

BaLaMa Report

Introduction	p. 2
Summary of recommendations	p. 3
Profiling the Universities of Applied Sciences	p. 6
General set of descriptors drawn up from the country reports	p. 8
Part 1 Analysis of the country reports	p. 10
Part 2 Country reports	p. 16

THE BACHELOR FOR THE LABOUR MARKET: the flexible response to the needs of the labour market

Introduction

The network

This report has been written by a group of representatives of associations of professionally oriented higher education and applied sciences (rectors' conferences) in 7 member states of the European Union (Austria, Denmark, Estonia, Finland, Germany, Ireland and the Netherlands) in cooperation with Switzerland. Within the European Socrates programme of the European Commission the members of the network have agreed to share and discuss their work in the field of professionally oriented higher education and applied sciences by collaborating in a European project.

Goals

A main target of this project, labelled the *Bachelor for the Labour Market (BaLaMa)*, has been the clarification of a European profile of professionally oriented higher education. For this purpose the network has made an analysis of similarities in higher education in the eight participating countries. From these similarities, a common profile and common objectives have been formulated. Also a set of general descriptors has been devised, which could fit the European Qualification Framework.

Next to conducting research into a common European profile for professionally oriented higher education and applied sciences, the specific link with the world of work has been a major topic of interest. This, in order to provide tools for dialogue with the world of work.

Last but not least, the network has provided a platform for the universities of applied sciences to exchange best practices in the field of higher education. This took place during the international Berlin conference in March 2007. Peer-learning activities focussed on topics like broadening access, contacts with the labour market, applied research and internationalisation.

Content

This report consists of two parts. The first part provides an analysis of the factual information in the individual country reports, focusing on a number of selected themes as determined by the participants of the project. Based on this analysis some recommendations are made. These form the start of our report, together with a summary of the shared profile and an overview of the set of general descriptors. The second part of the report comprises the factual information on the nature of professionally oriented higher education in the eight participating countries. This has been compiled in eight country reports by the participating rectors' conferences.

Inviting you

With this European project we have wished to state more clearly what UAS have to offer, to provide tools for dialogue with the world of work and policy, and to bring together UAS on a European level. Associations from other countries with institutions offering professionally oriented higher education and applied sciences are welcome to join the network.

Summary of recommendations

In this report we explore the way the institutions respond to the needs of the labour market. Obviously there are differences between the countries. The legal systems and the mechanisms that are in place differ. The history of the institutions also varies widely. But the common denominator is that our institutions play an important role in their society and in higher education because they provide education and conduct applied research that is relevant to the needs of the labour market, regionally, nationally and internationally.

We want to preserve this responsiveness of our institutions to the needs of the labour market. The findings and outcomes of this report strengthen us in our conviction that we will be able to do so in future, but that some recommendations for improvements, both at the national level and at the European level, can be made.

1. The study programmes in our institutions are and will remain relevant to the labour market, on the regional, national and international level. The way this is achieved may vary in the countries, but some essential elements are common to all countries. Study programme are in most countries generally started after there has been a process to determine the need for that particular study programme in the labour market. *The world of work is an integral part of our curriculum*, but the way in which this is achieved shows a wide range of solutions: from internships for students to external examiners at final examinations, mandatory previous experience of the teaching staff, or applied research. A good indicator for relevance is the fact that our graduates generally have no difficulty finding a job.

In all our institutions the bachelor master system has been introduced. *We believe that a gradual growth of master study programmes is necessary to continue to address the needs of the labour market, both in the field of initial education and in the context of life long learning.* In the long run PhD programmes may be an option.

2. An up to date national framework of qualifications that reflects our responsiveness to the needs of the world of work continues to be vital. Because the mechanisms to establish and continue such a framework are a national matter, countries differ in the way they have built a framework. Common to all countries is the fact that *the responsiveness to the needs of the world of work is and should continue to be in balance with educational autonomy of the institutions.* Intensive interaction between our institutions and the world of work is in our opinion favourable to the needs of the labour market and the curriculum of our institutions, but the final say in educational matters should rest with the institutions. The framework of qualifications is primarily a responsibility at national level and subject to the legal framework in each country. There is a wide variety of mechanisms, reflecting the variety in educational traditions in each country and there is no need to change that. Because of our cooperation in writing this report we realised that we can benefit from an exchange of views and best practices between the countries. Initially the conference in Berlin in March 2007 has provided such a platform, and *we identify the need for a more permanent platform. The platform should not only consist of higher education institutes. Also organisations from the world of work should be invited to participate, as well as government officials.*

3. In all 8 countries a binary system of higher education exists with traditional fundamental research oriented universities alongside professionally oriented institutions of higher education and applied sciences. We see that the binary system is not static but dynamic and interesting developments are taking place.

The focus on the region and on applied research is being strengthened in all countries. The pace of this development varies in each country but the trend is unmistakable. *Our institutions are playing an important role in the innovation of enterprises and industry, with in most countries a specific focus on the region. This role could be further strengthened if in some respects a better level playing field in higher education would be established.*

This is particularly needed in the field of applied research with a regional focus. This type of research is primarily carried out by the institutions of professionally oriented higher education. In each country the focus is mainly on contract research, but research funded by national (research) bodies also occurs. Research requires an infrastructure (qualified staff, facilities, ability to win contracts etc). In many countries institutions of professionally oriented higher education and applied sciences are in the process of building up a sound applied research base. Where research is funded nationally on a competitive basis the traditional universities are generally speaking more successful because of their better infrastructure. We feel that it will take some time before this situation will have improved. Our national governments should recognise this and we therefore call for the introduction of special national research funds for professionally oriented institutions of higher education. Such funds already do exist in some countries.

In the field of research and other programmes at European level no distinction is made between types of higher education institutions. Several professionally oriented institutions of higher education are successful in carrying out projects funded by EU programmes, but on the whole traditional universities are (far) more successful. We therefore call for a sufficient, adequate and continuous financing. Especially in the field of research and innovation only continuous work can disembody into achievements which can satisfy the continuous growing request of the world of work in this respect.

4. The importance of a regional orientation of our institutions is evident. Study programmes as well as research should be relevant to the regional (small and medium) enterprises and industry, and the public sector. Where possible this orientation should be strengthened, together with the international scope. But it should be kept in mind that the extent to which institutions of professionally oriented higher education and applied sciences can fulfil their regional mission is determined by the conditions in their region.

The concept of region however is not uniform or clear-cut, simply because countries vary widely in population and size. In addition, the legal status of regions varies. Swiss cantons e.g. are by tradition very autonomous with powers in (higher) education while Dutch provinces play a very insignificant role in (higher) education. Metropolitan areas are different from rural areas. This means that metropolitan areas will have more institutions, particularly in countries where the average size of an institution is relatively small. More institutions can lead to more competition.

This diversity will influence the scope and range of activities employed by the institutes of the various countries. Furthermore it should be kept in mind that regional orientation does not mean a lack of (inter)national scope in study programmes.

Orientation on the region often implies a global orientation as well, because of the international contacts that are necessary to enterprises. Some countries, like Germany and Austria, also stress such a national and international scope of the study programmes: whereas the students mainly come from the region where the institute is located, courses go beyond the regional focus. In a globalizing world, students from the institutes for professionally oriented higher education and applied research have to be prepared to work in an international context. Therefore education is focused both on the regional needs and the global perspective.

5. We have made the observation that in the regions of each country a good system of interaction between our institutions and the labour market exists, but that at EU level however there is not such a platform in place to discuss overarching issues and problems that are common to the regions. One such overarching problem is the fact that our institutions are generally speaking participating adequately in the EU regional programmes, but that *on EU level no research programme exists that could cater for the needs of regionally oriented applied research. A EU platform consisting of organisations of professionally higher education and applied research, together with organisations representing the world of work could address these issues and we are willing to work towards the establishment of such a platform.* Support of the European Commission would be a great asset for the realisation.

6. A substantial number of our students have a background in secondary vocational education. This way social groups that have so far lagged behind, are able to gain access to higher education. *Our institutes thus have an important role in widening participation, and educating the first student generation of migrant groups in society.*

In addition, it is important to keep track how graduates find their way to the labour market. An important tool to do so are tracer studies, combined with the alumni policies of the individual institutions. It is clear that in most countries these studies are not conducted on a regular basis. In this respect we call on the national governments of the countries in question to facilitate these studies. Furthermore, few institutions have an alumni policy. As mentioned above we believe that an alumni policy at institutional level is a necessary component to national tracers' studies. We therefore urge the institutions to set up such a policy. *Sharing the experience of countries that have conducted tracer studies could be a first step to a more systematic approach in all the countries.* We also plead for a role of the European Commission by providing seed money for a project to share the experience.

7. We are committed to expanding our network to other European countries, not by setting up a formal organisation or association, but by providing a platform where existing associations, organisations and institutions with relations to professionally oriented higher education and applied sciences can exchange views and ideas on the issues that bind them together. *This means that our platform is not only open to higher education institutes. Organisations from the world of work are also invited to participate, as well as government officials.*

Profiling the Universities of Applied Sciences

The members of the European network for Universities of Applied Sciences share and discuss their work in the field of professionally-oriented higher education and applied sciences. One of the network's main targets has been to analyse similarities in the higher education on offer. These similarities have been used to formulate a shared profile and shared objectives.

Employability

The universities of applied sciences (UAS) provide higher education for professionals who are immediately deployable in professional practice. They guarantee their students optimal alignment with the field of work via, for example, placements and graduation assignments and practice-oriented research. This alignment is also achieved through the use of guest lecturers from the business sector, and by employing lecturers who are also active as entrepreneurs in the business sector or the public sector. Universities of applied sciences also consult closely with the field of work on curriculum development. The effectivity of this approach is clear from the fact that graduates usually find appropriate employment quickly and employers are satisfied with them.

Example: Company-linked Bachelor Programmes (Berlin School of Economics, Germany)

The Berlin School of Economics offers co-operative programmes that consist of the attainment of theoretical expertise, but also practical components beyond the classroom. The programmes can be broken down into six theoretical semesters and six practical phases, which are contingent upon them in terms of content. The theoretical semesters consist of lectures, seminars and projects and take place on campus. The practical phases take place within companies participating in the programme. Throughout their studies, students are employed by companies, which supervise and pay them. Therefore, prospective students must have a contract with a company in order to gain admission to the programme. Within this dual concept, the coordination of theoretical semesters and activities within companies is of vital importance. In order to accomplish this task, sufficient human resources must be available. In 2006, the company-linked Bachelor programmes were accredited successfully with 210 credits, which are attained after six semesters.

Socially-Relevant Innovation: Applied Science for Education and Innovation

The themes for practice-oriented research stem from current social issues and developments. Issues that concern large groups of people, companies and (public) institutions and demand creative solutions. The current nature of these issues is reinforced if trade associations and professional organisations, but also individual companies and institutions, themselves put forward specific issues for research and resolution to universities of applied sciences. By actively involving entrepreneurs and professionals in both the research question and the research itself, universities of applied sciences are increasing the chance that companies and institutions will use the research results obtained to strengthen and increase their innovative strength. By extending their practice-oriented research, universities of applied sciences can further safeguard the quality of the tuition offered by them.

Example: Competence Centres (Fachhochschule Vorarlberg, University of Applied Sciences, Austria)

To promote research activities at the University of Applied Sciences Vorarlberg, three research centres have been created. These centres have been equipped with state-of-the-art infrastructure (e.g. a cleanroom and micro fabrication facilities), dedicated research staff with reduced teaching obligations and an annual research budget of 2.5M€. Research focuses on micro technologies, process and product engineering and user-centred technologies. In approximately 30 projects, 41 researchers are working on application-oriented problems for regional as well as for international partners and companies. Close interaction between research and teaching guarantees a modern, application-oriented education for students at the highest level of science and technology. The research centres have been established with grants from the European Regional Development Fund (ERDF), a dedicated grant programme for the development of research structures at universities of applied sciences by the Austrian government (FHplus) and grants from the State of Vorarlberg.

Regional, National and International Focus

In general, universities of applied sciences are knowledge institutions with a strong link with the business sector and public institutions in their regions. At the same time, knowledge development and application, entrepreneurship and innovation are increasingly taking place in an international context. As such, students at universities of applied sciences must also be given an international perspective in their programmes. Because of this, universities of applied sciences are combining a regional focus with a national and international orientation. Examples are international placements, joint programmes and double degrees with other countries, and international student and lecturer exchanges.

Example: Distributed Interdisciplinary Design Education in a Network of International Universities (University of Applied Sciences Northwestern Switzerland)

For years, industry has been demanding to see educators in architecture and product design “teaching the fundamentals” of global enterprise engagement and the skilled use of information and communication technology. The Project Oriented Learning Environment (POLE) is one reaction to these demands and proposes a project-based learning platform that tackles real world tasks through collaboration between multidisciplinary and internationally composed teams. Based on a socio-constructivist approach, the POLE environment promotes the acquisition of knowledge on the basis of users’ experience and via shared activities in a collaborative environment, which promotes joint projects. A highly interactive environment with advanced communication tools fosters the realisation of virtual innovation projects by project teams. Besides theoretical issues, discussion will include the framework of real projects, originating from architecture as well as product design, which were carried out within the POLE framework. The environment brings together students and faculties from an international network of universities and industry partners to build a knowledge pool and a space for interaction and learning. Added to this, the presentation outlines the development of digital libraries and their use in the course of re-design processes in architectural and product design using modern information and communication technologies.

Widening Participation in the Context of Lifelong Learning

The universities of applied sciences are working towards the maximisation of the number of students in European higher education, both in the field of initial education and in the context of lifelong learning. This is done by means of specific admission routes from vocational education and the training sector, flexible study programmes, talent programmes for students from a less advantaged socio-economic background, cooperative programmes and by using schemes based on the acknowledgment of prior experiential learning (APEL). This also enables universities of applied sciences to accommodate non-traditional, older and part-time students. For professionals engaged in lifelong learning, the Master programmes offered by universities of applied sciences are particularly gaining in importance, as they focus on complex professional practice and on practice-oriented research. PhD programmes, such as those offered in Ireland, may be an option for the future.

Example: Masonite Ireland and Institute of Technology Sligo: bring the Campus to the Factory (Institute of Technology, Sligo, Ireland)

Masonite Ireland, a subsidiary of Canada’s Masonite International, has devised an innovative employee development initiative, which it calls Campus to the Factory. In 2002, Masonite Ireland implemented a business improvement plan, which required cost and technical improvements. The company required ‘best value and results’ from employee training and development. It faced some significant challenges. The company’s facility is located 37 miles away from the nearest third level institution, in Sligo. A large number of Masonite’s 255 employees worked rotating shifts, and many had not gone on to third level education after completing their secondary education. The company’s solution was to bring the educators to the factory, to deliver tailored college courses for employees on site. This programme was delivered through a pioneering partnership with the local third level college, the Institute of Technology, Sligo, which provided a National Certificate in Combined Engineering course, on-site. Nineteen employees graduated from the National Certificate course and seven of these employees went on to study for a Degree in Mechatronics, a combination of mechanical and electronic engineering. By April 2005, Masonite had introduced a second degree programme, a BSc in Manufacturing Management designed specifically for the processes used at its wood engineering plant. The Campus to the Factory programme offers Masonite employees “a unique opportunity” to study subjects leading to recognised, university level qualifications through a programme of on-site courses.

Example, Unearthing hidden talent, The Hague University (THU) /TH Rijswijk, The Netherlands

The Talent Development programme focuses specifically on school children for whom the step to higher education is not self-evident. The University is looking to unearth hidden talent by informing these children, their parents and teachers about higher education and the study choices that they have. Once at university, students who are successful in their studies support new first-year students in the role of mentor, tutor, advisor and homework assistant. Tutors are trained and rewarded for their efforts with study points. The result: new students receive assistance and students enhance their value for the job market by attaining competencies that they would not otherwise attain.

Quality Assurance

Universities of applied sciences want to commit themselves to the development of effective European quality assurance. These institutions will benefit enormously from uniform agreements on the comparison, recognition and appraisal of programmes and applied research. The universities of applied sciences feel that it is important to work with trade associations. This enables universities of applied sciences to ensure that the curriculum used by them is in line with (quality) developments in the field of work.

General set of descriptors drawn up from the country reports

Bologna Framework	EQF Level	ECTS	Qualification
First cycle	6	180, 210, 240	Bachelor in professionally oriented higher education and applied sciences

Competences	Descriptors
Professional knowledge and understanding	Use broad and integrated knowledge of the scientific basics of a professional field of learning. Combine theoretical and practical knowledge of current problems, applications and new insights in the world of work, which sometimes are at the forefront of the professional field. Able to use international sources of information and understand the effects and opportunities of internationalisation.
Innovative	Demonstrate a critical understanding of the most important theories, principles, methods and tools in a complex and specialised professional field. Show profound knowledge of the basic principles of applied research and of the current applications and developments in this specialised field. Conduct small-scale research and project work applying existing knowledge of the field. Develop an initiating and proactive method of working in the associated profession sustained by legitimate arguments. Understand demand driven operations and possess entrepreneurial skills.
Organisational	Dispose of knowledge of the basic principles of organisational management, leadership and supervision tasks. Demonstrate knowledge of the methods of working life and operate in complex working communities and changing environments. Recognise and utilise available learning opportunities and scopes for action. Possess capability to take over responsibility in a team.
Learning	Capable of self-evaluating own competences and define development and learning needs.
Communicative	Able to function in the communicative and interactive situations typical of the professional field. Adapt communication to innovation requests from society. Formulate subject-related positions and solutions and sustain them with reasonable arguments. Compare information, ideas, problems and solutions with specialists and non-specialists.
Social and ethical	Dispose of knowledge of the socio-economic interdependence and influence of the organisations in the professional subject field and able to put this in the regional, national and international context. Demonstrate operational experience in multidisciplinary teams. Able to apply the value systems of the subject field and to develop sensitivity for innovation demands from society. Use knowledge of language and culture to operate in an international context.

Bologna Framework	EQF Level	ECTS	Qualification
Second cycle	7	60, 90, 120	Master in professionally oriented higher education and applied sciences

Competences	Descriptors
Professional knowledge and understanding	Deepened or enhanced knowledge of the scientific basics of a professional field of learning. Systematic understanding and critical awareness of current problems, applications and new insights in the world of work, informed by the forefront of a professional field. Apply knowledge and understanding to new and unfamiliar situations and in a broader or multidisciplinary context. Cope with incomplete and restricted information. Integrate knowledge and handle complexity in the practice of the profession. Develop autonomous ideas. Able to apply international knowledge in the learning field and possess an overview of the position and importance of the profession in the international environment.
Innovative	Demonstrate a systematic understanding of the most important theories, principles, methods and tools in a complex and specialised professional field. Master the methods of research and innovative work. Capable of independently carrying out R&D projects in a complex and specialised professional field and in response to the needs of society. Activate knowledge through interaction with society and develop structured partnerships with businesses and the public sector. Able to start and implement change processes. Able to start profitable and customer-focused projects.
Organisational	Dispose of knowledge of the organisational and work cultures and able to participate in intra-organisational and inter-organisational coordination, development and management. Capable of evaluating the operations of a work community and to plan, organise and develop activities in a changing and complex work environment. Anticipate changes and needs for change. Can take over superior responsibility in a team.
Learning	Capable of self-evaluating own competences and expertise in a systematic way and to define development and learning goals. Equipped for life-long learning and understand and self-direct own learning process. Acquire new knowledge and skills autonomously.
Communicative	Able to function in different and multidisciplinary communicative and interactive situations typical of the professional field. Can create professional networks to detect and accommodate innovation requests from society. Communicate conclusions, solutions and underlying information and motives clearly to specialists and non-specialists, at the actual level of research and application.
Social and ethical	Dispose of deepened and practical knowledge of the socio-economic interdependence and influence of the organisations in the professional subject field and to put this in the regional, national and international context. Demonstrate complex operational experience in multidisciplinary and preferably international teams. Able to apply the value systems of the subject field and to utilise possibilities of societal influencing. Aware of innovation demands from society. Use knowledge of language and culture to operate in diverse international environments.

PART 1 ANALYSIS OF THE COUNTRY REPORTS

Following the submission of the individual country reports a number of themes were selected at the seminar of the project group in Dublin in June 2006 in order to give focus to the analysis of the information that had been compiled. Despite the differences in culture, traditions, legal systems etc. between the countries, it became obvious that the themes reflect issues that are shared by all institutions.

1. Curriculum

Mission and orientation

Legally all institutions of professionally oriented higher education and applied sciences are required to cater for the needs of the world of work. In most cases this is specified in terms of the region served by an institution. However, the concept of a region is usually not defined, with regions varying in size and composition. Estonia is basically too small to think in terms of regions, Germany has very strong Länder with legal powers in higher education which can fall in or comprise different regions. The extent to which institutions of professionally oriented higher education can fulfil their mission is determined by the conditions in their region. Metropolitan areas differ by nature from rural areas. It will make a difference if you are situated in a region with a traditional university or if you are the only institution of higher education in the region. Differences in emphasis also occur. In Switzerland there is a very close connection between the institutions and the professional world concerning study programmes and research for the world of work, while in Germany the institutions of professionally oriented higher education tend to put more emphasis on the importance of applied research, next to the professional orientation.

Input and content

The curriculum of all institutions is expressly designed to meet the needs of the labour market. In most countries this goes together with a particular focus on the region. In that way the institutions of professionally oriented higher education and applied sciences differ clearly from traditional universities. The strong orientation on the needs of the labour market is expressed in different ways. There are common features, which are listed below, but it should be stressed that most countries grant their institutions much autonomy to select its own mix of measures. It should also be born in mind that, however strong the orientation on the needs of the labour market may be, the final responsibility for the design and content of the courses in all countries should lie with the institutions. From time to time (as was recently the case in the Netherlands) national employer organisations claim a more structured influence on the curriculum from the world of work.

Most departments in Germany, the Netherlands, Estonia, Ireland, Finland and Switzerland have advisory bodies consisting of representatives of industry and the non profit sector. They are consulted on issues related to the curriculum. In Austria the relevance of study programmes to the industry is stressed, because by law new study programmes are designed by teams of experts consisting of at least two academics and two representatives of the world of work. Input from the world of work in designing new study programmes in the Netherlands is frequent, but not a legal requirement. In Ireland industrial panels are used to ensure the relevance of new courses and industrial peers are involved in new course validation and quality reviews of courses. In Denmark national legislation determines the framework for design and content.

Internships

Internships (or work practice) are an integral part of the curriculum of the bachelor phase in all countries. The extent to which they occur varies among study programmes. In Germany for example, one internship of six months is mandatory. In most countries however internships are not mandatory in the legal sense of the word. They are supervised by the institution and vary in length from weeks to months. Most are scheduled after the first semester or even later because it is felt that students should have some theoretical background. Internships in Ireland are sometimes mandatory in study programmes like nursing and social work. In Estonia practical work in a study programme should comprise at least 30% of the curriculum. In some countries internships are at times replaced by practical work in the laboratory of the institution itself and may involve partners from the professional field. In all countries the world of work plays a role in assessing the student during the internship. In Austria the students in all Bachelor study programmes can only pass if the company testifies that the student has successfully completed the internship.

Requirements for teaching staff:

In all countries an academic degree is required to become a member of the teaching staff (from lecturer to professor). Work experience sometimes is also required, like in Germany and Austria where professors are only appointed if they have completed 5 years of professional activity. In Switzerland such a requirement also exists for teaching staff for the professions: they are required to have a minimum of 5 years of professional experience. In Germany, moreover, a PhD is generally required. In Estonia the requirements for staff at universities of applied sciences are the same as those for the universities, plus an additional requirement of 3 years of work experience. In Ireland new staff at the assistant lecturer level is required to demonstrate a minimum of three years of relevant experience after they earned their degree. In the Netherlands and Denmark there are no such formal requirements, though institutions favour hiring teachers that have work experience. In Finland all teaching staff should have 3 years of working experience. In Austria part time staff who also work outside the institution, are an important part of the teaching staff. Part time teaching staff are also common in the Netherlands, Estonia, Germany, Switzerland and (to a limited extent) Denmark.

2. Labour market orientation

Qualifications and professional bodies

In this report a distinction is made between professional profiles which are part of the world of work on the one hand, and competence profiles which are part of higher education on the other. Professional profiles comprise standards needed to be successful in a particular profession. Competence profiles express the learning outcomes of study programmes. Competence profiles are widespread in all countries. By contrast, professional profiles occur only in a limited number of countries. They are generally drawn up by national bodies.

In Estonia and Austria professional standards (or analysis of competences) are developed by involving the world of work. These standards are the basis for curricula.

In Estonia there is an Estonian Qualification Authority, which identifies 5 levels of professional qualifications.

In Ireland the National Qualifications Authority has devised a National framework of educational qualifications. This framework has 10 levels encompassing all of education. It has recently been aligned to the new European Qualifications Framework. Bachelor awards are at level 7 and 8 (honours). Level 9 is masters and level 10 doctoral. The framework relates all education and training awards. Professional bodies in Ireland do not generally draft professional profiles but assist in designing study programmes, act as member of validation panels etc. In some cases professional bodies, like accounting, engineering and nursing, play a more formal role and have defined a professional profile. These bodies generally work in co-operation with institutions and use academic awards as a basis for or as part requirement for awarding a credential (or licence) to practice a profession and thus play an important role in education.

In Finland a national framework on qualifications will be finalised in the near future. It will comprise generic competences and subject-specific competences. In Denmark a national qualification framework is being developed. It consists of a competence profile, an outline of the competence outcomes and formal conditions such as admission requirements, course duration etc. Professional profiles are sometimes elaborated, but so far there is no link to the competence profiles.

In Germany a national qualifications framework has recently been adopted. This framework is a joint initiative of the German Rector's conference, the Federal ministry of Education and research and the States. It defines the qualifications on 3 levels: bachelor (6-8 semesters) master (2-4 semesters) and doctorate. The traditional integrated courses are defined at master level (10 semesters)

In the Netherlands institutions develop competence profiles for many study programmes, but the way this is done varies from institution to institution. Sometimes departments cooperate nationally through the association of institutions (HBO-raad). Competence profiles should ideally be linked to professional profiles, but that is only the case in certain fields. In particular, where the Dutch government has regulatory powers in the profession (teacher training, health) professional standards play a more important role than in other professions. Validation of competence profiles by the world of work is often a formal process, but the final responsibility lies with the institutions.

In Switzerland, the three rectors' conferences of the universities, the universities of applied sciences and the universities of teacher education will jointly work out a national qualification framework for the higher education level in the near future.

Quality assurance

In all participating countries quality assurance is part of the structure of professional higher education. The form quality assurance takes, varies from country to country. Evaluation of study programmes or institutions occurs in all countries, but in some countries this process is followed by formal accreditation. In these countries formal independent accreditation bodies exist, such as Austria, Germany, Switzerland and the Netherlands. The composition of these accreditation bodies varies, but in Austria half of its members originate from university and half from world of work.

In the Netherlands representatives from the world of work also sit on the governing board of the accreditation body, but there is no fixed number. Accreditation is granted on the basis of reports by evaluation committees, of which representatives from the world of work are part. The period of accreditation for a study programme is limited in Austria to 5 years. In the Netherlands this is 6 years. In both countries funding of study programmes is based on accreditation. Existing study programmes that lose their accreditation will not be funded anymore.

In Estonia international expert committees evaluate the institutions on a periodical basis, but an accreditation body as such does not exist. In Ireland the role of quality assurance in the professionally oriented sector is played by a qualification (degree) awarding body the Higher Education and Training Awards Council (HETAC). Following procedures laid down in the Qualifications (Education and Training) Act 1999 HETAC has delegated degree awarding powers to the Institutes of Technology. HETAC remains the degree awarding body for the private Higher Education sector.

In Finland the Finnish Higher Education Evaluation Council (FINHEEC) conducts evaluations of the institutions.

In Denmark accreditation is granted by the ministry of Education, but an independent National Accreditation Institute is proposed. In Denmark peer review of student examinations is part of the system of quality assurance.

Quality assurance and new study programmes

In Austria and Germany the accreditation council has the power to approve new study programmes. That is also the case in the Netherlands, where funding is linked to accreditation. Technically institutions can start a newly accredited study programme without funding, but in practice that only occurs in the field of masters study programmes. In Switzerland, new study programmes which are not on the list of the relevant ministry have to get an approval to run the programme and need an accreditation within three years after the start of the programme.

In Ireland institutes, under their quality assurance arrangements with HETAC, agree the internal processes they will apply for new study programme validation. Industrial or commercial panels are used to ensure new study programmes are relevant to the world of work.

Guest lecturers/External lecturers

This is a common phenomenon in many countries. In Switzerland, Austria and the Netherlands teaching staff in certain departments work both in the institution and in the professional field. Staff exchange between institutions and the world of work are not common in Ireland and Denmark.

External examiners

External examiners are a means to secure the influence of the world of work in higher education. In Estonia and Ireland industrial representatives are engaged on a regular basis as external examiners. In Finland a final examination as such does not exist, but the units of which a study programme is built, are assessed separately. In several units external examiners are involved in the assessment.

In Switzerland representatives from the professional field sit on examination boards in certain departments. External examiners also occur in certain fields where entrance examinations are in place.

In the Netherlands some departments have external examiners. In Denmark external examiners are widely used.

Governing bodies

In some countries like Ireland, the Netherlands, Austria, Denmark, Finland and Switzerland the world of work is represented in the governing bodies of the institutions. In some cases this representation is a legal requirement.

Admission requirements:

In Germany, Austria, Finland, Switzerland, the Netherlands and Denmark admission policies in professionally oriented higher education allow for students with a background in secondary vocational education. This way students with a more practice oriented attitude can gain access to higher education for they meet a certain extent of work experience.

Special study programmes

In most countries institutions engage in specially designed study programmes for companies, non profit organisations and (local) government. Adult education and study programmes that alternate education and work ("dual courses") are also common.

Tracers' studies

National tracer studies, combined with the alumni policies of the individual institutions, are an important tool in determining how graduates find their way on the labour market. In Estonia surveys of employers' satisfaction are conducted on a regular basis. In Switzerland success and satisfaction surveys are conducted by some institutions. The Confederation undertakes a monitoring study of the careers of the graduates of universities and universities of applied sciences every two years. In the Netherlands an annual survey In the Netherlands an annual survey (HBO-Monitor) is made among graduates of professionally oriented higher education, monitoring the careers of these graduates. This survey has in general delivered relevant information, but improvements are being discussed.

In Ireland each year a national survey (First destination of award recipients in higher education) is carried out among the new graduates.

All countries report low unemployment rates for their graduates. Few institutions report the existence of an active alumni policy.

Other mechanisms

In Estonia from 2008 three year performing contracts between the ministry and the institutions will be introduced. In these contracts the needs of the labour market will play an important role.

3. Legal framework

In some countries higher education is a part of an integrated legal framework. That is the case in Germany, the Netherlands and (recently) Ireland. In Switzerland the present separate laws will be integrated in one single legal framework by 2012. In the other countries there is a special law for professionally oriented higher education. Regardless of the legal framework universities and institutions of professionally oriented HE have different orientations. Universities are generally speaking more focused on pure research and award all degrees up to doctoral, while institutions of professionally oriented HE have their focus more on applied research in a regional context and are more aimed at the needs of the professions. With one exception they do not award doctoral degrees. This binary system exists in all 8 countries. The introduction of the Bachelor Master system as such has not basically altered this binary system, but there are some developments. In Germany bachelor study programmes are not differentiated according to the orientations of both branches of higher education. Masters courses in Germany are differentiated (research or professionally oriented), but institutions of professionally oriented higher education are free to choose what orientation they want. In Ireland, Switzerland and Austria there is no differentiation in the degrees according to orientation. The professional orientation of the Irish institutes is expressed in their strong links with their region and their focus on applied research. In the other countries both bachelor and master study programmes are by law differentiated according to the orientation. In the Netherlands institutions of professionally oriented higher education can in theory offer scientific (university type) study programmes, but in practice few do so. The Irish institutions are up to now the only professionally oriented institutions that may award doctoral degrees. But unlike universities the Irish institutions do not in their own right award their degrees, because they only have delegated powers from the Higher Education and Training Awards Council to award degrees. In the other countries, with the exception of Denmark, institutions may award masters degrees.

In some countries (Austria and Germany) the Bachelor Master system co-exists with the older traditional one phase system that has long been in place in those countries. In the other countries the bachelor master system either has been the only system in place (Ireland) or has replaced the previously existing system.

In most countries the ministry of (higher) education is directly responsible for funding. In Ireland the government has recently designated the institutes of technology under the Higher Education Authority. This places the institutes under the same body as the universities. It means more financial autonomy including the right to retain externally earned income and thus facilitating better long term strategic planning. Germany and Switzerland are federal states where the Länder (states) or cantons (regions) have the primary authority over higher education. The federal level has (much) less influence.

4. Research

There are several mechanisms which determine the way research in the professionally oriented sector is carried out. Sometimes the ministry provides special public funds for research in professionally oriented higher education. Sometimes institutions can compete with universities for public research funds. The remainder of research can be characterised as contract research, funded by the profit or non profit sector or by private foundations. Common to all countries is the applied nature of research, the close links of research projects to world of work and the orientation on the needs of regional industries, SMEs and the public sector. Research that is driven by the curiosity of the researcher does not often occur.

Special funds for professionally oriented higher education.

In Germany, Denmark, Finland, Ireland, Switzerland and the Netherlands the ministries of education provide special funds for research projects ring fenced for the professionally oriented sector. These funds are limited and generally do not exceed 10 million Euro annually. For a large country like Germany the funds will probably be increased in the near future to 30 million Euro annually. For a relative small country, Switzerland is doing quite well with support of about 15 million Euro. The funds are administered either by the relevant ministry or by a special agency. In Ireland they are administered by the Council of Directors of the Institutes of Technology. In the Netherlands there is an agency (Stichting Innovatie Alliantie / Foundation for Innovation Alliance). This agency only provides partial funding for the projects that the institutions propose. To stimulate cooperation the institution of professional higher education has to find partners in industry, the non profit sector or intermediate organisations (Innovation agencies, Chambers of Commerce etc) that are expected to contribute financially to these projects.

Public research funds open to all Higher Education Institutions

In several countries institutions of professionally oriented HE are generally not eligible for national public research funds. Where national public research funds are open to universities and institutions of professionally oriented HE, the latter have in practice only a limited share in the funds. In Ireland there is a state development agency Enterprise Ireland (EI), for transforming Irish industry. Institutes work closely with EI. Irish institutes have also received funds from the Science Foundation Ireland, which is a competitive fund for higher education. The Institutes also competed with and/or co-operated with universities to secure state research funding under the Programme for Research in Third Level Institutions (PTTLI)

In Germany both the Federal level and the state level provide research funds that are open to all institutions of higher education. The share of the institutions of professionally oriented higher education in these funds is reported to be modest.

In Switzerland the universities of applied sciences can apply for funds with the same agencies as the universities: the Swiss national foundation of research and the Swiss promotion agency CTI.

In the Netherlands public funds are mostly not open to institutions of professionally oriented higher education. Where they are, the success of institutions in winning contracts for research projects is mostly dependent on their cooperation with a university.

EU funds, both the regional funds and the research funds, are in principle open to all institutions in higher education, but participation from institutions of professionally oriented Higher Education is limited but growing.

Contract research

All institutions are engaged in applied research, which is conducted in close cooperation with the world of work. It generally takes the form of projects of contract research, commissioned by companies, institutes in the non profit sector or private foundations. This is the most common feature of research in the professionally oriented sector of higher education. In some countries it is the only way of research. In Denmark and Finland contract research accounts for the majority of research projects. In other countries research funding is less dependent on contracts and more evenly spread over the various sources.

In general the main focus of this research is the region, but some institutions also participate in national or EU projects. In many countries institutions set up separate units to carry out these projects. In many cases (Estonia, Netherlands, Austria, Germany, Switzerland) students are involved in carrying out the research projects, either during an internship or during their final thesis.

Cooperation with universities

In many countries institutions of professionally oriented higher education participate in research projects with universities. This cooperation is on a voluntary basis. Sometimes, like in Denmark, this cooperation is aimed at dissemination of the results of research.

PART 2 COUNTRY REPORTS

The individual country reports all look into the following issues.

BOX 1 General facts & figures & mission

Country description

- On the basis of the national description for the Diploma Supplement.

Characteristics of the member institutions

- Number of students
- Orientation of study programmes offered in the institutions
- Number and type of institutions
- Research function/mission of institutions

Characteristics of the national HE policy

- One law on HE?
- One ministry of education / research?
- Level of autonomy of institutions
- Funding of education and research
- World of work influence on HE

Characteristics of the national Quality Assurance system

- Role of the ministry/government, national quality assurance institution(s) and the higher education institutions.

Description of the mission of the rectors' conference on professionally oriented higher education

Background of the students

In many countries, professional oriented higher education study programmes receive students from a variable background such as,

- students directly coming from general secondary education
- students directly coming from a vocational education programme
- students coming from the labour market, mature students, sometimes entering on basis of an assessment of prior learning.
- Description of measures dealing with these differences. Description of general policies on the national level.

Description of the national policy strategy towards research activities with the world of work, and the role of the institutions in this strategy

BOX 2 Organisation of study programme

Formal descriptors of professionally oriented education

- At national / governmental level
- At the level of the rectors' conference
- At institutional level
- At study programme level

Explanation of the learning process

- Through measuring the student workload in ECTS
- Through course descriptions in terms of modules, course level, subjects of lectures and/or practical work
- Through the description of learning outcomes in terms of competences (knowledge, attitude and personal skills)
- Through information on career options and/or further study possibilities

BOX 3 Accountability of profession oriented HE

Role of world of work in QA

- Role of the world of work in quality assessment (f.e. participation in peer review, input in review, managing QA organisations, etc)
- Role of world of work in QA-policies (advisors to government, role in accreditation decisions, etc)
- Role of QA in quality assessment of internships

Role of world of work in student assessments

- Representatives involved as external examiners in (final) examination(s)

National tracer studies

- Tracer studies to identify students' success in the labour market and satisfaction with their education in retro perspective

Ability to adapt to changes in the world of work

- Description of the institutions' abilities to adapt to the educational needs of the world of work and the students, and the speed of changing programmes, flexibility and adaptability of institutions.

BOX 4 Process of defining 'profession oriented' higher education

National qualification framework

- Description of national framework of qualifications using educational descriptors

Professional bodies / profiles

- Involvement of the world of work in drafting professional profiles.
- Evaluation of the involvement of the world of work in professional higher education in general

(National) platforms/networks

- Description of existing national platforms/networks where representatives of study programmes meet to discuss common educational issues and common developments in the professions
- Nature of these platforms. F.e. independent formal organisations; independent but informal networks; commissions or working groups within the rectors' conference; commissions or working groups within another national body.
- National discussion leading to a formal decision on core curricula for study programmes

BOX 5 Collaboration with the world of work

Explanation on how institutions work together with the world of work

(companies, institutions, not-for profit institutions and government institutions)

- World of work is represented in the leadership of institutions
- Institutions have educational programmes carried out together with the world of work
- Institutions regularly carry out tailor made education programmes for individual companies or institutions
- Institutions exchange staff with the world of work
- Institutions educate a large number of mature students that are working and studying
- Institutions have regular meetings with the regional representation of the world of work (eg. Industrial Advisory Boards)
- Institutions have special alumni activities

Role of internships in the study programme

- General policy on institutional level concerning internships, including systematic contacts with the world of work. Elements such as the time period for internships, which year(s) of the bachelor programme they take place, the guidance and mentoring during internships from the institution and from the company.
- Responsibility for the assessment of internships. The role of the world of work in supervision and assessment of internships
- ECTS attached to internships
- Quality assesment of internships in general
- Involvement of the world of work involved in QA of internships
- problems / challenges regarding internships?

Preparation of students besides internships for the labour market

BOX 6 Research

Organisation of research projects

- with the world of work,
- main source of research initiatives.
- (The world of work – demand driven; The university – supply oriented)

Regional focus and volume

link between education and research

- Students participate in research projects (f.e during internships or final thesis)
- Enterprise Development Centres within institutions.

BOX 7 Human resource policy

Requirements for staff recruitment and assessment

- Academic or professional competences
- Indicators for the assessment of teachers

Relation of staff with world of work

- Part-time employment within the university and part-time within the world of work
- Contact of staff with the world of work (f.e. through internships)?
- University temporary placements for representatives of world of work
- Guest lectures from the world of work

Organisation of teacher activities within the study programme

- Organisation of the work of the teacher.
- Role of management regarding teachers and education planning

Study programme level: the perspective of an individual study programme.

Civil engineering/construction, social work, and business administration.

Explanation of the learning process

- Through measuring the student workload in ECTS
- Through course descriptions in terms of modules, course level, subjects of lectures and/or practical work
- Through the description of learning outcomes in terms of competences (knowledge, attitude and personal skills)
- Through information on career options and/or further study possibilities
- Use of descriptors in contacts with the government for recognition of degrees awarded and/or with the national bodies for external quality assurance for the study programme

Internships

- general policy on study programme level concerning internships, including systematic contacts with the world of work on this subject
- Elements such as the time period for internships, which year(s) of the bachelor programme they take place, the guidance and mentoring during internships from the institution and from the company.
- Responsibility for the assessment of internships. The role of the world of work in supervision and assessment of internships.
- ECTS attached to internships
- Quality assessment of internships in general
- Involvement of the world of work involved in QA of internships
- Problems / challenges regarding internships

Research

Organisation of research projects

- with the world of work,
- main source of research initiatives.
- (The world of work – demand driven; The university – supply oriented)

Regional focus and volume

link between education and research

- Students participate in research projects (f.e during internships or final thesis)
- Enterprise Development Centres within institutions.

Collaboration with the world of work

- -Description of main partners in the world of work for this particular study programme

Involvement of the world the education process

- They are part of the management of the study programme
- They sit in national education committees, or committees for the evaluation or accreditation of a programme
- The world of work drafts a profile for workers in the field. Our education programme is based on that profile
- They take part in different courses, for example in guest lectures of practical work
- They sit in Industrial Advisory Boards, advising the study programme on regional level
- Existing procedures on the cooperation of the world of work in determining the content of education or the education descriptors of the programme.
- Evaluation of procedures.