study paths can be linked with longer pass times and perhaps weaker pass rates, although the variations can be wide. Although the number of applicants to a programme is an important figure, the teacher explained that an equally important consideration is how well the applicants' personality is suited to the curriculum and style of the programme. Completion time, for example, can be affected by students purposely taking longer to complete the programme so that they can develop their business and personal networks and establish international connections.

Data on these topics from the self evaluations showed considerable variation between programmes. Several reported their attractiveness to students and progression and completion rates as strengths:

> 'Attraction rate high and growing'
>
> 'Attraction rate high and stable'
>
> 'Attractiveness of the [programme] is very good (plenty of high level applicants)'

Rather more cited their progression and completion rates as strengths:

> 'Improvement in graduation and credit accumulation rates since measures have been implemented'
>
> 'Dropout rate is decreasing'
>
> 'Proportion of students who have completed 45 study units/year'
>
> 'The dropout rate is low'.

But programmes also noted needs for development in this area:

> 'Improvement in graduation and credit accumulation rates'
>
> 'Slow progress of studies'
>
> 'The proportion of students completing at least 45 credits during the first year is 40.6% (target 65%)'
>
> 'The proportion of students who complete their bachelor's degree within five years of starting is 39.1% (target 65%)'.

The student bodies of the programmes vary considerably. Programmes that were taught only in Finnish (eg Laurea Security Management) expectedly had rather homogeneous learners who were drawn from the region. However, other programmes dealt with the challenges of serving a vast array of international students. For example, there is an international teacher education programme in the HAMK Teacher Education Unit on which approximately half of the students are from other countries. As a general rule the teacher education programmes in Finland are more multi-cultural than in previous years. Most of the HAMK Teacher Education students teach in vocational schools that are also becoming more international. These vocational education teachers need to develop skills in serving students from diverse ethnic backgrounds. However, one of the teachers of this programme believed that because of this recent development it is too early to judge the success of multi-cultural efforts of teacher education programme. The self evaluation of LAUREA Service Innovation and Design described the challenge of teaching a group of international students. Although heterogeneity among the group of students is an aim of the programme, this goal has created more work for lecturers. 'The personal development needs of each student need to be acknowledged more thoroughly in study unit planning and implementation to ensure that each student is able to develop their competence during the study unit'.

Differentiating theses in universities of applied sciences

One of the areas that is relatively new in the FUAS institutions is post-graduate programmes. The master's degree of the UASs has been crafted to be differentiated from the post-graduate degrees of the research universities (Pratt *et al*, 2004). The master's degrees of the FUAS institutions are intended to be focused on working life, and the theses are developmental in nature. Staff have experienced some growing pains as these programmes have evolved. For example, one teacher explained how a clear schedule and compulsory tasks need to be implemented for master's degrees. The first group of master's students postponed their thesis work and began it only after they had completed all of their study units. This procrastination took place even though optional thesis workshops were offered from the beginning of their studies. Thus, changes were implemented in order to have students follow a stricter regime of scheduling and compulsory thesis tasks.

Similar problems were mentioned by staff of the HAMK International Business programme. Students used to able to sign up when they wanted to and estimate when they would finish their thesis. Now there is a more strict graduation schedule (when the topic is ready) and when the product must be finished. Students have the added challenge of finding a workplace that is willing to take on a project that is aligned with the student's selected topic. Such projects involve a company supervisor and a UAS mentor. On this programme, students used to have too much flexibility with start and end times. Now staff try to get all students onto the same schedule to use staff time more efficiently. Unlike the programmes in which students are full time employees who can conduct their research at their place of employment, international students in the International Business programme need to seek out workplaces that are willing to support their research.

Students can work collaboratively on thesis work; for example, they can collaborate electronically, but it depends on each student's situation. For example, on the LAMK Nursing programme most of the students work in a group (typically three students) to complete the thesis. A student from a different occupational programme (LAMK Hospitality) stated that she likes working in face-to-face small groups when possible. In her opinion, the students want to come together and discuss their studies. They like the monthly seminars and they use them as a means of social interaction. The self evaluation of this programme stated that they have recently addressed this issue by establishing more check points (from three to five) as a means to speed up the thesis process.

Some of the master's programmes make a concerted effort to prepare students working collaboratively to create new knowledge together. The Laurea Service Innovation and Design programme self evaluation explains how this is accomplished:

> 'In line with innovation theories, the aim has been to reach a heterogenic group of MP SID students (i.e. different educational backgrounds, different employment histories and jobs, many nationalities). Heterogeneity of the students is a fruitful ground for creative thinking. That is why *team bonding* among the MP SID students has been one of the main targets when the students begin their studies. In the first day (the orientation day) they immediately start working in small groups to get to know each other and to familiarise themselves with the *active role* of a student (active dialog instead of passive listening). Their first orientation task has been to prepare a creative presentation (based on written material) in small groups on 1) Laurea's learning philosophy, LbD 2) Laurea's quality assurance system, 3) the Master's level competences (EQF level 7 etc.), 4) MP SID curriculum, and 5) the Master's thesis process.'

What is unclear from the preceding explanation is whether or not the students are prepared for being thrust into these types of collaborative learning ventures. Are they trained to work collaboratively, or are they expected to learn collaboratively through trial and error?

Collaborative learning, problem based learning, and project based learning

Many of the programmes had students working in groups on authentic working life problems. Although distinctions are made in the literature regarding problem based learning (PBL) and project based learning, those differences will not be addressed in this report. The trials and tribulations of teaching and learning with these approaches are well established in the literature. The FUAS self evaluation reports and our visits brought out some of the benefits and the challenges of these innovative teaching and learning practices.

Some of the programmes in the FUAS institutions have used problem based learning for several years, and the staff are skilled at facilitating this form of learning. For example, the LAMK Nursing programme has ten years of experience with problem based learning. Over the years staff members have participated in a network in Finland in which teachers come together to discuss planning and implementing problem based learning.

This programme uses large modules and students can be involved in several projects. The large modules work well with problem based learning because it provides the flexibility to allow longer learning opportunities in collaborative learning groups. Different types of nursing practices can be integrated into the modules and themes can be moved through courses. However, a teacher reported that problem based learning can be a demanding method, and some students can thrive with this more than others. A student on this programme stated that some students might drop out of a problem based learning programme because it is so demanding; however, she stated that she was attracted to this programme because it allowed her to be more independent as a learner. An employer explained that she supported this approach. She stated that students from the programme want to know why something is done the way it is done, they seek out information, and they can work independently.

Programmes within Laurea follow a curricular process, Learning By Developing (see Chapter Three). The self evaluation of the Laurea Nursing programme described this approach:

> 'The student-centred nature of the DP in Nursing stems from Laurea's Pedagogical Strategy, the Learning by Developing (LbD) model, where students are seen as junior colleagues of the lecturers and workplace experts. LbD is based on a development project that is genuinely rooted in the world of work, and demands collaboration between lecturers, students and workplace partners. LbD emphasises the role of lecturers as tutors; lecturers no longer function alone in transferring information, but participate actively in projects as senior colleagues. Peer guidance is implemented in the projects by fellow students who are more experienced or who have previous knowledge of the subject. However, LbD is a challenging learning method, which demands self-direction of and detailed planning and scheduling by students'.

This approach does not use many examinations, but instead involves students in projects. When students interact with real life customers, they have to apply their UAS-based learning in work-based projects. Two teachers typically work together – an experienced teacher who can help the novice teacher. Student projects can vary considerably, and we were told that teachers needed to adjust to this wide variance in the types of projects and the quality of their work. A teacher on Laurea Business Ventures programme made the point that this teaching approach is very motivating for both students and teachers; both grow from the experiences through their interactions on authentic work-based projects. Students explained to the review team that they were able to develop skills of differentiating between fact and fiction, and determining information that is needed to complete their assignments. They stated that younger students might struggle more with the project based approach on this programme because they may not be able to draw from an extensive base of experience.

Personal study paths of the students on Laurea Business Ventures programme consist of series of projects. The projects are created in conjunction with local subject matter experts and other organisations, or students can direct the project toward entrepreneurship. The students and teachers negotiate with the working life partner, as to what should be the outcome of each project: 'So, the learning environment is outside the formal school and the students solve real life business challenges from beginning to end of their studies' (Laurea Business Ventures self evaluation).

Other examples of collaborative learning were provided. For example, the self-report of the HAMK Teacher Education programme described how collaborative learning functioned:

> 'The professional teacher education programme is also planned and conducted according to methods of collaborative learning. This means, that our tuition is based on the model of collaborative learning where knowledge is created by actively interacting students and teachers, whose major goal is to learn together. Students will learn professional pedagogy together with their teachers by taking advantage of one another´s resources and skills. Collaborative learning activities will include: activating lectures, collaborative writing, versatile group work and group projects, joint problem solving, study teams and reflecting individually and together to the subjects learned.'

With the programme dependent on collaborative learning as a teaching process, the facilitators need to make sure that students receive formal teaching to develop their skills at working with others in groups. The review team was not convinced that all students in FUAS institutions are adequately prepared for project based learning and problem based learning. It was our observation that students could benefit from teaching and materials that will help them become more efficient and effective as learners, regardless of the context. Thus, they would be better prepared to learn from mentors, learn with and about technology, learn from text, learn collaboratively, be better self-directed learners, learn to solve ill-structured problems, and learn better in various contexts (eg workplace).

Support services

The flexibility offered by individualised and self-directed learning and PBL all place heavy demands on the support services available to staff and students. The review team was pleased to learn that library services in all three FUAS institutions were almost unanimously reported as strengths:

> 'Library services are good'
>
> 'Good library'
>
> 'The library services support the LbD learning model and are arranged in a student-centred way'.
>
> 'The library collections are in line with the focus areas of the DP in Nursing. Information is provided actively on latest publications. Online material is increasingly available'
>
> 'Laurea library is one of the versatile libraries in Finland is safety and security field'.

One programme expanded on this strength:

> 'The library personnel keep the lecturers aware of any new books or other publications in the SID field. All the books and other material asked by the SID lecturers have always rapidly been bought to the library (and the lectures get a personal copy of any book they need). Nelli portal consist of relevant journal databases and dictionaries; it is also easily accessible from home'

Several programmes noted also that hours of availability were good:

> 'Student services such as the library, student affairs and int'l affairs office and school nurse offer services at student-friendly hours and in both Finnish and English'
>
> 'The support services are available on weekend contact days'
>
> 'Opening hours are long'

One programme however noted library cooperation with other FUAS members as an area for development.

A range of other support services were identified as strengths:

> 'Student secretary service is very functional (they are available nearly all the time)'
>
> 'Health services are good'
>
> 'Janitor services are good'
>
> 'A named contact person in the Student Affairs Office → she is very active, flexible and helpful for the students and the lecturers of the programme'

However, areas for development for certain services, notably information technology (IT) support in one UAS, were identified by some programmes:

> 'IT support only available during working hours'
>
> 'More support is needed in computer services'

We return to an important aspect of support services, IT and e-learning, later in this chapter.

Recognition and accreditation of prior learning

The FUAS institutions recognise that adult learners bring a wealth of experience to their formal learning. Adult learners have had a variety of learning experiences in contexts such as community, family, military, church, and workplaces. Some of these learning experiences have value that is transferrable to the learning goals and objectives of FUAS programmes. The FUAS institutions have put into place processes for identifying and accrediting competence that is based on prior learning experiences. AP(E)L was reported as a strength in several programmes:

> 'Recognition of prior learning – process is clear, tools for evaluation have been developed'
>
> 'Effective RPL/APEL'
>
> 'RPL/APRL process is followed, especially with part-time students'
>
> 'Flexible for personal study methods APEL etc'.

On the LAMK Hospitality programme for example, staff explain to students the types of prior learning that might be appropriately included in their programme of studies. Students may have formerly studied select topics (eg language) in other programmes, but be unaware that they can get those prior credits accepted into their programme. Also, some of the students in this programme have previously worked as teachers, and those experiences can be assessed and included in the programme. The staff members within the programme assess this prior learning. However, a portfolio process is used institutionally for all students seeking credit for prior learning experience and there is an institutionally shared understanding of how this experience is evaluated.

The HAMK International Business self evaluation provides additional explanation on recognising and accrediting prior learning:

> 'Recognition and accreditation of prior learning (RPL) process is based on the learning outcome of the degree and the degree's course descriptions. The RPL process takes into account each student's prior learning, which corresponds to the learning objectives of degree programmes and their parts, as described in the curricula. The RPL process consists of recognition and accreditation of learning and subsequent credit transfer and validation of learning through skills demonstrations. How and where learning was acquired is irrelevant in terms of launching the RPL process. Competences, acquired at work in non-formal learning or informal learning, are part of the RPL process and need to be demonstrated by the students as agreed in the PSP. Methods of demonstration include portfolios, work samples, interviews, or written or oral examinations. Students can also have prior learning completed elsewhere at the higher education level transferred as credits towards the degree based on a certificate. The courses acquired via recognition and skills demonstration will be entered in the student's PSP only after assessment'.

Further information about the prior learning processes is provided in the HAMK Teacher Education self-report:

> 'The formally achieved prior competence is accredited through a systematic process, which is clear to both the students and the teachers. The information and the forms needed in the process are contained in the intranet. Informal competence is recognised as well by using a large range of evaluation methods which will reveal students' competence in the area concerned. The recognition of prior learning is agreed in PSP by the student and the tutor lecturer as well as the methods how students can demonstrate their competence.'

The self-report of the Laurea nursing programme explains intent, purposes, and processes for recognising and crediting prior learning experiences:

> 'Accreditation of Prior and Experiential Learning (APEL) is an important element of lifelong learning. In addition to formal education, competence is generated in working life, hobbies and everyday life. For individuals, accreditation may ease access into education and reduce the duration of studies. Above all, APEL can assist in discovering full learning potential and advance and expand competence. In the DP in Nursing, the APEL process is launched in connection with the personal study plan meeting. Students evaluate their competence in relation to the competence targets and are informed by the lecturer about the possibility of completing a study unit or its element by taking a competence test. A competence test can be taken in writing, orally or as a work sample. Students apply for completing a competence test by filling in a form, which the lecturer either approves or refuses. If approved, students implement a competence test plan. The competence test is received by the lecturer or team of lecturers of the study unit. If refused, students complete the study unit in accordance with the syllabus. A written assessment is drawn up on the competence test situation. Competence tests are mainly assessed using the same criteria as study units, and are graded on a scale of 0–5'.

These examples provide evidence of how prior learning is valued, and how FUAS programmes attempt to acknowledge it, and how its relevance is determined toward students' levels of competence. However, FUAS will need to help staff work through some of the more problematic areas of judging the value of prior experiences. The need for its development was noted by several programmes:

> 'Development of the RPL process'.
>
> 'The exploitation of prior learning within a students' group'
>
> 'Practices applying APEL may vary lecturer by lecturer'.

Although many staff members spoke about the opportunities for students to gain credit for prior experiences, a shared understanding did not seem to exist regarding the criteria and processes for assessing student experiences. This is an area in which FUAS can give guidance to staff to help them work through the subjective aspects of gauging the value of a student's prior experiences. System wide guidelines can help staff members make consistent judgements in this process.

Teaching staff have a heavy burden that is exacerbated by assessment responsibilities, forming networks with working life partners, developing and implementing E-learning courses, curriculum renovation, thesis work, committee assignments, and facilitating labour intensive forms of learning. FUAS institutional leaders need to be sensitive to workloads of staff, and we hope that FUAS can generate ideas for using economies of scale to reduce some of this burden on staff.

E-learning and virtual connections

One of the main areas of strength reported by the FUAS institutions was the use of information and communications technology (ICT) in programmes. Several programmes within the FUAS institutions offered opportunities for students to learn online and utilise virtual connections and resources.

> 'SOLEOps, Moodle and Oskar student portal are an easy way to deliver information concerning studies, all material is available virtually'.
>
> 'MOODLE
> the material access
> online tools in use (TeamSpeak, Webex, ACP etc.)
> assignments and activities are suitable for multiform learning'
>
> 'use of virtual learning'
>
> 'SoleOps, Optima and Intra student portals are convenient for all study-related issue'.

The opportunities ranged from courses that were taught completely online, to blended or hybrid courses that combined face-to-face teaching with other sessions online, and courses that were supplemented with online resources and virtual interactions. The LAMK Hospitality Management programme, for example, shows how technology augments the programme objectives, 'Digitisation is used daily and all students do new things in this field via e-learning and using virtual library services. International business operations are studied, for example in theses on business opportunities in Russia and marketing of a hostel in Bulgaria via social media.

Some of the programmes appear to rely on E-learning to a great degree, such as the Laurea Security Management programme and the HAMK Teacher Education programme. However, E-learning was an area identified for further development by several programmes:

> 'Need to increase percentage of virtual-based studies'
>
> 'Virtual learning environments are limited and only used in individual study units'
>
> 'Virtual studies could be increased'.
>
> 'more digital materials'
>
> 'Distance education services need to be developed'

Programmes that feature E-learning tend to use it to accomplish broader institutional objectives that pertain to collaborative learning, internationalisation, and working life connections. For example, the self-report of the Laurea Business Ventures programme values virtual connections with learners from other countries:

> 'Exchange possibilities are enormous and students are encouraged to take part in exchange programmes. In addition, the international environment in LBV offers many opportunities to network with different nationalities. Also, LBV is involved in an international innovation project where students have virtual meetings with their Belgian co-students, and also country meetings in Finland and Belgium'.

The self evaluation of HAMK Teacher Education explains how online learning is used to carry out the programme's emphasis on collaborative learning. 'This means, that our tuition is based on the model of collaborative learning where knowledge is created by actively interacting students and teachers, whose major goal is to learn together. Students will learn professional pedagogy together with their teachers by taking advantage of one another´s resources and skills.' Of course, the important aspect of designing curriculum and teaching is determining which aspects of the programme can be best taught via E-learning and which aspects might be best taught face-to-face. The institution's approach to designing blended courses is described thus:

> 'Blended learning refers to integrative learning and the supporting teaching methods. It involves various teaching methods: face-to-face teaching, experiential learning at school and/or in a work environment, and independent learning, always involving extensive and diverse use of e-learning opportunities. Blended learning solutions allow for flexible, time- and place-independent learning.'

This approach allows the staff to determine the strengths of educational technologies, and then apply those strengths to educational objectives related to entrepreneurship, collaborative learning, RDI, work life connections, and other learning objectives of students.

As one of the staff on the HAMK Social and Health Care Development and Management programme put it, the students seem to enjoy the E-learning opportunities. They consider the system to be relatively easy to use, and it was convenient for those students who are working adults and geographically dispersed. From what the review team could determine, teachers develop the courses, but others help them organise the content, and the teachers have access to support via workshops and meetings.

Although E-learning has been well integrated into some programmes, other programmes are still attempting to determine the best ways to utilise E-learning to serve students' needs. Although there are additional funds to develop E-learning courses, human and fiscal resources are realistic constraints when it comes to planning, implementing, and evaluating online learning.

With the use of any educational technology, there is probably something to be gained and something to be lost. It should be used in order to improve quality of teaching, increase access to learning, and/or to enhance efficiency of the teaching and learning transactions. Designers should begin with the educational problem and explore how technologies might be used to solve the problem. They should not begin with the technology and seek out ways to use it whether it is needed or not. A teacher on the HAMK Teacher Education programme offered a caveat regarding E-learning, warning of the need to think carefully and be productive with human and fiscal resources. In some cases E-learning can actually increase the cost of programme delivery because of the developmental work that is needed to create the courses.

Summary

- There is ample evidence of sound teaching practices in the FUAS institutions. The institutions are to be commended for systemically integrating collaborative learning, lifelong learning objectives, prior learning experiences, E-learning, problem based learning, project based learning, and self-directed learning into the programmes.
- Self-directedness and self-monitoring were now integral aspects of course design and teaching.
- Teachers recognise the diverse nature of the students and the busy lives that they lead.
- Whilst programmes need to be attentive to the Ministry of Education and Culture indicators, the working methods or operational characteristics of a programme can make it challenging to achieve some of these goals.
- Many of the programmes had students working in groups on authentic working life problems.
- The review team was not convinced that all students are adequately prepared for their introduction to project based learning and problem based learning. FUAS should consider developing system wide materials and teaching that will help new students learn how to learn.
- The institutions have put into place processes for identifying and accrediting competence that is based on prior learning experiences. AP(E)L was reported as a strength in several programmes.
- A shared understanding did not seem to exist regarding the criteria and processes for assessing prior experience of students. This is an area in which FUAS can give guidance to staff to help them work through the subjective aspects of gauging the value of a student's prior experiences.
- The teaching staff seem to have a heavy burden. FUAS institutional leaders need to be sensitive to workloads of staff, and we hope that FUAS can generate ideas for using economies of scale to reduce some of this burden on staff.
- Although E-learning has been well integrated into some programmes, other programmes are still attempting to determine the best ways to utilise E-learning to serve students' needs. FUAS should continue to look broadly at the barriers to implementing online learning and to continue to monitor its effectiveness.

Chapter Five

Working life, partnerships and RDI

Central ideas in the 1990s policy to establish polytechnics in Finland and in the development of the FUAS institutions, as well as of FUAS itself, are the preparation of graduates for working life and the support of innovation and development in the localities and regions that they serve. However, in its review of polytechnic education in Finland in 2002, OECD (2003; 196, 197) cited reports that individual institutions had consistently identified the need to improve their role within their regions and to improve relationships with the employer community. The OECD report itself was critical of aspects of the polytechnics' relationships with working life and of funding strategies to support it, a finding repeated by Maassen et al (2011). OECD recommended, inter alia, the establishment of reliable data on these links, an increase in entrepreneurial education, and support for full time teachers to 'go back' to working life for periods of time.

It is with some pleasure that we are able to say from our review of the programmes in the FUAS institutions that we see fewer grounds for criticism in this field, though our findings support the criticisms of national policy by Maassen et al (2011). It was evident from their self evaluations and our discussions that all the programmes took seriously their links with working life, and – further – that they recognised FUAS policy in this respect. Central to these links are RDI projects. FUAS's aims are clear in this regard: 'The educational profile of FUAS is focused on being an international pioneer in workplace oriented pedagogical solutions integrated into RDI' (FUAS 2011: 4). FUAS sees itself as 'an engine for applied research, pragmatic innovation and RDI integrated into student-oriented education in the wider metropolitan area, combining top national and international actors in joint projects' and as 'a trailblazer in promoting student entrepreneurship in the wider metropolitan area'. One of the 'key strategic objectives' of FUAS is that RDI is 'integrated into learning' and that it is 'closely linked to EU-level R and D programmes, increasing and diversifying the funding sources'. Lastly one of the areas in which FUAS intends to strengthen its network-based cooperation is FUAS RDI Consortia and Services.

The self evaluations typically reported that there is 'clear integration into the entrepreneurship as a focus area of [UAS] and FUAS' and 'Entrepreneurship is a natural part of the pedagogic solutions'. They typically noted that 'The … programme's aims and core competences are aligned with FUAS and [UAS] RDI policies' in this regard and reported a wide variety of RDI projects, involving multidisciplinary cooperation between students, teachers and working life partners, at regional and national level and sometimes internationally. Programmes reported the benefits of these links:

> 'Project work and simulation teaching implemented by the degree programme produce workplace-oriented competence development'
>
> 'The graduates work in the field'
>
> 'The graduates and students are successful in their careers'
>
> 'The degree programme succeeds in leading to corresponding employment'

The review team saw many examples of programmes with well developed entrepreneurial aims, including those in which this might not have been an obvious element, such as nursing and fine arts. On two degree programmes students had established cooperatives whilst on master courses students had established their own businesses:

> 'students have started 3 new companies'

> 'The number of student-initiated business started annually is 10'.

The review team found that the FUAS institutions are dedicated to preparing students to be lifelong learners and successful workers in the careers of their choice. The self evaluations and the site visits provided a wealth of evidence to those ends. Staff explained to the review team how the curricula and teaching blend theoretical foundations of content, project based learning experiences, partnerships and strong links to the workplace, and competence development.

Partnership

The review team found that most of the programmes had an impressive array of workplace connections. Clearly, the staff have worked hard at establishing networks of workplace partners, and they have encouraged their students also to make these types of personal connections. The self-report of the Laurea Nursing Programme explains the importance of systemically forming and nurturing relationships with working life partners:

'In order for the degree programme to create societal impact, management and staff must meet their strategic partners on a regular basis. These meetings have a longstanding tradition, going back to the beginning of nursing education. Nursing staff meets and networks with regional actors also through project partnerships and in guiding practical studies that promote professional skills. Meeting workplace partners and collaboration are important aspects in developing projects and curricula. Workplace partner experts provide statements on regional education needs, and participate in the steering groups of different projects and degrees'.

A recent graduate of the Laurea Security Management programme told us that students are instructed to try to establish a network of 50 people in the workplace who might be able to help them find employment after graduation. He was able to serve an internship in his programme and was hired by that company after graduation.

The project based learning approaches used by FUAS institutions bring together the objectives of RDI, collaborative learning, and partnerships. These approaches to knowledge transfer among stakeholders were reported by several programmes. For example, the LAMK Environmental Technology programme has 35 – 40 final projects per year, all of which include assignments from businesses and/or other stakeholders. These projects allow students and supervisors to transfer knowledge to and from the institution and workplaces. The self evaluation of the Laurea Business Ventures programme describes integrating the learning outcomes with the strategies of both Laurea and FUAS. The positive effects are to benefit the subject experts of the cooperating organisations as well as the students and staff of the programme.

We were impressed with the array of partnerships secured by programmes in FUAS institutions. Self evaluations reported for example:

> ' Diverse and active regional and int'l networks'
>
> 'Strong and systematic international university cooperation'
>
> 'good connections to regional and international networks and stakeholders'
>
> 'regular international intensive weeks utilizing contacts with local businesses'
>
> 'good networks and relations with international, national and local partners'
>
> 'Very active …Advisory Board and other networks'
>
> ' In [UAS's} main strategy the importance of regional development is stressed'.

Most programmes reported this as a strength in curriculum development:

> 'The curriculum is drawn up together with lecturers, students and representatives of working life'.
>
> 'Clear, truly collegial co-creation process of planning and updating the curriculum'
>
> 'Involvement of different stakeholders from business and academia in the planning process'
>
> 'Participation of stakeholder groups'
>
> '…stakeholders, including FUAS, actively participate in curriculum development'
>
> 'Strong understanding of the needs of work life based on networking and communication with stakeholders'.
>
> 'The steering group has an alumnus'.

As could be expected, there were numerous examples of partnerships with local and regional businesses and industries. Representatives of these organisations served on advisory committees, conducted guest lectures, supervised projects and internships, and were active in curriculum development. For example, the FUAS Environmental Education Group includes teachers and other experts from LAMK and HAMK who work collaboratively on curriculum and teaching issues. One of the objectives that is served by partnerships is internationalisation of programmes, and we discuss this in the next chapter.

Some of the relationships that serve programmes are established through alumni or current students who work at these organisations. Other partnerships are through trade organisations and professional associations. For example, the Laurea Nursing programme has a network that 'includes entrepreneurs' associations focused on promoting business operations, the Riihimäki and Hyvinkää Chamber of Commerce, HyRi Business Services, the Employment and Economic Development Centre offices and the First Round Center.' Another example of connections to mutually beneficial networks is in the LAMK Environmental Technology self-evaluation: 'CDIO (Conceive – Design – Implement – Operate) is an educational framework aiming at educating the next generation of engineers. The main driving force of the implementation of CDIO standards in the Faculty of Technology has been the Degree Programme in Mechatronics which has been educating engineers using problem-based learning for 12 years.'

This programme is a good example of the way in which a programme can serve a unique niche within the field of practice. One of the teachers explained that their programme is more focused on management, whereas other programmes might be based more on construction or chemistry. Because of her involvement in their network, she understands the types of engineers that employers will seek from her programme versus other programmes. Her strategy is to inform the networks and stakeholders in smaller circles who are interested in the unique niche which her programme serves.

It was clear to the review team that staff on some programmes had advantages when it came to benefiting from partnerships. As mentioned earlier in this report, programmes whose students work full time have the advantage of allowing many of these students to conduct their projects at their place of employment. Other programmes do not benefit from those ready-made connections. One teacher stated that the integration of RDI into the programme is almost endless work because it is difficult to get companies involved and to keep them involved. 'There are so many students who want to participate in work placement, and it is labour intensive to manage it'.

Partnerships and connections to working life are important components of the curriculum and teaching processes of the FUAS institutions. Clearly, personnel of the FUAS institutions have worked hard to establish these relationships. However, this is an area in which FUAS systemic efforts need to be enhanced. The review team was left with several questions and concerns about partnerships and connections to working life.

Working life partners and other stakeholders provide input to the curriculum process. Curriculum input is received from advisory groups, part-time lecturers, alumni visitors, theses partners, links to professional associations, and other stakeholders. However, how the input is prioritised, organised, and systematically dealt with in the curriculum process appears to be murky. How are priorities determined? Are suggestions from one set of stakeholders valued more than input from others? How is consensus reached when different stakeholders may have competing interests?

Finding working life representatives who are willing to serve on advisory committees can be a challenge. The groups may meet 5-6 times per year and these people have considerable demands on their time. Success can depend on the abilities of the chair of the steering committee and his/her skills at motivating the representatives of working life to participate.

Some of the staff mentioned the difficulty of assessing the performance of their students in the workplace. Assessing the work-based learning tasks can be difficult and the review team was not certain whether or not the processes for making these types of judgments are well established and well understood.

Some of the staff appear to be confronted by a cumbersome paradox. On the one hand they are trying to prepare students for work settings that are rapidly changing and fraught with ambiguity and uncertainty. On the other hand, they work in a bureaucratic system that requires pre-determined learning outcomes for students. They realise that the workplaces might be considerably different by the time the student enters and graduates from the programme. Thus, curriculum and teaching need to be flexible and adaptive to environmental changes.

RDI projects

Central to the FUAS institutions' links with working life are research, development and innovation projects. Many self evaluations reported that RDI was integrated within programmes through students' work:

> 'RDI policies are implemented in the students' PSP'
>
> 'Every student is involved in RDI-activities'.
>
> 'Integration of RDI and teaching in thesis projects and project courses'
>
> 'The pedagogical LbD approach gives good opportunities for integrating the projects and RDI assignments into the learning processes'

Some programmes noted also that their strengths included the involvement and skills of teaching staff in RDI. One reported that 'about 80 per cent of teaching staff participate in RDI-activities', and another that 'Teachers' RDI skills are good'.

The links with working life and networks through RDI were seen as strengths:

> 'Work organizations are involved in thesis projects and project courses'
>
> 'Large regional, national and international networks at all the levels of education'
>
> 'individual companies' / municipalities' RDI needs are fulfilled'
>
> 'Flexibility to react fast to the working life requests'.
>
> 'RDI projects give signals and material for tuition planning'

One example of the integrative approach to learning and teaching through RDI that we endorse is in the LAMK self-evaluation of the Environmental Technology programme. This report explained how learners are moved through RDI projects that progress from simple to complex:

> 'Each year of study includes modules and courses which feature assignments from businesses, municipalities and RDI projects. In the first year, the projects are simple, with learning outcomes such as basic team work skills, presentation and reporting. Projects in the major modules in the second and third year are expected to be more challenging, including interaction with and / or presentations to stakeholders. The fourth year projects are intended as multi-disciplinary projects. The final project is always an assignment from a business or municipality, or an RDI-project'.

The programme helpfully explained the three kinds of RDI project in which it engages. Student RDI projects are implemented in cooperation with businesses or other stakeholders or as sub-contractors in a larger project. In practice teachers are responsible for these projects and they are linked to relevant study modules. Larger projects are funded by public organisations and have a project manager who can also be a teacher. Students complete their work placements and final projects as part of them, or their own smaller projects can be integrated into them. For teachers they also provide the opportunity for updating curricula and course content. Third are international projects promoting the mobility of students. It is also worth noting that RDI projects with institutions such as FUAS thus serve not only the purpose of providing relevant learning opportunities for students, but also that of assisting organisations with innovation.

We were given accounts of a wide variety of RDI projects, of which we note only a few examples here. At HAMK, an example is a range of educational projects in the Professional Teacher Education programme, including internationalisation and multiculturalism of vocational education, quality of adult education, entrepreneurship education; the PTEU also has several European projects with European universities. At LAMK, the Environmental Technology programme noted two projects funded by TEKES (the Finnish Funding Agency for Technology and Innovation), and a regional development project in which LAMK is one of 21 partners, and another funded by the European Social Fund. Among the examples from Laurea, the degree programme in Nursing reported longstanding projects involving community analyses of various forms of health care, a project (NOPS) promoting work ability and functional capacity among young people in vocational colleges, and a meeting point project in a shopping centre.

At Laurea, student projects are conducted in partnership with business and industry to ensure that authentic workplace issues are the foci of the studying. These projects involve several stakeholders as collaborative learners: students, lecturers, subject matter experts, and workplace representatives who work together to build new knowledge. The approach of Laurea Business Ventures has a heavy focus on entrepreneurship and project work. Student learning involves practical, real life projects – and in the process they develop personal networks with their co-learners and workplace partners. One of the students takes on the role of project manager and this student then provides guidance to others. The teacher is also present to provide guidance. There is a cycle of learning with the students, project manager, and mentor/teacher. The second year student who knows about the project can guide the first year students. Reading circles are used to discuss teaching material and the project.

As mentioned in Chapter Three, the LAMK Nursing Programme has utilised problem based learning for about 10 years. The developmental projects are used so that entire courses may be completed in applied research and development projects implemented in cooperation with health care actors and organisations. The projects also give students possibilities to establish useful contacts with them. Furthermore, this nursing programme uses expert lecturers in each module. Students and staff both benefit by keeping up with recent developments in the field.

The preceding examples provide a promising picture, but there is still progress to be made with RDI in the FUAS institutions. Despite the strengths noted above, nearly all programmes saw RDI as an area for development – in a variety of ways. Several self evaluations noted the need for improved integration and cooperation within FUAS:

> 'FUAS-organization for pedagogical RDI–work is under construction'
>
> 'More interaction within the FUAS framework'
>
> 'Co-operation internationally and in FUAS needs to be increased'
>
> 'Currently, there is only a little co-operation between the degree programme …and other FUAS members'.

A number of self evaluations (including two which had seen RDI integration into the thesis as a strength) indentified integration of RDI into the teaching programme as an area for development.

> 'The formulation of RDI integration in the curriculum needs to be strengthened'
>
> 'Integration of RDI and teaching in course implementations'
>
> 'RDI integration to the curriculum needs to be strengthened'
>
> 'integration with focus areas varies because RD is planned based on workplaces' needs'

Another worried about 'quality of RDI'. Practical – day to day – problems noted included the complications arising from the ambition to be international, such as : 'Foreign students require more assistance in finding company commissioned thesis work and creating connections to work life.'

The weaknesses we found in integration of RDI activities were also noted by the FINHEEC evaluation of RDI activities in Finnish UASs which produced a preliminary report in 2011 (Maassen et al, 2011), and is continuing at time of writing. It reported the wish that the majority of students should be involved in RDI, and on the range of variation between and within UASs in the intensity and volume of students' involvement in RDI (*op cit:* 13). The report also found a low participation of senior academic staff in RDI activities.

Several programmes also reported a need for international RDI projects and others saw a need for international cooperation in RDI:

> 'International research and development projects are lacking'
>
> 'International financing'
>
> 'International cooperation in RDI field needs to be strengthened'.

Many programmes reported funding – for both regional and international projects – as an area for development:

> 'The lack of regional R&D projects with external funding'
>
> 'New opportunities for funding, because the share of ESF-funding and ministry will decrease in the future'
>
> 'External funding needs to be increased'.
>
> 'Lack of international research and development projects with external funding'.

These last responses need to be seen in the context of the FINHEEC evaluation of RDI activities in Finnish UASs. The preliminary report was sharply critical of the funding of RDI in the UAS sector, the conservatism of funding agencies in relation to these activities in UASs and the weak guidance that the agencies received from the government. 'The funding situation for the RDI activities of the UASs is fragmented and lacks transparency' (Maassen et al 2011: 11). Our review produced evidence supporting this criticism.

Our review also found that there were problems of recording RDI impact:

> 'RDI in workplaces is difficult to measure'
>
> 'The accumulation of RDI credits does not correspond to reality, and requires an improved registration method'.
>
> 'Transfer of RDI knowledge and new competences to companies and other organisations hard to measure'.

The FINHEEC evaluation also noted these difficulties with the development of RDI indicators. It confirmed that the problem of defining of effective indicators is not solely a Finnish one: at the European level it is 'a difficult and complicated endeavour' (*op cit:* 23). The indicators currently in use in Finland, it said, had several shortcomings: they are based on an inappropriate model, for assessing scientific research in universities, they are not suitable to measure the realisation of certain policy goals and data collection is complex (Maassen *et al,* 2011: 22). It noted also that a UAS working group has proposed a set of indicators, so that it would be 'unproductive' to ignore these developments and propose a completely new set. Thus the preliminary report recommended that RDI indicators at this stage should be used primarily as learning tools, and not for accounting purposes (*op cit:* 23). Our review echoes these concerns about the RDI indicators and we thus support the FINHEEC recommendation that they should not, at this stage, be used for accounting or funding purposes.

The FINHEEC evaluation found that there was a strong emphasis on bachelor level students in institutional RDI activities (*op cit:* 12), and that this is a major difference compared to research universities, where these activities are mainly conducted by PhD students and postdoctoral staff. Our review confirms that bachelor students are widely involved in RDI activities; as one self evaluation put it: 'every student is involved in RDI activities'. Others reported similarly that:

> 'strong operator in the region in education and RDI'
>
> 'Due to the LbD approach and RDI integration, lots of work done for regional development at local organisations'.

As a consequence of these links, one programme noted that 'students are more attractive in labor market after graduation'.

We regard these features as a considerable strength of the FUAS institutions. We were impressed by the commitment to RDI in the programmes we reviewed and the variety of projects and activities reported, and in the progress in this area since previous reviews. In our view this commitment to links with working life through RDI and to integration of RDI into the student curriculum is a key, perhaps the key, distinctive characteristic of the UAS sector and central to their development.

It is in this field of RDI that the ideas underpinning curricula in the FUAS institutions that we discussed in Chapters Three and Four have a key part to play. All the institutions have educational philosophies that are problem oriented and student centred, concerned with questions of how learning takes place in a 'real world, where 'problems are complex, "messy" and require the application of a wide range of scientifically derived knowledge, often in difficult circumstances and constrained by time and resources', as Pratt et al (2004: 39) put it. The RDI work of the institutions and the learning that students gain from it remind us of the ideas of Schon (for example Schon, 1983) and his concept of the reflective practitioner and this and subsequent thinking in this field may be a basis for further development of the philosophy underpinning RDI in FUAS.

By developing their links with working life in curriculum development and by using working life based projects as a central element in students' learning, the UASs in Finland are embodying in important ways a recognition that the advance of knowledge does not take place exclusively within the academy. Traditionally, it has been assumed, and many models of research and development still embody this notion, that it is the academy (usually the university) that generates knowledge through 'pure' research, and then proceed through a linear process of 'applied' research into a 'development' phase to produce some new product or service. This has been described by Gibbons *et al* (1994) as 'Mode 1' science. However, this model has been challenged. Mode 2 science recognises that the source of innovation and new knowledge 'is just as likely to occur in the dynamics of the market place or in larger socio-economic or cultural transformations' (Scott 1995: 144). Thus the 'users of science and technology are creative agents' (*ibid*, emphasis added). Much new knowledge is produced in the world of work.

This notion of Mode 2 science suggests that there is yet a further function that UASs in Finland can fulfil, which is the scrutiny, collation and transmission to the wider world of the knowledge being generated through the multiplicity of RDI projects. Several self evaluations noted societal visibility as an area for development: for example: 'communicating the results and innovations to the general public and future... students'. Another reported that 'The effectiveness of the master's thesis done in individual organizations...still mostly unknown'.

One way of achieving transmission to the wider world of this knowledge could be through cooperation with traditional universities in analysing the material that is generated by RDI projects and the joint writing of academic articles. Of course there can be concerns about confidentiality and commercial secrets with some RDI projects, but advances in practice often embody advances in knowledge that can be discussed in academic journals without violation of privacy or commercial benefit. Such joint publications could also assist FUAS (and other UASs) in the demonstration of the impact of the RDI work.

Summary

- Partnerships and connections to working life are important components of the curriculum and teaching processes of the FUAS institutions. The review team read about many good examples in the self-evaluations and learned more about the partnerships during the site visits.
- However, partnerships and connections to working life are an area in which FUAS systemic efforts need to be enhanced.
- It is unclear how curriculum input from the various stakeholders is prioritised, organised, and systematically dealt with.
- Finding working life representatives who are willing to serve on advisory committees can be a challenge.
- The review team was not certain whether or not the processes for assessing the performance of their students in the workplace are well established and understood.
- It is difficult to resolve the paradox of preparimg students for work settings that are rapidly changing and working in a bureaucratic system that requires pre-determined learning outcomes for students. Curriculum and teaching need to be flexible and adaptive to environmental changes.
- FUAS's aims for the development of RDI are encouraging.
- All the programmes took seriously their RDI work and recognised FUAS policy in this respect.
- There is a wide variety of RDI projects, involving multidisciplinary cooperation between students, teachers and working life partners, at regional and national level and sometimes internationally.
- RDI was integrated within programmes through students' work, mainly the thesis.
- There is need for improved integration and cooperation within FUAS.
- RDI is nevertheless an area for development, especially the integration of RDI into the teaching programme.
- There is a need for more international RDI projects and international cooperation in RDI.
- Funding – for both regional and international projects – is problematical and we echo the concerns of the FINHEEC evaluation of RDI in UASs in this respect.
- There are considerable problems of recording RDI impact and we again support the FINHEEC recommendation that RDI indicators should be used as learning tools not for accounting purposes.
- The notion of Mode 2 science suggests that UASs in Finland can collate, scrutinise and disseminate the knowledge generated through RDI projects. One of the ways of achieving this could be through cooperation with research universities.

Chapter Six

Internationalisation

Finland's education policy has been notable for its commitment to internationalisation. Among the primary aims of *The Strategy for the Internationalisation of Higher Education Institutions in Finland 2009–2015* (Ministry of Education and Culture, 2009) are 'a genuinely international higher education community' and 'promoting the export of expertise'. Improving the international comparability of its vocational education was one of the factors underlying the establishment of the Finnish polytechnics in the 1990s. Finland has been active in its membership of the European Union and has been committed to the 'Bologna Process' and its ideas of harmonisation and recognition of qualifications within a European Higher Education Area as we noted in Chapter Three. It has been open to the recruitment of international students (and at no tuition fee cost), in the hope that some will stay and seek employment in Finland, as well as to learning from other countries, and developing the international skills of Finnish students. As it is a small country with a distinctive language, teaching in English has been encouraged.

Whilst internationalisation has been high on the agenda of higher education policy in Finland, it remains an area where development is needed. OECD (2009: 62, 66) noted that Finland has a small but significant 'brain drain', and that 'The overarching economic agenda is the need for increased employment based immigration'. The same report (*op cit:* 67) recorded amongst other things, the need for improvement in the international marketing of Finnish higher education and giving detailed attention to the concept of 'brand'.

Internationalisation is a key element in FUAS strategy and can been seen in this context. Indeed, the OECD review (2009: 69) recommended this kind of collaboration as a step to improve marketing. FUAS strategy recognises that 'An increasingly open and dynamic operating environment sets demanding challenges for Finland's competitive edge and welfare in the 2010s' (FUAS, 2011: 3) and notes that 'Improving the quality and impact of higher education institutions is seen as the key method for boosting Finnish international competitiveness'. At bachelor's degree level, the main objective of international programmes is to provide training and ensure employment in Finland for the labour force and immigrants from abroad.

FUAS's aim is that its institutions will offer students 'the most expansive and diverse educational provision both domestically and internationally compared to other universities of applied sciences in Finland'. Thus, 'the educational profile of FUAS is focused on being an international pioneer in workplace oriented pedagogical solutions integrated into RDI'. FUAS aims to ensure 'an international learning environment for all students'. Internationalisation of degree programmes is to be developed through student mobility and international RDI integrated into learning.

FUAS's strategy is that its institutions will profile their educational provision, based on domestic and international benchmarking and cross-evaluation, but also defined in relation to the internationalisation strategies and needs of businesses in the metropolitan area.

A number of actions are proposed by FUAS to improve internationalisation of its institutions. It will for example improve network coordination of FUAS International Services. It seeks to support educational provision leading to a master's degree and double degree, and to make increasing use of international experts for the degrees, and to increase inter-

national educational provision, based on pedagogical top-level expertise, aiming at a degree, and liable to a fee.

'Internationalisation' in the Finnish context thus takes many forms, and it has been noted (Pratt *et al* 2004: 34) that the discussion is sometimes confused. Different (though interrelated) concepts involved include: international comparability, the internationalisation of the curriculum, and the international market in higher education. We found all of these concepts in use at FUAS institutions. The alignment of higher education programmes with the EQF is one step towards internationalisation, assisting with international comparability of programmes and it potentially enhances Finnish institutions' attractiveness in the international market. The development of 'brand' both nationally (for Finnish higher education as a whole) and institutionally and at programme level is another measure to improve this attractiveness. Increasing the proportion of English language teaching is also way of attracting international students to attend Finnish institutions. These students themselves then can become a resource to increase internationalisation of programmes for Finnish students. At the same time English language teaching can be part of a curricular effort to increase the international content of Finnish programmes for Finnish students. Other curricular changes can be made, such as including or increasing content about international business, or offering or increasing opportunities for study abroad by Finnish students.

It is also worth noting that it may not be possible for all programmes or institutions to achieve identical levels of 'internationalisation'. Different programmes serve different markets. Commitment to service to a region or metropole does not automatically engender an international reputation. Thus a programme in international business might more easily attract international students and staff and entail greater elements of internationalism in its curriculum than programmes in other areas, and it might more quickly attain an international reputation for this reason. Nevertheless the kinds of elements noted above – such as English language competence or international content can be expected in all programmes.

We were pleased to find that most of the FUAS programmes referred to internationalisation as one of their strengths and displayed commitment to it. Programmes variously reported that they are: 'internationally respected and valued'; have 'cooperation with … international partners'; and that 'The degree programme has a good international network and experience of international activities'. It was clear too from our discussions that internationalisation was an accepted aim and we detected a greater recognition of the need to enhance the international profile and competitiveness of Finnish institutions than was reported by Pratt *et al* (2004).

The self evaluations and our discussions produced examples of the various ways in which internationalisation may be manifested in programmes. We have already noted in Chapter Three the commitment and conformity of FUAS and of the programmes evaluated to international descriptors such as EQF, which is a contribution to international comparability. For example, the Professional Teacher Education Programme at HAMK reported that it had used EQF indicators 'even though there is no official definition of professional/vocational teacher education in the EQF-system'. Security Management at Laurea noted the difficulty of using the exact (translated) wording of the EQF in its curricular aims, highlighting the possible dangers of an enforced conformity from these international frameworks.

The curricular aims of programmes typically spelled out their international commitment: 'students…are able to work and communicate in international …environments' (LAMK Environmental Technology); internationality is a 'permeable theme' in Laurea's Nursing degree. Internationalisation in the Professional Teacher Education progamme at HAMK is a 'product of long-term development', starting with staff visits to developing countries in the early 1990s. It is also heavily involved in teacher education for immigrants to Finland.

A number of programmes reported the use of student exchanges as part of their internationalisation, and many of the self evaluations referred to the involvement of international students; for some, these students constituted a significant proportion of the student body. The master's programme in Service Innovation and Design at Laurea, for example, reported students of ten nationalities and that 'internationality and cross-cultural differences are part of the everyday life' of the programme. Our review found that much teaching on programmes is in English, though to varying extents (partly dependent on the nature of the programme: for example, international business almost unavoidably has to use this language, whilst other programmes referred to the policy to offer 30 credits of English language teaching). The students we met provided substantial evidence of ability in English. The degree in Mechanical Engineering at HAMK reported also its programme to assist international students with Finnish and its students offered accounts of their developing integration into Finnish society. Several programmes also referred to the international reputations and experience of staff; HAMK International Business for example has several foreign teachers.

International links of many kinds have been widely established by the FUAS programmes. HAMK International Business has 'Sixty partner universities, eight double degree opportunities'. LAMK Nursing is involved in the Florence Network of 37 institutions in 18 European countries as well as the Nordic network Trollnet. Again these kinds of links were recommended by the OECD Review (2009: 70), so many of the FUAS programmes reviewed here have made good progress in this respect.

A number of the programmes we evaluated had distinctive features that enhance international reputation. Service Innovation and Design at Laurea for example claims to be the first in the world in this subject. The LAMK Nursing Programme has the FUAS North-South project 'Family Health and Wellbeing' which involves Nepal and Vietnam. 'All three universities and Seinäjoki University of Applied Sciences have their nursing, public health nursing and physiotherapy programmes as partners in this project.' This nursing programme also has partners in Denmark and Norway with which they share curriculum models. The HAMK Teacher Education programme benefits from many international students, and one of the more successful programmes in the realm of international connections is the Laurea Service Innovation and Design programme. The students all work full time in organisations that range from start-ups to large multi-national companies. The programme has many international students and has links to approximately 200 organisations. In addition to forming networks, creating research projects, producing publications, and hosting seminars, in 2012 it organised a large international service design conference with key leaders from Scotland, Sweden, Germany, and Italy.

The HAMK International Business programme illustrated how purposeful planning leads to beneficial outcomes in an international programme. For example, student group work is designed to ensure that facilitators and learners with diverse cultural backgrounds will serve together on teams. This goal affects programme admissions and the need for international staff. Furthermore, the staff need to establish networks via travel and/or virtu-

al work, and they need to prioritise those people and organisations with which they want to formalise relations. The limit of six staff members has to be acknowledged – but, fortunately, all six have a strong commitment to internationalising the programme. A caveat is that the HAMK International Office is staffed by only one person, who is responsible for serving the intake needs of all international students. In the previous year the programme had over 300 applicants for only 50 spaces, not least because this programme is free, and attractive to students from third world countries.

There are nevertheless areas for development in this field. For many programmes, internationalisation is still developing: one said: 'The new international curriculum is totally new and we have to collect and analyse customer feedback and experience in the future'. Other responses included: 'More effort needed to be "internationally acknowledged"' whilst 'Systematic internationalisation' was identified as an area for development by another. The need for international cooperation in RDI (see Chapter Five) was also noted by others: 'International research and development projects are lacking'; 'International cooperation in RDI field needs to be strengthened'. The review team noted that the need to establish stronger links with international alumni to enhance internationalisation. We see the establishment of FUAS as presenting a valuable opportunity to enhance this systematisation and the creation of FUAS wide support for internationalisation. There remains however the question of whether or how far there should be a FUAS 'brand', or whether the individual institutions and programmes should use their contacts and expertise to develop their own international cooperation.

There are challenges, too, in creating an international programme. Staff of the HAMK Mechanical Engineering programme, for example, spoke of the lack of time to market and establish international connections. Fortunately for them, they stated, mechanical engineering is an international subject that can be taught in English without a great amount of difficulty. Teaching the programme in English, in addition to the free tuition, were features that attracted international students. They have established a relationship with a Danish university and they will collaborate on a double-degree in English next year. This arrangement will allow students to study in another country and experience another culture.

Programmes that serve a diverse range of students face the challenges of guiding them through project and problem based learning. In many of these programmes teaching has moved away from lecturing in classrooms and staff are called upon to perform more tutoring, mentoring, and coaching. The Laurea Business Ventures' self-evaluation noted aspects of this approach, 'This is very student-centered and also flexible and motivating. On the other hand it is challenging for teaching staff. Tutoring and coaching abilities are needed and there can be remarkable personal differences among students in their abilities to work individually and in teams instead of classroom.' Programmes that have a high percentage of international students may have students who are unaccustomed to speaking up in class or working collaboratively on assignments. These students can have difficult periods of adjustment to these learning strategies.

Summary

- Internationalisation is high on the agenda of higher education policy in Finland and is a key element in FUAS strategy.
- We detected a greater recognition of the need to enhance the international profile and competitiveness of Finnish institutions than was reported in the past.
- Most of the programmes evaluated referred to internationalisation as one of their strengths and offered evidence of this in various ways including using international descriptors. However, care needs to be taken that EQF and other international frameworks are not too restrictive.
- Many programmes have involvement of international students.
- Many programmes have international links, some of these extensive.
- There is a need for further systematic development of internationalisation.
- The establishment of FUAS presents a valuable opportunity to enhance this systematisation and the creation of FUAS wide support for internationalisation. There is a question of whether or how far there should be a FUAS 'brand'.
- The review team noted the need to establish stronger links with international alumni to enhance internationalisation.
- There are challenges in creating international programmes, including recruitment of students who find it difficult to adjust to FUAS learning strategies.

Chapter Seven

FUAS institutions: focal points for synergy and common ground

The strategic intent of FUAS, as we cited in Chapter One, is to be an

> 'Internationally acknowledged alliance of independent UASs, which strengthens international competitiveness of the Helsinki metropolitan region by offering educational and regional development services and RDI expertise needed by the people and business of the region.' (FUAS, 2011: 4)

How might FUAS achieve its vision? This chapter discusses issues and strategies that might help it to do so. The institutions of FUAS face the challenge of wanting to maintain the uniqueness of their individual identities and yet benefit from collaborating within a larger system. What might this desired state of collaboration look like? The following sections describe some of the common challenges that are shared by the individual institutions. This is not an exhaustive list of areas for development and readers should also refer to the summaries at the end of earlier chapters. The goal that remains for the institutions is how to learn from the best practices of the different programmes and yet successfully function within the characteristics and constraints that are unique to each programme.

It is important to recall the overall policy context of Finnish higher education and the circumstances in which FUAS was created and which will continue to shape its development. The mission of universities of applied sciences (polytechnics) is framed by legislation:

Working on research, artistic and cultural premises, polytechnics shall provide higher education for professional expert jobs based on the working life and its development; support the professional growth of individuals; and carry out applied research and development that serves polytechnic education, supports the world of work and regional development and takes the industrial structure of the region into account. In executing these tasks, polytechnics shall promote lifelong learning. (24.7.2009/564, Section 4)

In carrying out its mission, a polytechnic shall cooperate with business and industry and other sectors of the labour market, in particular within its own region, and with Finnish and foreign higher education institutions and other educational establishments. (Section 5)

Finland uses the European Union as a reference point, and the EU targets the economic challenges of 'innovation, youth on the move, resource efficiency, development of an information society, industrial development, education, and reducing poverty.' Developmental targets for higher education recommended in the thematic OECD review (2009) are: internationalisation, clearer institutional missions and positions, and diversification of the funding structure. *The Strategy for the Internationalisation of Higher Education Institutions in Finland 2009–2015* sets five primary aims for higher education institutions: a genuinely international higher education community; increasing the quality and attractiveness of higher education institutions; promoting the export of expertise; supporting a multicultural society; and promoting global responsibility (Ministry of Education and Culture, 2009). The intention is to create more prominent institutions with higher standards. Resources will be allocated for research in priority areas. And, among other objectives, the intent is to improve cooperation with foreign partners to compete for international research funding.

Predictions are that the number of higher education institutions will be reduced, but expectations are that new/remaining institutions will be larger and stronger. Clearer profiles will be demanded for programmes, as well as cleared institutional missions. Because of the economic downturn, student numbers in universities of applied sciences are being reduced.

Forging shared understandings of competence levels and curriculum integration

National policies, thus, have guided the universities of applied sciences (polytechnics) in general, and FUAS in particular, to position their curricula and teaching in specific ways to help students achieve success in working life. Competence levels are used to prepare students to reach their career goals. Generic competencies have been identified and staff attempt to integrate them into curricula and teaching. Descriptions of tools (eg, competence maps) helped the review team to understand how teaching is based on competences and how levels of competence are determined for students. For example, as we saw in Chapter Four, efforts are made to weave the following into the curriculum: lifelong learning (skills for continuous learning), entrepreneurship (skills for entrepreneurial activity and functioning as an entrepreneur), internationalisation (skills for international activity), and sustainable development (social, economic, cultural and ecological).

However, we heard staff voice uncertainty about the best way to make this type of curriculum integration occur. Some were not certain about the role of the general competencies in their technical curriculum, and they were not clear about some of the buzz words and jargon that were passed down to their level from administrators or from national guidelines. This type of lament can be expected from staff who have deep technical expertise and who have strong feelings about how to best teach students, but who also must fit their programme into guidelines established by the institution and/or national policy. The challenge for FUAS is to help staff understand the importance of the guidelines and how applying these guidelines will help students, teachers, and the institutions reach important goals. FUAS is encouraged to continue to offer workshops in which staff can work together on curriculum and develop shared understandings regarding competence levels.

The paradox of entrepreneurship and bureaucratic guidelines

More so than other institutions of higher education in Finland, the universities of applied science are positioned to quickly make strategic decisions based on environmental conditions and adjust their directions. The review team saw evidence of this adaptability and heard staff describe how their programmes adapt to the changing currents of working life. Teachers spoke of the benefits of FUAS – this alliance allows them to exchange programme information, especially programmes in the same content area. In nursing, for example, students can participate in special projects and take courses that are hosted by the other FUAS institutions. FUAS also sponsors workshops that create opportunities for the staff to plan collaboratively. These opportunities allow the staff to collectively anticipate future trends and plan accordingly.

Within the FUAS consortium and within the institutional frameworks, latitude must be provided that allows staff to plan collaboratively (as noted above), and yet still be able to function independently and with an entrepreneurial spirit. Teachers on the Laurea Service Innovation and Design programme spoke about their desire to create a programme

that would make them a global and not just a local player. They saw their efforts as part of a larger mission of helping the Finnish economy grow and prosper. They explained their efforts as an entrepreneurial effort by the teachers (not a top down directive) that motivated them to create a programme that has flourished. There was no legacy for them to follow, but there was open space for evolution and discovery. With the success of their programme, they now have some evidence that can be used for disseminating and informing others. They are in a better position to promote the programme and seek recognition. Of course, when you create a programme that does not exist anywhere else, educating the stakeholders is a constant struggle. A consistent message about the essence of the programme needs to be continually conveyed to employers, prospective students, administrators, peer teachers, and national bureaucrats. The key for this type of growth and development is to allow the space for staff to be entrepreneurial within the constraints of the local bureaucracy and the restrictions of national policy. There is an old artist's expression that all art is a series of recoveries from the first line. When the canvas is blank, staff are free to imagine a desired state for a new programme. When the canvas already has lines on it, they are more apt to simply colour within the lines.

A refrain that was heard by the review team during its visits could have been spoken by teachers from many parts of the globe. It is the refrain of trying to build a programme given the constraints of national, regional, or local policy. It is the case of teachers struggling to be entrepreneurial but feeling the constraints of larger policies that set parameters around what a programme can or cannot do. For example, one teacher stated that they could easily take in more students, but the Ministry has set limits on the programme's annual intake. This national policy is a paradox for local programme planners. On the one hand, the national government targets low enrolment programmes to be phased out; but on the other hand, it limits the intake of students into successful programmes. Staff sense a contradictory, possibly hypocritical, national policy that encourages a market economy for higher education and then places restrictions on a programme's growth. We noted in Chapter Two the proposed closure by the Ministry of two of the programmes reviewed. To the degree possible, FUAS and institutional leadership should help staff interpret national policy and be advocates for their programme needs. It is also worth noting that with increased autonomy for institutions, decisions that were previously imposed upon them by the Ministry may now have to be taken internally. FUAS will need to anticipate the managerial and organisational cultural problems that this may raise.

FUAS will function best when it can bring staff together and unleash their potential – allow them to visualise possibilities. It can help them, as collaborative thinkers, see ways to productively use external frameworks, such as the European Qualifications Framework, yet think creatively about preparing people for jobs that do not yet exist; and help them to integrate nationally defined generic competencies into the preparation for work settings of the future that might be considerably different from what workers experience today.

FUAS can continue to provide value to teachers by entering into meaningful collaborative agreements with consortia from other countries for the purposes of knowledge sharing, such as that between FUAS and KU Leuven Association of Belgium. Common ground areas of interest for these two consortia include benchmarking models for these types of federations, comparing national developments of higher education, examining strategies for career oriented higher education programmes, and integrating research into these types of educational curricula.

Making progress in planning and collaboration

The review team saw examples of how the institutions are making progress in collaborating with each other. After all, they share common problems and they pursue some common goals. Each institution serves a blend of students including international, national, and local. Nearly all of the programmes reported directly that the learning outcomes of the programme were integrated into the strategies of FUAS and their own UAS, though to varying extents and in different terms: 'FUAS and AMK strategies are parallel'; 'in line'; almost identical'. Another added that the degree programme 'is strongly implementing FUAS focus areas'.

Each institution relies heavily on partnerships with its programmes, and they are learning to share partnerships across programmes and system-wide. However, developing relationships with strategic partners takes time and work. Hundreds of partners are involved with these educational programmes, and the programmes have organised these relationships quite well.

However, as we have noted in previous chapters, the review team saw some areas with FUAS institutions that need additional work. For example, one programme reported that 'The FUAS partnership is still emerging' and another noted: 'Common projects with FUAS partners need to be developed'. Each institution has its own quality assurance programme and it appears that they need to be better aligned with each other and within the FUAS system. The curriculum work is quick and impressive; however, questions remain about the effectiveness of the use of work life representatives in the curriculum process. It was not clear to the review team how input and data from working life representatives were used in curriculum decisions. The strategies for thesis work do not appear to be as well organised across programmes and across institutions. We were impressed by the approach of using students in the quality assurance process, but it is also important for the students to participate in quality assurance so that they can learn how to use these processes after they graduate and work in their own careers.

Conclusions

During discussions with the review team, one of the key administrators noted that all of the universities of applied sciences share the goal of producing professional experts. And, the institutions focus on helping their students develop high levels of professional competence. The administrator noted that the institutions face similar challenges, and in order to succeed they need to bring people together from disparate fields of study to gain fresh ideas for moving forward toward the same aims. Of course, FUAS was founded with this type of collaboration in mind. The review team saw several examples of mutually beneficial collaboration, and the potential for additional teamwork and synergy. We now summarise some of the ways in which FUAS – and the Ministry of Education and Culture – can enhance the FUAS alliance and the achievement of its strategic vision.

FUAS institutions serve many working adults. Serving these students can be both a blessing and a curse. On the positive side, students can work full-time and take classes at weekends. On the minus side, the leisure time of students and staff can disappear because of the demands on their time. The demands on students' time can also restrict their participation in other aspects of their educational programmes, such as international experiences, face-to-face time with other students to collaborate on projects, and participating in curriculum development. FUAS institutions should continue to work together to benchmark best strategies for serving working adults.

FUAS institutions are experiencing threats to their established organisational cultures, as we noted in Chapter Two. FUAS itself may be perceived as a threat to the independence of staff at each institution. The partnership might be perceived as a forced form of collaboration by some staff. On a larger scale, the Ministry of Education and Culture is affecting the universities of applied science by reducing the total number of students served. Personnel of each of the FUAS institutions are unhappy with this form of intervention. Some programmes have been shut down, and remaining programmes will see gains and losses in allocation of resources. Stakeholders can have competing visions of how programmes should look in the future. These forces can place strains on organisational culture because staff may resist change from the status quo and have fears about unknown futures. Moreover, as we noted earlier, because difficult decisions will in future have to be taken within FUAS rather than from outside, this could increase stress and potentially conflict within institutions. FUAS needs to help member institutions work through these turbulent times and help them move forward to establish healthy organisational cultures.

The amount of money available for higher education in Finland is finite, and it must be divided among different types of higher education institutions. FUAS institutions must work together to forge strategic advantage for applied universities compared to other types of national and international institutions. The competition for enrolling Finland's students is strong. FUAS institutions must embrace a common vision that is based on collective strength and pool their intellectual capital to achieve world-class status. Allocation of higher education resources will increasingly be based on performance – FUAS must work toward being a high performing alliance.

Master's degrees are relatively new options for FUAS institutions. As such, work is still needed regarding the niche that these degrees will fill in Finnish higher education. The experiences seem to vary considerably for students depending on the programme in which they are enrolled. For example, students who work full time often link their thesis to their place of employment. On the other hand, full time international students might have considerable difficulty finding sponsors for their projects. The extent to which the thesis is a developmental project versus a research project also seems to vary considerably from programme to programme. Staff views also seemed to vary regarding how similar or different the thesis from a UAS should be to a thesis from a university. For some programmes, the thesis work can be a significant burden for an already over-burdened staff. FUAS needs to continue to help institutions come together and forge some shared understandings of how theses need to be facilitated, conducted, supervised, and evaluated.

The review team observed several examples of staff identifying commonalities and working from those points of strength to achieve high levels of synergy. For example, many of the programmes have content that deals with management and they use this curriculum area as a point for sharing. Other commonalities are worth noting. For example, all master's degree students share characteristics, and all students are expected to be involved in

quality assurance processes. Students who participate in online learning learn how to develop skill with the technology and how to work collaboratively. These examples are common characteristic across programmes, and because of them, staff stressed that they do not work in programmatic silos. FUAS needs to consider how best practices can be captured and shared with staff throughout the system.

The Ministry of Education and Culture has stated that universities and UASs need to collaborate more in the future. Each of these types of institutions has unique strengths and traditions. Although they are competing for shares of the higher education budget in Finland, they should seek ways to collaborate to seek existing Finnish higher education resources, as well as collaborate to diversify their revenue streams through external sources of funding. These external sources of revenue can be through corporate sector partnerships or funded projects through the European Union or other international sources. Joint ventures should capitalise on the strengths of the basic research capabilities of the universities and the possibilities of applied research through the UASs' connections to business and industry. Real world problems can be addressed and lead to collaboration in research and writing, as we noted in Chapter Five. Universities, too, need to be made aware that they can benefit from working with the UASs because of the latter's work life partnerships and international connections.

In Chapters Three and Four examples were cited of the use of problem based learning and project based learning in FUAS institutions. These types of curricular strategies are demanding for staff and can be disorienting for new students. Staff new to these types of learning can be hesitant to give up the control to which they may be accustomed with traditional lecture formats. For students, their initial orientations to self-directed learning, project based learning, and problem based learning can be frustrating because of a perceived lack of structure and higher levels of uncertainty and ambiguity. FUAS needs to continue to lead efforts that help staff and students learn best practices in these curricular approaches. To the extent possible, knowledge about facilitating project based learning and problem based learning needs to be codified and disseminated among FUAS institutions.

Each of the FUAS institutions has strong quality assurance programmes. Students and other stakeholders are involved in these programmes. However, the review team believes that this is another area where each institution could benefit by collaborating more to try to solve some of the inherent problems associated with collecting and analysing student data. For example, some students merely viewed the data forms as an inconvenience. Other students were unaware of the sophisticated quality assurance processes that were in place and the purposes of those processes. One teacher stated that he explained to the students that although the forms might seem silly, the questions are intended to gather certain types of data. From this simple explanation, better responses and feedback from students were obtained. Students need to continue to be active participants in the quality assurance process to make sure that their voices are heard. All higher education institutions (not just FUAS institutions) have problems collecting and analysing student data. This is an area where quality assurance leaders from each institution can collectively and systemically identify problems, target best practices, and train staff system-wide as a means to improve data collection processes.

Staff in the FUAS institutions are well qualified, motivated and experienced. Most programmes noted the strengths of their teaching staff:

> 'Teachers form a very experienced, motivated and multi-professional international team with different backgrounds'
>
> 'Teachers form a highly educated team with easy access to industry expertise'
>
> 'Teachers are highly educated, motivated and multiprofessional'
>
> 'real experts as lecturers'
>
> 'lecturers are motivated'
>
> 'lecturers' knowledge of the topic is high class and updated'.

They have ample opportunities for continuing professional development that are related to their teaching roles. They are able to attend working sessions and workshops that pertain to curriculum and instructional development. However, some development needs of teachers were reported:

> 'Teachers' language skills needs to be improved'
>
> 'better tutoring, mentoring and coaching competences for staff'
>
> 'how to divide coaching effort in optimal manner'
>
> 'Teachers' extensive management of freedom and responsibility is a challenge for new staff members. Working in line with the LbD model and getting acquainted with the Laurea work method require training'.

Staff also stated that because of their busy roles they are not able to return to the workplace so that they can keep up with current practices in their professional fields of work. They rely on relationships with work life partners to help them stay abreast of new developments; they stated that what they would really appreciate is time in the workplace to hone their technical skills and practice their craft. FUAS institutions should consider developing a programme similar to university sabbaticals that would allow staff to periodically return to the workplace to update their technical skills.

The Ministry of Education and Culture, as well as FUAS institutional leadership, need to think carefully about programme decisions that are solely outcome based. Demonstrating programme impact is more difficult for some programmes (eg, some liberal arts and science programmes) compared to other programmes (technical programmes with high placement rates). In addition to being career ready, goals for graduates of applied universities should include using leisure time wisely through the appreciation of the arts, becoming caring and nurturing family members, and being well prepared for civic responsibility. We echo to the Ministry the concerns expressed in our visit about the nature of indicators used to assess RDI in the institutions and about the funding of RDI – and which were reported also by Maassen *et al* (2011).

Summary

- FUAS staff should understand the importance of policy guidelines and how applying these will help students, teachers, and the institutions reach important goals. FUAS is encouraged to continue to offer workshops in which staff can work together on curriculum and develop shared understandings regarding competence levels.
- FUAS will need to anticipate the managerial and organisational cultural problems that may arise from increased autonomy for institutions.
- FUAS can continue to provide value to teachers by entering into meaningful collaborative agreements with consortia from other countries.
- FUAS institutions should continue to work together to benchmark best strategies for serving working adults.
- FUAS needs to help member institutions work through these turbulent times and help institutions move forward to establish healthy organisational cultures.
- FUAS institutions must embrace a common vision that is based on collective strength and pool their intellectual capital to achieve world-class status. FUAS must work toward being a high performing alliance.
- FUAS needs to continue to help institutions come together and forge some shared understandings of how theses need to be facilitated, conducted, supervised, and evaluated.
- FUAS needs to consider how best practices can be captured and shared with staff throughout the system.
- FUAS institutions should seek ways to collaborate to seek existing Finnish higher education resources, as well as collaborate to diversify their revenue streams through external sources of funding.
- Universities need to be aware that they can benefit from working with the UASs because of the latter's work life partnerships and international connections.
- Knowledge about facilitating project based learning and problem based learning needs to be codified and disseminated among FUAS institutions.
- Students need to continue to be active participants in the quality assurance process to make sure that their voices are heard.
- Quality assurance leaders from each institution can collectively and systemically identify problems, target best practices, and train staff system-wide as a means to improve data collection processes.
- FUAS institutions should consider developing a programme similar to university sabbaticals that would allow staff to periodically return to the workplace to update their technical skills.
- The Ministry of Education and Culture, as well as FUAS institutional leadership, need to think carefully about programme decisions that are solely outcome based.

Chapter Eight

Summary

For ease of reference, this chapter lists the summary points made at the end of each of the preceding chapters.

The review process

- The topics identified for the self evaluation do not directly correspond to the strategic aims of FUAS, so if FUAS plans to undertake further evaluations of its progress it may need to customise self evaluations.
- The responses to the self evaluations themselves were varied. There may be some 'evaluation fatigue', a matter that could be of concern should FUAS seek to further assess its progress at later dates.
- One of the overall findings of our evaluation has been that considerable progress is evident in areas that had been identified by earlier reviews as needing attention.

Curriculum development and quality assurance

- It is a question for the FUAS leadership and its member institutions how, within the development of common systems of curriculum development and quality assurance, to maintain desirable diversity.
- All three members of FUAS have been active in curriculum development in keeping with the principles of the Bologna process. Each UAS has successfully made a transfer towards a competence-based curriculum.
- The development strategies, educational philosophies and systems of curriculum development and quality assurance of all three institutions, although differently expressed, show considerable comparability. All emphasise their relevance to the economy and their region, but also seek to be internationally recognised.
- The operations of the institutions and the curriculum design processes vary significantly. These differences enable the institutions to learn from one another, but they can also be obstacles to closer cooperation.
- Learning, rather than teaching was the key idea in the educational approach of all three institutions, though the extent to which this was apparent varied somewhat between the programmes, some of which were radically student-oriented.
- All three institutions have strongly structured and well organised QA systems. All base curriculum on workplace needs, involving stakeholders from working life in various ways.
- The QA systems permit the development of a diverse range of programmes, many of which are innovative, but challenges could be presented by the structural and contextual diversity of the different curricula.
- Evaluation systems need to be directed more towards learning outcomes.
- There is a need and an opportunity to integrate QA and student feedback systems into student learning.

Student learning: flexibility, approaches, and alternatives

- There is ample evidence of sound teaching practices in the FUAS institutions. The institutions are to be commended for systemically integrating collaborative learning, lifelong learning objectives, prior learning experiences, E-learning, problem based learning, project based learning, and self-directed learning into the programmes.
- Self-directedness and self-monitoring were now integral aspects of course design and teaching.
- Teachers recognise the diverse nature of the students and the busy lives that they lead.
- Whilst programmes need to be attentive to the Ministry of Education and Culture indicators, the working methods or operational characteristics of a programme can make it challenging to achieve some of these goals.
- Many of the programmes had students working in groups on authentic working life problems.
- The review team was not convinced that all students are adequately prepared for their introduction to project based learning and problem based learning. FUAS should consider developing system wide materials and teaching that will help new students learn how to learn.
- The institutions have put into place processes for identifying and accrediting competence that is based on prior learning experiences. AP(E)L was reported as a strength in several programmes.
- A shared understanding did not seem to exist regarding the criteria and processes for assessing prior experience of students. This is an area in which FUAS can give guidance to staff to help them work through the subjective aspects of gauging the value of a student's prior experiences.
- The teaching staff seem to have a heavy burden. FUAS institutional leaders need to be sensitive to workloads of staff, and we hope that FUAS can generate ideas for using economies of scale to reduce some of this burden on staff.
- Although E-learning has been well integrated into some programmes, other programmes are still attempting to determine the best ways to utilise E-learning to serve students' needs. FUAS should continue to look broadly at the barriers to implementing online learning and to continue to monitor its effectiveness.

Working life, partnerships and RDI

- Partnerships and connections to working life are important components of the curriculum and teaching of the FUAS institutions. The review team read about many good examples in the self-evaluations and learned more about the partnerships during the site visits.
- However, partnerships and connections to working life are an area in which FUAS systemic efforts need to be enhanced.
- It is unclear how curriculum input from the various stakeholders is prioritised, organised, and systematically dealt with.
- Finding working life representatives who are willing to serve on advisory committees can be a challenge.
- The review team was not certain whether or not the processes for assessing the performance of their students in the workplace are well established and understood.
- It is difficult to resolve the paradox of preparimg students for work settings that are rapidly changing and working in a bureaucratic system that requires pre-determined learning outcomes for students. Curriculum and teaching need to be flexible and adaptive to environmental changes.
- FUAS's aims for the development of RDI are encouraging.
- All the programmes took seriously their RDI work and recognised FUAS policy in this respect.
- There is a wide variety of RDI projects, involving multidisciplinary cooperation between students, teachers and working life partners, at regional and national level and sometimes internationally.
- RDI was integrated within programmes through students' work, mainly the thesis.
- There is need for improved integration and cooperation within FUAS
- RDI is nevertheless an area for development, especially the integration of RDI into the teaching programme.
- There is a need for more international RDI projects and international cooperation in RDI.
- Funding – for both regional and international projects – is problematical and we echo the concerns of the FINHEEC evaluation of RDI in UASs in this respect.
- There are considerable problems of recording RDI impact and we again support the FINHEEC recommendation that RDI indicators should be used as learning tools not for accounting purposes.
- The notion of Mode 2 science suggests that UASs in Finland can collate, scrutinise and disseminate the knowledge generated through RDI projects. One of the ways of achieving this could be through cooperation with research universities.

Internationalisation

- Internationalisation is high on the agenda of higher education policy in Finland and is a key element in FUAS strategy.
- We detected a greater recognition of the need to enhance the international profile and competitiveness of Finnish institutions than was reported in the past.
- Most of the programmes evaluated referred to internationalisation as one of their strengths and offered evidence of this in various ways including using international descriptors. However, care needs to be taken that EQF and other international frameworks are not too restrictive.
- Many programmes have involvement of international students.
- Many programmes have international links, some of these extensive.
- There is a need for further systematic development of internationalisation.
- The establishment of FUAS presents a valuable opportunity to enhance this systematisation and the creation of FUAS wide support for internationalisation. There is a question of whether or how far there should be a FUAS 'brand'.
- The review team noted the need to establish stronger links with international alumni to enhance internationalisation.
- There are challenges in creating international programmes, including recruitment of students who find it difficult to adjust to FUAS learning strategies.

FUAS institutions: focal points for synergy and common ground

- FUAS staff should understand the importance of policy guidelines and how applying these will help students, teachers, and the institutions reach important goals. FUAS is encouraged to continue to offer workshops in which staff can work together on curriculum and develop shared understandings regarding competence levels.
- FUAS will need to anticipate the managerial and organisational cultural problems that may arise from increased autonomy for institutions.
- FUAS can continue to provide value to teachers by entering into meaningful collaborative agreements with consortia from other countries.
- FUAS institutions should continue to work together to benchmark best strategies for serving working adults.
- FUAS needs to help member institutions work through these turbulent times and help institutions move forward to establish healthy organisational cultures.
- FUAS institutions must embrace a common vision that is based on collective strength and pool their intellectual capital to achieve world-class status. FUAS must work toward being a high performing alliance.
- FUAS needs to continue to help institutions come together and forge some shared understandings of how theses need to be facilitated, conducted, supervised, and evaluated.
- FUAS needs to consider how best practices can be captured and shared with staff throughout the system.
- FUAS institutions should seek ways to collaborate to seek existing Finnish higher education resources, as well as collaborate to diversify their revenue streams through external sources of funding.
- Universities need to be aware that they can benefit from working with the UASs because of the latter's work life partnerships and international connections.
- Knowledge about facilitating project based learning and problem based learning needs to be codified and disseminated among FUAS institutions.
- Students need to continue to be active participants in the quality assurance process to make sure that their voices are heard.
- Quality assurance leaders from each institution can collectively and systemically identify problems, target best practices, and train staff system-wide as a means to improve data collection processes.
- FUAS institutions should consider developing a programme similar to university sabbaticals that would allow staff to periodically return to the workplace to update their technical skills.
- The Ministry of Education and Culture, as well as FUAS institutional leadership, need to think carefully about programme decisions that are solely outcome based.

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Appendix 1: Key elements of FUAS strategies

Benefits of the FUAS Federation

The FUAS federation and its network-based operating model ensure that the competence of three major universities of applied sciences brings advantage to the entire operating area. This is beneficial for students as well as owners, companies, the public sector and the Helsinki metropolitan area. The broad-based federation is an influential operator also in the context of national policy preparation.

Benefits for students:

- Possibility for full-time studies throughout the year
- Study provision from three universities of applied sciences
- New international opportunities
- Flexible, high-quality, workplace-oriented study path
- Studies irregardless of time and place
- Online study services
- Faster graduation time and improved employment rate
- Broad, high-quality provision of post-graduate and continuing education

Benefits for owners:

- Opportunity to influence national and international solutions as part of a larger whole
- International level quality assurance
- Improvement of the appeal and pass rate of the university of applied sciences
- New international RDI projects and export products
- Expansion of the funding base for both education and RDI
- Improved cost-efficiency through economies of scale

Benefits for the FUAS area and metropolitan policy:

- Advantages from the network-based higher education model
- Increasingly competent labour force for the employment sector
- Trained international experts
- Faster transition into employment among students
- Strengthened entrepreneurship and increased number of companies
- Reformed foundation for the innovation system
- Stronger regional innovation system
- New innovations generated by multidisciplinary RDI and their utilisation
- Improved international competitiveness.

Strategic goals 2011 – 2015

Education

EDUCATION

FUAS significantly expands and diversifies the study opportunities of students in all degree programmes by offering education that entitles to financial aid all year round. Studies can be completed flexibly in all FUAS institutions.

FUAS increasingly uses the vocational channel in recruitment.

FUAS supports educational provision leading to a Master's degree and double degree, makes increasing use of international experts for the degrees and connects the degrees more closely to RDI.

FUAS improves the volume and quality of educational provision available in the virtual campus by enhancing opportunities for building personal study paths across institutional and educational borders.

FUAS increases international educational provision, which is based on pedagogical top level expertise, aims at a degree, and is liable to a fee.

PROFILING AND INTERNATIONALISATION OF DEGREE PROGRAMMES

FUAS institutions profile their educational provision in connection to the educational structure reform 2011–2013. The starting point of profiling is to improve the quality and impact of degree programmes, and it is based on both domestic and international benchmarking and cross-evaluation among degree programmes.

Internationalisation of degree programmes is developed through student mobility and international RDI integrated into learning. FUAS focus areas are supported through strategic, international spearhead degree programmes, especially in the case of Master's degrees.

FUAS ensures an international learning environment for all students.

The target areas of the internationalisation of FUAS education are defined in relation to the internationalisation strategies and needs of businesses in the metropolitan area.

On Bachelor's degree level, the main objective of international programmes is to provide training and ensure employment in Finland for labour force and immigrants from abroad.

FUAS clarifies the requirements for educational export (strategic goals, risks, financial profitability).

LIFELONG LEARNING

Adult education, Master's degrees and continuing education comprehensively address competence development needs in the wider metropolitan area. Diverse study implementation methods, new forms of adult education and virtual studies enable to flexibly combine work and study.

DEVELOPING THE PEDAGOGY OF UNIVERSITIES OF APPLIED SCIENCES

RDI integrated into learning is one of the key strategic objectives of FUAS in education.

The pedagogy of universities of applied sciences is developed in close cooperation with operators in the metropolitan innovation environment. Especially the opportunities of virtual studies and social media in promoting learning is developed with a future orientation.

The strategic focus areas emphasise the development of learning environments.

Key elements in pedagogical development include an increasingly smooth study process and reducing study times.

EDUCATION QUALITY AND IMPACT

FUAS is known for its high standard of education and recognised impact in the entire metropolitan area.

The international quality assurance system of FUAS enables to significantly develop the quality and impact of education.

International assessments, cross-evaluation and benchmarking are utilised with a strategic orientation to develop education.

RDI

FUAS significantly fortifies international, practical RDI, which also generates new, internationally competitive content for education.

FUAS is an engine for renewing the foundations of the innovation system in the wider metropolitan area, emphasising the joining of forces in the merge of research, innovation and practical development.

RDI of FUAS is closely linked to EU-level R&D programmes, increasing and diversifying the funding sources.

RDI of FUAS is established on international consortia, which serve as the framework for implementing multidisciplinary joint projects that cover the entire innovation chain and are connected to authentic development environments.

The RDI profile of FUAS is established on the production of partial services for global challenges.

Development of the wider metropolitan area

FUAS commits to strong cooperation with society, industry and business, and public administration in the metropolitan area. Both education and RDI are established on this cooperation.

FUAS builds networks solidly with other higher education institutions and research institutions in the metropolitan area (higher education model of the metropolitan area). The network strengthens Finland's position in international competition.

FUAS diversifies the world-class operating environments and innovation hubs of the wider metropolitan area through its practical competence, and participates in the construction of expansive, tripartite innovation projects.

FUAS secures competence in the wider metropolitan area by providing comprehensive educational services to both young people and adults.

Shared services

FUAS is building a virtual campus that offers comprehensive online services and study opportunities to students.

FUAS supports RDI services produced in collaboration with other operators in the wider metropolitan area.

FUAS harmonises its international operating practices through constructing its international profile, increasing recruitment of international students and experts, and supporting its competitiveness on international educational markets.

FUAS systematically makes use of the advantages generated by the critical mass in the acquisition and use of systems and services and in personnel development.

FUAS develops international staff recruitment and the language skills of personnel.

FUAS profiles its communications by emphasising the advantages and influence of cooperation for students, business and industry, the region and staff.

Appendix 2: FUAS Curriculum Review 2011 – 2012: Evaluation targets and criteria

I Evaluation target linked to the degree programme's strategic starting points

1. Integrating the learning outcomes of the degree programme into the strategies of FUAS and the University of Applied Sciences.

How are the learning outcomes of the degree programme integrated into the strategies of FUAS and the University of Applied Sciences?

DESCRIPTION: Integrating the learning outcomes of the degree programme into the strategies of FUAS and the University of Applied Sciences (UAS)

EVALUATION:

- Integrating the degree programme into the strategy of FUAS alliance
- Integrating the degree programme objectives into the overall strategy of the UAS

EVALUATION CRITERIA

Absent	Initial	Developing	Advanced
Integration of the learning outcomes into the overall strategy of FUAS and UAS is totally absent..	The learning outcomes of the degree programme are not really integrated into the FUAS and UAS overall strategy	The learning outcomes of the degree programme are mainly integrated into the FUAS and UAS overall strategy.	The learning outcomes of the degree programme are integrated well and relevantly into the FUAS and UAS overall strategy.

SUMMARY: Integration of the learning outcomes of the degree programme into the strategies of FUAS and UAS.

Strengths	Development areas

II Evaluation targets linked to the degree programme curriculum, implementation of teaching, assessment and impact

1. Planning tuition

How is the curriculum process implemented?

DESCRIPTION:

- Drawing up curricula
- Learning outcomes and their specification (law, EQF, content, workplace relevance)
- Competence evaluation targets and criteria in the curricula
- Integration of RDI and artistic activities into the curriculum
- Involvement of different stakeholders (personnel groups, students, externals) in the curriculum process

EVALUATION: Curriculum process functionality and competence base

Absent	Initial	Developing	Advanced
A clear curriculum process description is absent from the degree programme The curriculum has not been drawn up with a competence base Competence evaluation criteria and targets are absent. The EQF level description of the curriculum cannot be indicated Degree programme permeable themes are missing either in part or completely	The curriculum process of the degree programme has not been described in full. The curriculum is drawn up only partially with a competence base. Competence evaluation criteria and targets are not described completely. Visibility of the EQF level description of the curriculum is poor. Degree programme permeable themes are considered to some extent.	The curriculum process of the degree programme is described clearly. The curriculum is drawn up with a competence base. Competence evaluation criteria and targets are described. EQF level description of the curriculum visible. Degree programme permeable themes are considered.	The curriculum process of the degree programme is described clearly in full. The curriculum is drawn up utilising the competence base well and relevantly. Competence evaluation criteria and targets are described well and clearly. EQF level description of the curriculum is well and clearly visible. Degree programme permeable themes are considered well and relevantly.

SUMMARY: Tuition planning

Strengths	Development areas

2. Implementation of teaching

How is teaching implemented?

DESCRIPTION:

- Teaching and guidance methods
  (Personal study plan, student-centeredness, peer learning, etc.)
- Learning environments (RDI and learning environments that develop workplace competence, digitalisation, diverse utilisation of ICT, etc.)
- Evaluation methods (incl. APEL)
- Learning and welfare of students, workload of study units
- Competence and welfare of teaching staff

EVALUATION: Functionality of teaching

Absent	**Initial**	**Developing**	**Advanced**
Degree programme tuition is organised insufficiently and pedagogical implementation is not functional	Efforts to organise degree programme tuition have been made, and pedagogical implementation functions reasonably	Degree programme tuition is organised, and pedagogical implementation is functional.	Degree programme tuition is organised well, and pedagogical implementation functions well.

SUMMARY: Implementation of teaching

Strengths	**Development areas**

3. Support services (library services, student and guidance services)

How do support services function?

DESCRIPTION: Existing support services, their operations and connection to the degree programme

EVALUATION: Functionality of support services

Absent	Initial	Developing	Advanced
The support services of the degree programme function insufficiently	The support services of the degree programme function reasonably.	The support services of the degree programme are functional.	The support services of the degree programme function well and in a student-centred way.

SUMMARY: Functionality of support services

Strenghts	Development areas

4. Integration of RDI operations into the strategic focus areas of FUAS and UAS

How are the degree programme's RDI description and policies integrated into the strategic focus areas of FUAS and UAS?

DESCRIPTION: Integration of the RDI description and policies into the strategic focus areas of FUAS and UAS.

EVALUATION: Integration of RDI policies into degree programme and tuition planning

Absent	**Initial**	**Developing**	**Advanced**
The degree programme completely lacks a RDI description and policies in relation to the strategic focus areas of FUAS and UAS.	The degree programme's RDI description and policies are not relevant and are not fully integrated into the strategic focus areas of FUAS and/or UAS.	The degree programme's RDI description and policies are mainly integrated into the strategic focus areas of FUAS and UAS.	The degree programme's RDI description and policies are integrated well and relevantly into the strategic focus areas of FUAS and UAS.

SUMMARY: Integration of RDI operations into the strategic focus areas of FUAS and UAS.

Strengths	**Development areas**

5. Student-specific and student group-specific impact of teaching

How influential is teaching?

DESCRIPTION:

- Main evaluation methods and monitoring indicators
- Measured by indicators, the development of operations during the last 3– 5 years
- Currently implemented measures to improve the impact of teaching.
- Transfer of RDI knowledge and new competence between the degree programme and the employment sector.
- Results from promoting innovation and entrepreneurship

EVALUATION:

- The relevance of the main evaluation methods and monitoring indicators as well as their impact in achieving the goals (Ministry of Education and Culture indicators, degrees, attractiveness, pass rate, pass time, recruitment, RDI study units/student)

Absent	**Initial**	**Developing**	**Advanced**
The degree programme does not have evidence of the impact of teaching	The degree programme has some evidence of the impact of teaching	The degree programme has evidence of the impact of teaching.	The degree programme has clear and continuous evidence of the impact of teaching.

SUMMARY: Impact of teaching

Strengths	**Development areas**

6. Societal impact and regional development

How does the degree programme produce societal impact?

DESCRIPTION:

- Key operating methods that produce impact
- Integration of the degree programme objectives and implementation into regional development
- Regional/national/international networks

EVALUATION: The degree programme's societal impact and regional development as well as participation by different actors in regional development.

Absent	**Initial**	**Developing**	**Advanced**
The degree programme lacks evidence on societal impact and regional development	The degree programme has evidence on societal impact and regional development	The degree programme has clear evidence of societal impact and regional development	The degree programme has systematic, long-term, recognised evidence of societal impact and regional development

SUMMARY: Societal impact and regional development

Strengths	**Development areas**

Overall evaluation of the curriculum and examination of the degree programme through permeable themes:

- Lifelong learning (skills for continuous learning)
- Entrepreneurship (skills for entrepreneurial activity and functioning as an entrepreneur)
- Internationality (skills for international activity)
- Sustainable development (social, economic, cultural and ecological)

FUAS
FEDERATION
OF UNIVERSITIES
OF APPLIED SCIENCES

The FUAS federation – Federation of Universities of Applied Sciences – is a strategic alliance established by Häme, Lahti and Laurea Universitites of Applied Sciences

HAMK
HÄMEEN AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES

LAHDEN AMMATTIKORKEAKOULU
Lahti University of Applied Sciences

LAUREA
AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES

The international FUAS curriculum review is one step towards the strategic intent of FUAS for 2020. The purpose of the review was to support the quality work of degree programmes. The curricula were evaluated as a whole in relation to national and international targets, the vision and strategic focus areas of the FUAS alliance and the strategies and focus areas of the UASs themselves, RDI in particular. The review was based on a sample of 12 programmes from the FUAS institutions (four from each), and one of which in each institution was a master's programme. The report combines the strengths, development areas and best practices of the participating degree programmes.

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