PROFILE OF PROFESSIONAL HIGHER EDUCATION IN EUROPE

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Lifelong Learning

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1. Introduction

1.1 Harmonising Approaches to Professional Higher Education in Europe (HAPHE)

The HAPHE initiative aiming at Harmonising Approaches to Professional Higher Education in Europe is a project led by the European Association of Institutions in Higher Education (EURASHE) with a partnership of 10 other organisations active in the field of professional higher education (PHE).

This *Profile of PHE in Europe* contains the first step of the work conducted by the HAPHE partnership, namely the outcomes of our activities aiming at Mapping Professional Higher Education in Europe. The first part with *Profiles of PHE in Europe* provides with the most extensive survey of PHE in particular to date, complete with national profiles of 17 EU member states, specifically: **Austria, Belgium (Flemish Community, French Community), Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Lithuania, the Netherlands, Malta, Poland, Portugal, Slovenia and the United Kingdom (England)**. Based on a standardised template the PHE Country Profiles describe the nature of provision and characteristics of PHE in each of the 16 surveyed countries. The second part with A Typology of PHE in Europe proposes cross-country comparisons, as well as identifies similarities and proposes a typology for classification of the different systems.

This *Profile of PHE in Europe* is available in printed copies, in PDF format as well as an e-book. Moreover an interactive web tool (http://haphe.eurashe.eu/) has been developed to allow for direct access to the data and results of the partnership's work.

1.1.1 Partnership

The partnership of 11 organisations is composed of the European Association of Institutions in Higher Education (EURASHE) (Belgium), the

Baden-Württemberg State Cooperative University (DHBW) (Germany), KIC-Malta (Malta), the Association of Slovene Higher Vocational Colleges (ASHVC) (Slovenia), the Czech Association of Schools of Professional Higher Education (CASPHE) (Czech Republic), TTK University of Applied Sciences (TTK UAS) (Estonia), the Flemish Council of University Colleges (VLHORA) (Belgium), the Assemblée des Directeurs d'IUT (ADIUT) (France), the Conselho Coordenador dos Institutos Superiores Politécnicos (CCISP) (Portugal), the State Higher Vocational School in Tarnow (PWSZ TAR) (Poland), and the Croatian Council of Universities and University Colleges of Applied Sciences (VVIVŠ) *Croatia*.

This *Profile of PHE in Europe* was led by the **State Higher Vocational School Tarnow (PWSZ TAR) (Poland)** with the strong support of the **Baden-Württemberg State Cooperative University (DHBW) (Germany),** the **Knowledge Innovation Centre (KIC) (Malta)** and of the **European Association of Institutions in Higher Education (EURASHE) (Belgium)**, and was made possible by the input of all other partners.

1.1.2 Objectives

While the European Higher Education Area (EHEA) has contributed significantly to the harmonisation of higher education in Europe, the 'professional' higher education sector is still in significant flux. Thus, e.g. 'Fachhochschulen' are increasingly becoming Universities of Applied Sciences while traditional universities are increasingly providing professionally-orientated programmes.

The wide variety of systems which now fall under the umbrella term of 'professional' higher education, makes it difficult to transnationally analyse this sector, hinders recognition of qualifications, and limits the ability of soft-policy tools to strengthen its growth.

The project will position PHE within the lifelong learning spectrum, by mapping it to the European Qualification Framework (EQF) and EU-promoted ranking and typology tools. The area of professional higher education has still not gained the same integration with the EHEA as traditional education, mainly due to the wide variety of provision

methods, qualification levels and disciplines it covers, with wide variations in the definition of the sector between countries. The clear definition of PHE, together with its mapping to transparency tools, will allow it to be clearly positioned within the structures of the EHEA, and hence better participate in its structures.

The involvement of stakeholders in all stages of our work ensures our ability to provide sustainable results by creating a critical mass of consensus, to allow the de facto adoption of the proposals as a standard. By strengthening the PHE sector, and improving the transparency of the PHE provision, the project will enhance employability of European higher education graduates as a whole, contribute towards a more cohesive European Higher Education Area, and support the modernisation of European higher education institutions, through encouragement of increasing responsiveness to enterprise and society.

In strengthening the sector through a process of harmonisation of definitions, and with the incorporation of quality criteria based on linkage with enterprise and society (a key distinguishing feature of PHE), the project will also enhance the contribution of PHE towards innovation.

The objectives of the first stage of the HAPHE activities aiming at Mapping Professional Higher Education in Europe are to:

- Survey the various definitions and practices of Professional Higher Education / Advanced Vocational Education in Europe;
- Create a typology of PHE Provision across Europe;
- Identify the main actors involved in PHE at European level;
- Provide an evidence-base for the characterisation of PHE in further stages of the HAPHE activities.

1.2 Structure

This report is divided into the following sections:

Chapter 2 Foreword – introduces the topic from a theoretical basis, based on the experiences of EURASHE when operating in the sector

Chapter 3 Characterising PHE – considers the different national definitions of PHE, as well as the constituent factors which are said to make up PHE across the continent

Chapter 4 Organisation & Structure of PHE – focuses on the type of institutions providing PHE, the qualifications offered by them and their systems of funding

Chapter 5 Teaching PHE – looks at curriculum design, collaboration with employers and staffing requirements as elements of the successful provision of PHE

Chapter 6 Research in PHE – makes an overview of national requirements for research in PHE, as well as availability of funding for research of PHE across Europe

Chapter 7 Recognition & Transferability – considers whether education in professionally oriented and academically oriented higher education is considered to be equivalent, from the perspective of transferability between cycles

Chapter 8 Concluding Remarks – takes a look at current trends in European Education & Training which may affect the character, nature and/or profile of Professional Higher Education in the coming years

Throughout the chapters, several case studies are presented to further deepen the discussion on the topic.

1.3 Methods

The development of this *Profile of PHE in Europe* followed several different stages of research and analysis.

- **Desk Research on PHE in Europe** was conducted to attempt to identify relevant secondary data sources on PHE in Europe, and consequently use this information to complement the information collected in

the survey. In particular we relied on the General Report from the only other project looking into the field of Professional Higher Education, namely "Bachelor for the Labour Market (BaLaMa)", and data on Higher Education Systems in the Eurypedia operated by the Education, Audio-visual and Culture Executive Agency (http://eacea.ec.europa.eu/education/eurydice/eurypedia_en.php)

- **Qualitative Survey on PHE in Europe** - a detailed questionnaire dealing with the organisation and structure of PHE, defining elements, requirements for curriculum & teaching, requirements for research and more, was filled in by representatives of the Associations of Professional Higher Education or by education-system researchers in 15 countries, namely Flanders, the Czech Republic, Denmark, Estonia, Finland, France, Croatia, Ireland, Lithuania, Malta, Netherlands, Poland, Portugal and Slovenia
- **Quantitative survey on PHE in Europe** - two stakeholder surveys were performed in the spring of 2013, with the purpose of determining attitudes towards PHE and actual practices of PHE in countries across Europe. The first survey targeted internal stakeholders in Higher Education while the second targeted external stakeholders. Over the survey period we received 671 responses from 18 countries

1.4 Access to Data

As part of our commitment to open data, the consortium is making its entire database progressively available through its website at http://haphe.eurashe.eu.

This collection of data includes:

- All questionnaires used in the data collection (qualitative and 2 quantitative questionnaires)
- An interactive comparison tool for browsing and

comparing data from the stakeholder surveys between countries
- Summaries of analysed data from the stakeholder survey
- Country profiles based on the qualitative survey for each country surveyed

All this data is made freely available to researchers, under a Creative Commons Attribution-Non-commercial-Share Alike 2.0 Belgium Licence, whom we invite to test our conclusions, and to study our methods, so as to reach deeper understanding from the rich datasets provided.

1.5 Context of the Survey

These results are of importance for the entire higher education community, providing a focal point on the latest state of the professional higher education provided in Europe. This includes information on the legal framework regulating higher education in the country as well as relevant statistical data. Accompanied by information on the future trends and latest developments this can serve as the most up-to-date centre of information on the topic.

The importance of these results are also to be seen in view of the evidence base they are providing for the further work of our project aiming at Characterising Professional Higher Education in Europe.

Further this first step of the HAPHE initiative will be welcomed in the initiative EURASHE which aims at launching a framework to recognise the excellence of professional higher education institutions in internal quality assurance proceedings (PHExcel).

Moreover this first HAPHE step is consolidating all our efforts in supporting the growth of the sector as such, by applauding their individual strengths and unique features.

This *Profile of PHE in Europe* will serve as the basis for Characterising Professional Higher Education in Europe, the second step of our HAPHE initiative.

This will feed into our future activities building consensus around our results and supporting the growth of the sector throughout Europe.

These results will also be welcome for the conduction of other initiatives

including the initiative EURASHE aims at launching aiming at recognising the excellence of professional higher education institutions in internal quality assurance proceedings (PHExcel).

1.6 Summary

This *Profile of PHE in Europe* provides us with:

- A survey of the various definitions and practices of professional higher education / advanced vocational education in Europe;
- A typology of PHE provision across Europe;
- An identification of the main actors involved in PHE at European level;
- Evidence-based information.

upon which the HAPHE partnership will continue to build by characterising PHE, the next stage in HAPHE activities.

2. Foreword

Stefan Delplace

2.1 What is meant by professional higher education (PHE)?

The term 'professional higher education' is not to be defined. Rather it is a 'passe-partout' word for educational programmes and trainings that exist under different education structures in most European countries. However, at present, there is no sharp, generally acknowledged definition of PHE, and one shall not expect that such definition will appear soon.

The only justification for such a term may then be that throughout Europe there are institutions and programmes that profess themselves as profession-oriented, or want to be styled as such. This is because they recognize themselves in a number of features or indicators that are linked to the predicate 'professional'.

From the above-mentioned absence of any categorization we may conclude that PHE is just part of higher education and therefore operates within the same triangle of education, knowledge creation (research) and services to the community. Another advantage of this approach is that it is possible to define professional higher education without referring to historical levels and (national) (H)E structures, and even not to certain types of institutions and ways of learning. Professional HE can occur in all kinds of institutions in the broad spectrum of academic, professional and vocational strands, in the same way as it can be offered in several modes of learning (next to the traditional ones), such as contact learning, distance learning, blended learning as well as formal and non-formal learning.

Identifying academic institutions with 'highly theoretical courses' and professionally oriented institutions and programmes with 'practical skills development or training' means to disregard the fact that the comprehensive universities have offered and continue to offer vocational trainings such as for prospective physicians, dentists, veterinary surgeons and architects, which are all 'professionals' in their own right.

2.2 Past and present evolutions and trends that influence the current debate on PHE

In past decades, we could witness various convergent and divergent processes in higher education, which have had an influence on what is perceived as professional versus academic higher education. On the one hand, an "academic drift" pushed “many non-academic” institutions to profile themselves as (near) equivalents to the traditional universities, often quite successfully (e.g. as was the case in Germany with the Fachhochschulen).

This out of a fear to be considered (by prospective students and also employers) as being second-class entities in the world of higher education, next to the research universities.

On the other hand, the explosion of the technological and commercial sectors dating back to as far as the nineteen seventies, in combination with a rise of income for middle class families, led to a steep rise of student numbers, which were (to be) trained in the newly established polytechnic-type of institutions (especially in Western European countries). Some of them developed into new (‘red-brick’) universities, after gaining their autonomy from local authorities (as was the case in e.g. the United Kingdom).

Soon a rationale for such type of institutions was developed, in both government and employer’s circles, which was based on the ‘employability’ factor, namely that a skills-oriented training is a guarantee of prospective careers in a well-defined job. This rationale has been upheld till recent times, only to be shattered by the recent economic and financial crisis.

Academic programmes would reluctantly in the beginning and then increasingly in the last decades adopt this reasoning, which meant that a “vocational drift” became apparent in a large number of research universities. The National Qualification Frameworks that have been developed the past few years have strengthened this process, and even highly academic programmes felt compelled to include practical elements into curricula, and in the formulation of learning outcomes.

The above meant that the boundaries between originally purely academic trainings (in some disciplines at least) and the original professional ones became blurred.

From the viewpoint of the PHE sector, there is always a 'general' education content in professionally oriented programmes, as it is precisely this component that makes them belong to 'higher education'. The shift of paradigm to learning outcomes-based programmes, with the right combination of technical or vocational and more general humanistic skills has only strengthened the concept and perception that professional higher education is just a 'variety' of higher education.

A second factor of influence' is the nature and status of the provider. With 'nature' is meant the profile of the institution based on its mission, whereas the 'status' refers to the organizing authority or awarding body (public institution, privately owned or a blend of this).

Professional higher education programmes are found in a variety of settings, which can be (and mostly is) an individual institution providing professionally oriented programmes. Other contexts exist where they are affiliated to or integrated into a 'comprehensive institution', which offers vocational programmes next to academic ones.

The discussion on the situation of 'Level 5' of the EQF in the different national qualifications frameworks is essential, as it is in some countries the interface between vocational and higher education.

At present, different concepts of higher education institutions co-exist now also in the academic range of institutions (from the post-Humboldtian "ivory tower" to the "entrepreneurial university"), and now also 'dual learning' institutions as they came into existing in some of the federal German states, on the model of the long-established vocational trainings.

The so-called 'dual universities', with sometimes mixed 'ownership' of the management are mostly public institutions, which provide a system of shared responsibilities between the public authorities and private companies, who take care of the technical or practical aspects of the

training, while paying the student a salary, who is for this part considered an employee. Such joint initiatives are rare in other countries, as they can only exist if the prevailing economic conditions of a country allow this, which is not often the case in the current economic and financial crisis.

A third important factor is the terminology, as reflected in the name of the institutions, the programmes and especially of the degrees.

For the important shift in the name of the institutions with a clear and long-standing vocational or professional orientation, as is the case with the present 'Universities of Applied Sciences' see further on.

In a number of countries the degree name is linked to the professional or academic orientation of the programmes, with professional and academic bachelors respectively.

In many countries, the degrees "academic bachelor" and "professional bachelor", although classified at the same level of the qualifications framework (1st cycle/EQF level 6) are not fully compatible and direct continuation of second-cycle studies by "professional bachelors" is virtually impossible without 1 to 2 years of "bridging studies".

The occurrence of such a distinction (professional – academic) becomes rarer in the second cycle of the qualifications framework, and is virtually non-existent on the doctoral level. Although countries with a binary system of higher education (in the same way as it exists on the level of secondary education, where we have the terms technical vs. general education), more often have the distinction than is the case for the countries with a unitary (university only) type of higher education.

2.3 Universities of Applied Sciences vs University Colleges

'Universities of Applied Sciences' is a (relatively) new name, which is gradually substituting the original University Colleges, still in use in the UK and other countries that tend to copy the English example. Traditionally, University Colleges are the former Colleges, which were either mono-disciplinary and teaching advanced and specialist vocationally oriented trainings, or else multi-disciplinary colleges that had not (yet)

reached university status, for several reasons: less than five faculties or disciplines, under 5000 students, no doctoral degrees, etc. Nowadays the term UC is mainly in use in the UK for HEIs which are in the above described position and feel comfortable in it, as they have established a close connection with the world of employment, for the specialist trainings they are offering.

The term Universities of Applied Sciences is a translation of the original German Hochschule für angewandte Wissenschaften (HAW). (Hochschulen is also the generic term in Germany for all institutions awarding academic degrees in higher education).

Since the Bologna process started Universitäten and Fachhochschulen (UAS) award legally equivalent academic Bachelor's and Master's degrees. In Germany some (of the largest) Fachhochschulen award doctoral degrees as well.

Both Switzerland and Austria used the same denomination, and the example has been followed by the Netherlands, Finland and the Baltic countries. Other countries, like Lithuania, only use the term to paraphrase their own denominations for the use of their international contacts, but never in a 'home' context, as their own legislation exclusively reserves the term 'universities' for the 'research universities. The same for countries like Portugal (where the 'native' term is Polytechnico) and Ireland (where the 'native' term is Institute of Technology') who consider UAS as a suitable translation in an international context). Others like Denmark, Belgium (mainly Flanders) continue to use the term University College, as the term 'applied sciences' seems to exclude the human sciences (except for economics), and also the Schools of Arts. Croatia appears to adopt a middle-of the road solution, by choosing the term 'University Colleges of Applied Sciences'.

As there is also a lot of research (though of an applied or technological nature) done at Fachhochschulen/UAS, mainly sponsored by industry, the main difference with universities seems to be that only the 'real universities' can award doctors degrees, though some Fachhochschulen/UAS also run doctoral programmes where the degree itself is awarded by a partner university.

2.4 Conclusion

PHE is characterized by the fact that its education and certainly its study programmes are shaped by specific professional goals or needs, in which the contexts of the future professions are clear and the learning outcomes are defined by the professional needs, in terms of integrated competences.

Professional Higher Education may play an important role as an intermediary between Higher Education, VET and the labour market. In particular, PHE institutions are - in a way - "bilingual"; they speak both the academic and professional language, and can thus be key players in the process of a better understanding between higher education and the world of work.

To attain this aim, it is important to elaborate multidimensional characteristics of PHE, with adequate quality indicators, and to make a comparative review of existing HE structures in European countries, identifying also problems and weak points of present systems. This is precisely one of the aims of the HAPHE project.

2.5 Acknowledgements

This Introduction is based on an input by Prof. Marek Frankowicz, PWSZ (TAR) I am also greatly indebted to the EURASHE publication in preparation, by Lucien Bollaert, Manual for Internal Quality Assurance: Practical guide for implementing internal quality assurance processes in higher education institutions.

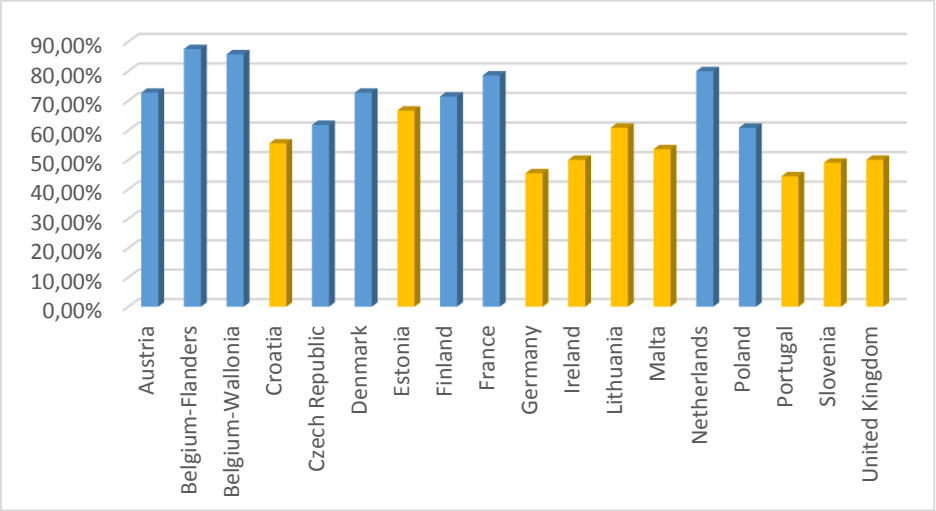
3. Defining PHE

3.1 What is PHE?

As part of our survey, we asked respondents "Is the term Professional Higher Education" clear[1]: 60% of HEIs, 57% of system-level stakeholders and 57% of external level stakeholders found the term clear. This indicates that a significant (c. 40%) of respondents has a poor understanding of the term. A cross-European comparison shows considerable divergence in the term across countries, with Croatia, Estonia, Germany, Ireland, Lithuania, Malta, Portugal, Slovenia and the UK showing particularly low understanding of the term.

This said, in our review of legislation, **all countries distinguish a sphere of education as having a 'professional character'**. This distinction is made in

Figure 1 - % of respondents from HEIs who report having a clear or very clear understanding of the term PHE, by country



[1] Participants rated the statement on a scale of 1-5, where 4 represented 'clear' and 5 represented 'very clear'.

one of two ways:

- By distinguishing professional HE itself, e.g. Croatia distinguishes "professional programmes", the Czech Republic "professional bachelor programmes" and Poland "practical profile".
- By distinguishing professional institutions from universities, e.g. Lithuanian law differentiates College Higher Education from universities and Finland differentiates universities from polytechnics

3.2 What characterises PHE?

Our survey of stakeholders asked participants to characterise PHE by choosing from a set of pre-defined statements. None of the statements received an overwhelming consent from respondents, further indicating the confusion that exists as to the nature of PHE, however, the highest rated statements were the following:

- [PHE is characterised by a] strong focus on practical application of study (59%)
- The curriculum [in PHE] emphasises practical aspects and elements for development of skills and competence (56%)
- The study programme [in PHE] includes extended phases of practical experiences in the form of internships and/or work experiences (56%)

All the other statements presented to respondents were agreed to by less than half of the respondents, namely:

- Combining of academic and professional elements (45%).
- The study programme is focused on practical aspects of the specific job profile (44%).
- Collaboration between HEIs and the Industry going beyond HE provision but also covering research and education (42%)
- Strong Focus on Practical Application of Research (40%).
- HE providing education & training for update/upgrade of qualifications of students with working experience (e.g. in-service training) (33%)

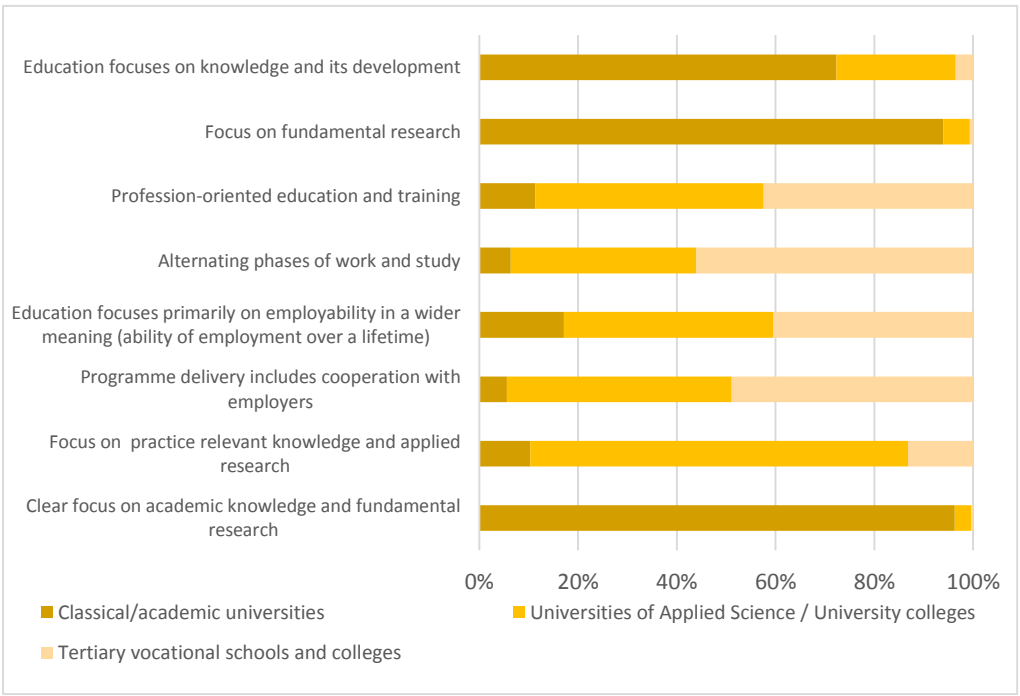
- HE providing qualifications to non-traditional groups (adult learners and, disadvantaged groups with flexible arrangements) (13%)

The last statement in particular merits further investigation, as it refutes the BaLaMa finding that a key role of Universities of Applied Science is in widening participation in lifelong learning through the accommodation of non-traditional, older and part-time students.

A clearer picture emerges when we asked participants to position a number of characteristics primarily within the academic universities, universities of applied sciences or tertiary vocational schools and colleges. Here we find that participants predominantly consider academic higher education to focus on knowledge and its development as well as on fundamental research. Professional HE are seen as focusing on profession-oriented education and training, alternating phases of work and study, employability, programme delivery in cooperation with employers and on practice-relevant knowledge and applied research.

Our review of legislation provides

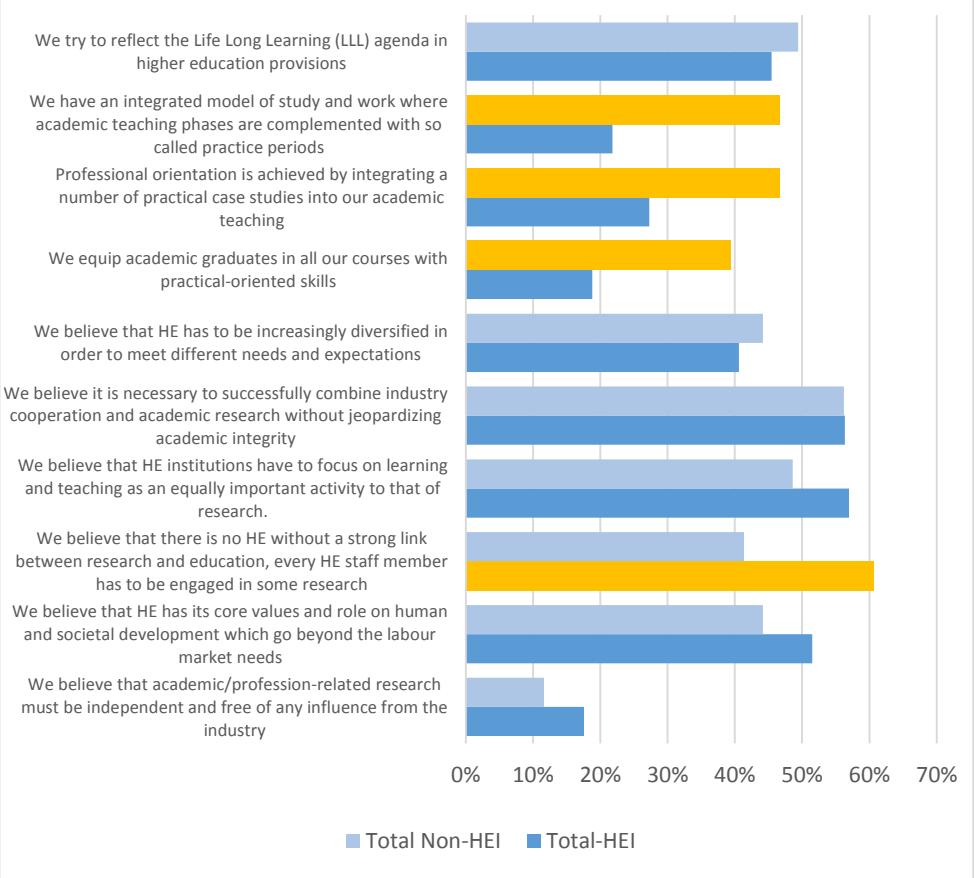
Figure 2 - Institution most associated with various characteristics. (Choice of only one institution-type), %



further hints as to what characterises PHE, with all versions of the legislation making a link to the labour market. Thus, e.g. in Slovenia, Vocational Colleges have the mission to "on an internationally comparable level, provide knowledge and skills needed for work and further education" and in Ireland Regional Technical Colleges are to "provide vocational and technical education and training for the economical, technological, scientific, commercial, industrial social and cultural development of the State".

Finally, we asked respondents from HEIs to characterise a set of statements based on the validity

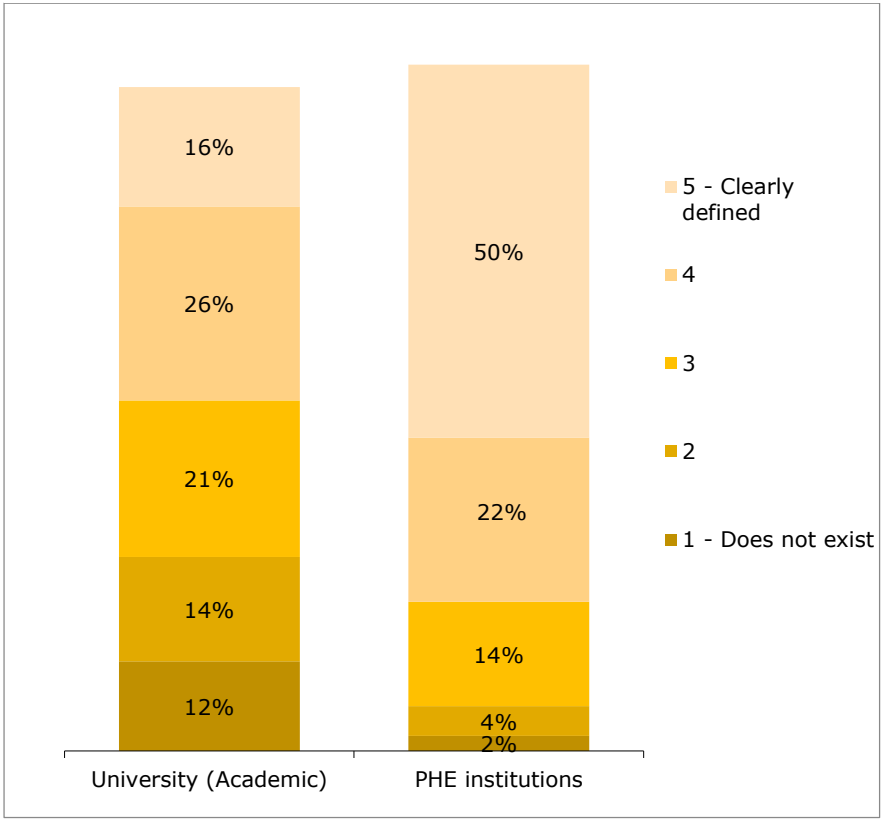
Figure 3 - % of respondents from HEIs and Non-HEIs agreeing to statements



within their institutions. Here we found that, while none of the statements were agreed to overwhelmingly by respondents, there were significant differences in the responses from academic HEIs and those from professional HEIs (marked yellow in figure 3). Thus, those from professional HEIs were more likely to find that their institution:

- has an integrated model of study and work where academic teaching phases are complemented with so called practice periods
- achieves professional orientation by integrating a number of practical case studies into academic teaching

Figure 4 - Respondents whose institution has a mission statement which is clearly defined and explicitly refers to higher education and research, in %



- equips academic graduates in all courses with practically-oriented skills

On the other hand, those from professional HEIS were more likely to "believe that there is no HE without a strong link between research and education, every HE staff member has to be engaged in some research".

Thus, on the surface we can conclude that PHE is primarily characterised by (a) an orientation towards the labour market, (b) special models of provision, (c) different methods of teaching – especially with respect to integration of practice into teaching and (d) differing attitudes towards research.

4. Organisation & Provision of PHE

4.1 Which institutions offer PHE?

In our survey of legislation, we found that in the countries surveyed, there are three models of PHE provision, namely:

- Partial Unitary systems, i.e. systems where professional HE is provided within specialised institutions located within universities, e.g. France, Portugal and Slovenia
- Binary/Dual, i.e. systems where academic HE is

Country	Classification	Institutions Offering Professional Higher Education
BE (FL)	Dual	Universities (through professional bachelor degrees), Hogeschool provide professional bachelor degrees and level 5 PHE, Hoger Beroepsonderwijs
CZ	Dual	Vyssi odborne skoly (tertiary professional schools), Vysoka Skola Neuniverzitniho Typu (Higher Education Institutions of the non-university type)
DE	Dual	Fachhochschulen (universities of applied science), Duale Hochschulen (cooperative universities)
DK	Dual	Erhvervsakademier (Academies of Professional Higher Education), Professionshojskoler (University Colleges), Dual Universities are also offering PHE e.g. Journalism
EE	Dual	Rakenduskorgkool (Universities of Applied Sciences), ÜLIKOOL (University Colleges)
FI	Dual	Polytechnics
FR	Partial Unitary	Primarily instituts universitaires de technologie (technological university institutes), Professional Masters in AHE.
HR	Dual	Visoke Skole (Colleges), Veleucilista (Polytechnics)
IE	Dual	Institutes of Technology (to become Technological Universities under announced reforms).
LT	Dual	Kolegija (Colleges)
MT	Dual	Institution of Tourism Studies, Malta College for Arts, Science and Technology
NL	Dual	Hogescholen (Institutions of Higher Professional Education)
PL	Mixed	Uczelnie zawodowe (Professional higher education institutions) (Non-University HEIs)
PT	Dual	Ensino Politecnico (Polytechnic)
SI	Dual, Partial Unitary	Higher Vocational Colleges, Higher Professional Colleges (within universities)

provided by universities, and professional HE is provided by specialist institutions – found in Lithuania, Estonia, Belgium (Flanders), Czech Republic, Malta, Netherlands, Finland, Portugal, Denmark[2], Slovenia and Germany

- Mixed, i.e. Dual systems which do not have a clear-cut distinction between universities and other institutions, i.e. universities may offer PHE or PHE Institutions may offer academic education– found in e.g. Poland[3]

We consider a true unitary system to be one where all types of Higher Education are offered by the same institutions, with significant crossover between 'professional' and 'academic' activities. Within the countries we surveyed, we actually found independent institutions operating within universities, hence our decision to call them 'partial unitary' systems.

4.1.1 Partial-Unitary System in France

A typical example of professionally oriented courses provided in a partial unitary system is the IUTs in France ('Instituts Universitaires de Technologie'), which are more or less autonomous faculties or affiliated institutions within a university. They are spread all over France, and found in (most of) the state universities. IUTs are represented on a national level by the ADIUT ('Association of Instituts Universitaires de Technologie'). They provide what they call a training offer of 'proximity', which is adapted to the presence of targeted groups, such as disadvantaged groups in a region. To enable them to carry out this specific mission, they have twice more teachers per aggregate number of students. As they are university-based, they are closely linked to the research mission of the universities and have a part of the university budget for this. Prominence is given to 'innovation' and 'advanced technologies', and there is a close cooperation with

[2] in Denmark some dual universities also offer some PHE programmes, such as journalism

[3] In Poland, while there is a legal distinction between HEIs and PHEIs. This said HEIs commonly offer professional programmes, and vice-versa.

companies in the region, and internationally they have established partnerships with other regions in the world, with lots of mobility opportunities inside and outside Europe.

The main challenges for PHE institutions in this system are to maintain and develop close links with research, which is at the core of its mission, including close links with local SMEs. The IUTs have to find a balance between the need of developing local networking and the international/European perspectives. In addition to this the universities' have started a process of 'professionalisation' of their programmes, which is leading to increased unification of the system.

4.1.2 Evolving the Dual Model in Ireland

The Higher Education Authority in Ireland has recently published a "statement [dated 30 May 2013] on higher education by the Minister for Education and Skills […] setting out a new configuration for the higher education system. This provides for a major programme of structural reform including institutional mergers and much greater levels of institutional collaboration, with the creation of a series of regional clusters of institutions. The Minister has also announced his approval for three groups of institutes of technology to proceed towards detailed planning for a formal application for designation as technological universities".

[The dual system] "should be strengthened by the development of regional clusters of collaborating institutions (universities, institutes of technology and other providers), and by institutional consolidation that will result in a smaller number of larger institutions. There should be a particular focus on encouraging the emergence of stronger amalgamated institutes of technology. Central to the envisaged regional cluster model will be universities and amalgamated institutes of technology operating as collaborative partners to deliver on jointly agreed strategic objectives. The diversity of mission that has served Ireland well to date should be maintained.

The new strategy for Higher Education ensures that there are no major differences between all sectors of state-funded Higher Education. The

Higher Education Authority administers and regulates AHE and PHE; Institutes of Technology have the same internal governance arrangements as universities. Each institution (AHE and PHE) determines the acceptable level of expertise and qualification according to the position it creates.

Thus, the Irish system is innovating by creating different institutions for academically-oriented and professionally-oriented education, while at the same time ensuring few to no differences between the two types of education.

4.2 PHE in terms of Qualification-Levels

The European Qualifications Framework defines Higher Education as levels 5-8, and maps them to the Framework for Qualifications of European Higher Education Area.

Level 5

The learning outcomes relevant to level 5 are:

- comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge
- advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study
- a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems
- exercise management and supervision in contexts of work or study activities where there is unpredictable change
- review and develop performance of self and others

We find PHE qualifications offered at this level in Flanders, France, Croatia, Ireland, Malta, Netherlands, Portugal and Slovenia.

Figure 5 - EQF Levels of PHE by country

Country	PHE level			
	EQF5	EQF6	EQF7	EQF8
BE(FL)				
CZ				
DE				
DK				
EE				
FI				
FR				
HR				
IE				
LT				
MT				
NL				
PL				
PT				
SI				

Level 6

The learning outcomes relevant to level 6 are:

- advanced knowledge of a field of work or study, involving a critical understanding of theories and principles
- advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study
- manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts
- take responsibility for managing professional development of individuals and groups.

We find that all countries surveyed offer PHE qualifications at this EQF level.

Level 7

The learning outcomes relevant to level 7 are:

- highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research
- critical awareness of knowledge issues in a field and at the interface between fields
- specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields

- manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches
- take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.

The Czech Republic, Germany, Finland, France, Croatia, Ireland, Netherlands, Poland and Portugal offer PHE qualifications at this level.

Level 8

- knowledge at the most advanced frontier of a field of work or study and at the interface between fields
- the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice
- demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

From our study, only Ireland offers a PHE qualification at this level.

4.3 Funding of PHE Institutions

In funding for teaching activities within PHE, only Estonia, Finland and the Netherlands have specific/separate funding mechanisms for PHE Institutions. In all the other countries surveyed, funding for PHE comes under the same budget-line as funding for the rest of Higher Education Institutions.

In the Czech Republic, the budget and funding for tertiary professional schools is set within a different subchapter of the budget on education, which is a part of the higher education. At the same time, the public non-universities are subject to same source of funding and the same rules as universities. This may be reflected in the note on separate funding sources.

5. Teaching PHE

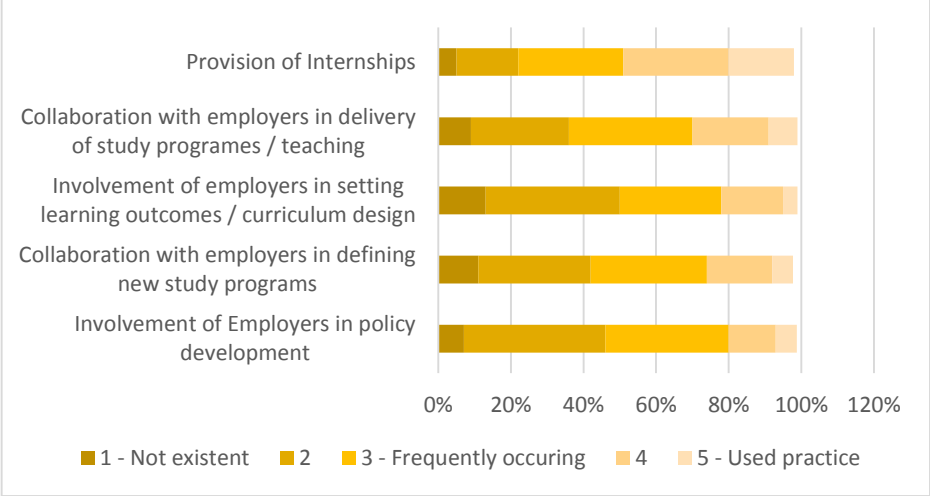
5.1 Legislative Requirements for Curriculum Design

From the survey of legislation in the countries, one finds that usually a combination of academic and practical knowledge is provided. From a curricular viewpoint, stress is put on the professional insertion capacity to enhance the link between education research and innovation. More emphasis tends to be placed on teaching, while less is placed on research; internships and apprenticeships have a proportionally big share in the curricula. The representatives of socio-economic environment are involved in the teaching process and curriculum design. Many countries fix the ratio of theory to practice, the length of internships, etc. by law.

5.2 Collaboration with the Professional Sphere

In all countries we surveyed, with the exception of Portugal, we found formal requirements for the involvement of external stakeholders

Figure 6 - Extent to which different types of HE-professional sphere collaboration exists in respondents' country, according to external stakeholders, in %



in curriculum design. This involvement was sometimes through advisory boards (e.g. Poland, Estonia), sometimes in governing bodies, (e.g. Denmark) and other times in curriculum design panels, (e.g. Lithuania).

Our survey asked respondents about cooperation with employers in five areas linked to curriculum design, namely:

- provision of internships
- collaboration with employers in delivery of study programmes / teaching
- involvement of employers in setting learning outcomes / curriculum design
- collaboration with employers in defining new study programmes
- involvement of employers in policy development

In each case, slightly more than 50% of respondents found these processes occurring in PHE within their own countries.

5.3 Curricular Requirements by Country

Country	Curricular Requirements
BE(FL)	No specific requirements (programme-dependent). The same counts for practical elements of curriculum (work placements etc.) although general practice.
CZ	For Higher Education: No specific requirements, no regulations are set in any of the relevant cases as regards the content or structure of curricula. These should simply reflect the knowledge, skills and competencies declared within the professional profile as may be derived from decrees on accreditation and other relevant documents. There is no specific division of profiles of higher education, except in the Decree on "accreditation submission" which mentions the professional bachelor study programme and a need to specify the scope and content of practical placement. There is no further specification in any other document. Tertiary professional education shall contain theoretical education and vocational training. In this connection, there is an obligation to have 'professional practice at workplaces' as part of the curriculum.
DE	Practical orientation required for PHE (curriculum, practical placements). Special regulations for the Cooperative State University (such as Berufsakademien, Duale Hochschulen).
DK	Requirements determined by law.
EE	Same requirements as HE, in addition professional experience in his or her field of profession.
FI	Regulated by the Polytechnic Act. Compulsory training periods) from 30 to 75 ECTS for Bachelor). For some programmes additional requirements (related with professional regulations).

Country	Curricular Requirements
FR	• *BTS*: no specific requirements but each STS specialty has a specific curriculum • *DUT*: 20% of teaching must be undertaken by professionals • *Licences professionnelles*: 25% of teaching must be done by professionals • Engineering schools, Master's: each or faculty defines its professional input • *BTS*: no specific requirements but each STS course of study has a specific curriculum • *DUT*: an internship of 350 working hours is mandatory • *Licences professionnelles*: an internship of between 600 and 1000 working hours is mandatory • *Masters professionnels*: The 2-year M-cycle comprises an internships totalling an average of 600 hours • Engineering schools, Management and Business schools: The 3-year Engineering cycle comprises 2500 taught hours and internships totalling an average of 1000 hours. • *Licences professionnelles*: 50% of teaching within the professional modules must be done by professionals with a total of 25% of teaching globally done by professionals
HR	For professionally oriented modules: At least 50% practical work (preferably 60%). No specific differences between AHE and PHE reported.
IE	No specific requirements at the country level: institution dependent.

Country	Curricular Requirements
LT	Requirements for Academic and Professional Bachelor programmes differ. For PHE practices and any other kind of practical training must account for at least a third of the study programme's scope. The value of practices (training practice, induction practice, practice placement, etc.) should be no less than 30 (until 1 September 2011, 20) credit points. The total scope of professional practices for artistic studies should be no less than 18 (until 1 September 2011, 12) credits, for other studies – no less than 24 (until 1 September 2011, 16) credits. The final practice placement should be in line with the subject of the final thesis and similar to jobs the students is trained for.
MT	Details institution dependent. Share of ECTS/ECVET related to key competences and sectorial skills determined in Malta Qualifications Framework.
NL	PHE programmes focus on practical applications of arts and sciences. It seems that there are rather implicit rules and not country-wide regulations concerning curricular details.
PL	Practically oriented programmes shall have important percentage of practically-oriented modules, but no fixed ceiling determined. Curriculum structure is evaluated from the point of view of its adequacy to ensure expected learning outcomes. Learning outcomes for practical study profiles, determined by ministerial regulations, differ from those for academic study profiles (but not very much). Compulsory practical placements (3 months). Necessity to provide practical modules with teaching conditions similar to real work situation.
PT	No differences between AHE and PHE reported. Specific requirements for regulated professions.
SI	University programmes do not demand any practical training in the work environment. Professional study programmes have an obligatory practical training in the work environment (10 %). Higher Vocational Colleges have an obligatory practical training in the work environment (40 %).

5.4 Prevalence of Study Models

In our stakeholder survey, we asked institutional participants whether they used one of the following models in providing PHE:

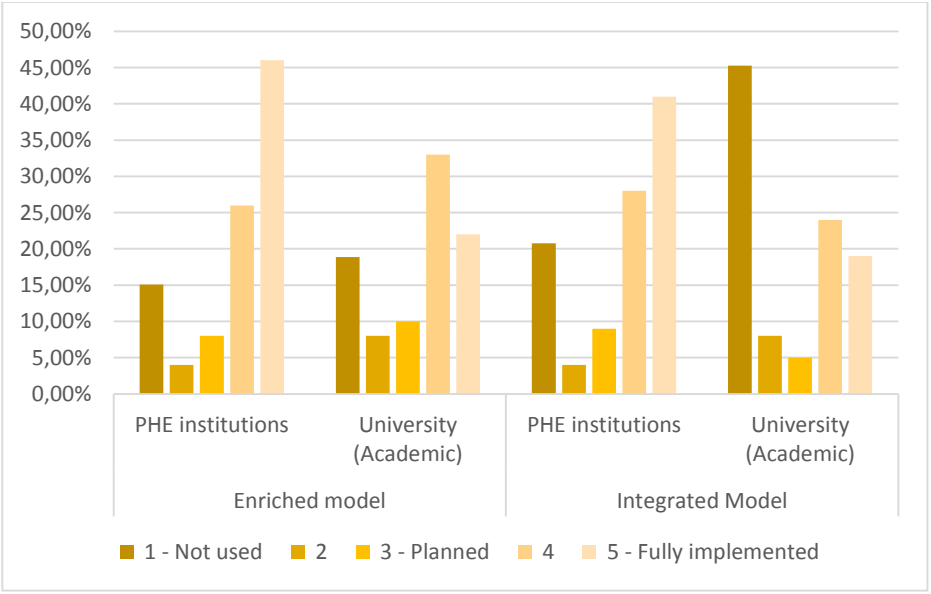
- integrated model, i.e. study and practice phases alternate
- embedded mode, i.e. study phase is enriched through practice phases, like internships

We found that PHE Institutions are far more likely to use these models of education, with 72% and 69% of institutions having implemented the enriched and integrated models respectively, compared to 55% and 43% for academic universities.

5.5 Case Study: Cooperative Education

In addition to universities and universities of applied sciences, one specific higher education institution exists in Germany which is called Cooperative State University (such as DHBW in Baden Wuerttemberg). It is

Figure 7 - Prevalence of enriched and integrated models of study in PHE and Academic HE Institutions, in %



defined through the model of cooperative higher education in which public and private sector organization directly cooperate with the higher education sector to deliver PHE.

As a special cooperative institution, the Baden-Wurttemberg Cooperative State University puts emphasis on the framework for programmes with a special profile. The latter is issued by the German accreditation council.

For the Cooperative State University, specific legislation exists which makes the partner organisations members of the university and which leads to a fully integrated system of higher education institution. Therefore, all academia and business as well as the public sector work hand in hand to provide study programmes.

There is a requirement that professors and part time lecturers have to have a string record of practical experience outside the university. For UAS this is usually 3 years, for the Cooperative State University even 5 years.

The Cooperative State University follows a fully integrated practice-theory approach in which students alternate between the organization in which they are employed and the university, every three months until they obtain their bachelor degree.

5.6 Staffing Requirements in PHE

We also checked national legislation for differences in staffing requirements, in particular the profiles of teaching staff in PHE across the various countries. The table below summarises our findings:

Country	Staffing Requirements
BE(FL)	There are differences in staff profiles (PHE - fewer research requirements, differences in functions and titles). It is common practice to include non-academia in PHE)
CZ	**Higher Education (EQF 6 – 8):** no specific requirements set as regards staff qualifications or any particular for PHE in the legislation. For the **professional bachelor programmes** the decree allows to list the staff with less academic experience, however showing the plan of personal development.

Country	Staffing Requirements
	Tertiary professional education: A teacher of general subjects or vocational subjects teaching at a tertiary professional school should have acquired professional qualifications through higher education by completing an accredited master's study programme in a field appropriate to the nature of the general subject or vocational subject to be taught. A teacher of practicum and vocational training shall acquire professional qualifications through: higher education by completing an accredited study programme in a field appropriate to the nature of the subjects to be taught in practicum; or tertiary professional education by completing an accredited educational programme at a tertiary professional school in a field appropriate to the nature of the subjects to be taught in practicum; or secondary education accomplished by a school-leaving examination acquired by completing an educational programme of secondary education in a field appropriate to the nature of the subject to be taught and having practical experience in the relevant field of not less than three (3) years. There are some specific requirements for teachers of medical study subjects. The director may make an exception for staff in artistic subjects.
DE	There is a requirement that professors and part time lecturers have to have a string record of practical experience outside the university. For UAS this is usually 3 years, for the Cooperative state University even 5 years. Part time lecturers usually are required to come from the field of practice, however also practical experiences academics are allowed as part time lecturers.
DK	For PHE: "Instructors' qualifications and competences must overall be adequate in relation to level and goals for learning outcomes and the teacher group must be updated with the latest knowledge on key trends in business or professions and relevant research.
EE	A person who has been awarded a magistrikraad or a corresponding qualification and who has pedagogical skills and professional experience in his or her field of profession is eligible for the position of a lecturer of an institution of professional higher education.
FR	Formally the same requirements. In practice, in PHE higher proportion of professionals and lower of Doctors.

Country	Staffing Requirements
IE	Institutions are autonomous in their staffing decisions, leading each to have their own policies.
LT	Determined by legislation. The requirements for academic staff in PHE are different from the requirements in AHE. There are specific requirements for academic staff in PHE: "No less than 10 per cent of the subjects in the study field should be taught by scientists or scholars and recognised artists (art subjects). Over half of the teaching staff of the study programme should have at least 3 years of practical experience in the subject field they teach."
MT	Requirements implicitly determined by HEIs and published in calls for applications. No specific differences exist between AHE and PHE.
PL	There are specific requirements for staff in PHE to have a practical profile
PT	Different rules for staffing in AHE and PHE. (e.g. AHE 50% doctorates, PHE 15%). Title of 'specialist' exclusively for PHE (for persons with recognized professional experience); at least 35% of PHE staff shall hold this title.
SI	The specific requirements for staff are different for Higher Education Institutions (Professional Colleges and Universities) where the lowest acquired education should be level 7 or 8 EQF, professional and research references; for Higher Vocational Colleges' Staff the lowest required education is 6 EQF and additionally at least 2 years' experience in the area of work and a 30 ECTS pedagogical-andragogical education.

6. Research in PHE

6.1 Introduction

The distinction between 'universities' and the 'non-university sector' is most relevant in the *function* of research.

Even if in most countries these non-university higher education institutions did originally not have a research mandate, in most cases these institutions have progressively developed research activities and, at least in some countries, governments recognized the 'research and innovation' role of these institutions and provided support and funding. Moreover, in many countries the role of research in polytechnics, 'Fachhochschulen', 'hogescholen', university colleges, etc. is on the political agenda. Despite the absence of in-depth studies of research in the non-university sector, it is clear that the development of research in these institutions leads to quite complex interactions with universities, both in the sense of convergence (academic drift) and/or of differentiation of a specific research mandate oriented towards the regional economy.

The Frascati Manual[4], published by the OECD has set definitions of research that distinguish three main types ('levels') of research, namely *Basic research, Applied research, and Experimental development.* Only the first two are the main focus in scientific publications, but it is the latter two that makes best apparent the close relationship between PHE institutions and its stakeholders, mainly through research but also through (other) services to the community. Thus, we find that PHE Institutions tend to focus on activities such as innovation, technology transfer, applied research & development.

In terms of funding for research we find that across the countries surveyed:

- There are no restrictions[5] on research funding in Denmark,

[4] www.oecdbookshop.org/oecd/display.asp?LANG=EN&SF1=DI&ST1=5LMQCR2K61JJ

[5] No restrictions does not necessarily mean research is performed in

Ireland, Lithuania, Malta and the Netherlands

- There are difficulties in obtaining research funding (compared to academic HE) in Flanders, Germany, Estonia, Finland, Portugal and Slovenia. In the Czech Republic, research is very much required at non-university HEIs. The difficulty is missing specification of the type of research needed – therefore these institutions fall under the same rules and principles as universities yet having much more limited access to public funding.
- Research isn't considered as part of the default role of PHE Institutions in Croatia and Poland[6].

practice – only that there are no legislative obstacles to its funding

[6] However, in Croatia and Poland, an institution may apply for research funding if it applies for the status of a 'research institution'

6.2 Research Funding by Country

The following table is a summary of the current state of research funding per country:

Country	Research Funding
BE(FL)	Growing awareness for practice-oriented research, but only limited possibilities for PHE for research funding.
CZ	**Higher Education (EQF 6 – 8)** All higher education institutions are expected to "maintain and augment acquired knowledge as well as cultivate scholarly, scientific, research, development, innovation, artistic and other creative activities in accordance with the type and orientation of the institution". The later note on orientation provides a space for profiling the professionally oriented higher education institutions, in particular "non-universities" in a specific way. However there has been no further specification of such profile, of tasks relevant for this type of institutions. **Tertiary professional education (EQF 6)** There is no formal request for tertiary professional schools to get engaged in any type of research or development activities.
DE	Research funding for PHE exists for applied research and is growing. Some UAS-specific programmes also.
DK	There are no restrictions. Special focus on applied and evidence based research – increased funding from 2013-2015.
EE	In Estonia, only study activities of UASs are financed by the state (studies +in service training). R&D financing in UASs is based on projects and bilateral contracts with enterprises. Therefore UASs differ from universities: UAS-s have no base funding for R&D from the state. UAS-s have no base funding for R&D from the state that is available to AHE. R&D financing in UASs is based on projects and bilateral contracts with enterprises.
FI	Very limited possibilities from Academy of Finland. Growing applied research.

Country	Research Funding
FR	*STS* are not involved in research, do very little in Innovation (I) &Technology Transfer (TT) &I&TT. STS trainers are not researchers; no provision is made for research (applied or otherwise) in STS. Research & Development & are all missions of HE (AHE and PHE) although in fact PHE participates in I&TT to a higher degree. TT centres are organised at university level and provide those services for both AHE and PHE.
HR	Very difficult; PHE institution has to apply for 'research' status
IE	No differences. Bidding for grants is open to all HEIs
LT	PHE are normally involved in applied research. The scope and quality depends upon each PHE institution. Applied research activity is one of the indicators PHE institutions are ranked.
MT	No restrictions.
NL	Growing role of applied research. See Case study below.
PL	PHE institutions are not obliged to do research, it is possible (also to apply for research grants). Implicit limitations: In order to get public research grants, the HEI shall be categorized as a research institution. So a non-university HEI first shall develop its research capacities, perform some research, get appropriate status, and then be able to benefit from public research funds.
PT	Theoretically no differences, but PHE oriented more on applied research and there are difficulties in obtaining research grants for PHE. No public research programmes specifically dedicated to PHE.
SI	Vocational College formally are limited to perform developmental tasks, but in practice are also involved in applied research in cooperation with industry, without state funding.

6.3 Criteria & Indicators for Quality Research in the Netherlands

6.3.1 History

Although universities of applied sciences have been engaged in research activities for some time now, the introduction of professors [lectoren] and their research groups [lectoraten] at universities of applied sciences in 2001 has meant that the research function is gradually becoming more structural. A research group works together to promote knowledge development and knowledge circulation in relation to a certain theme within and beyond a university of applied sciences, in the interest of education, professional practice and society as a whole.

The year 2001 was also the year in which the Knowledge Development Foundation for Universities of Applied Sciences [SKO] was created, on the basis of a covenant [lectorenconvenant] between the Netherlands Association of Universities of Applied Sciences and the Ministry of Education, Culture and Science. The main task of the SKO is to propose subsidies on the basis of a quality assessment of applications for research groups submitted by universities of applied sciences. In 2003, the research group is given a strong boost with the introduction of the so-called SIA-RAAK regulations. These regulations are intended to promote knowledge circulation between regional parties, particularly between knowledge institutions like universities of applied sciences, SMEs and public institutions.

In 2004, the professor covenant was updated to include a quality assurance system to be introduced with effect from January 2009, amongst other things. This is linked to the new funding system, under which research resources are granted to universities of applied sciences in the form of a lump sum. With the introduction of the new covenant, the assessment of quality by SKO ceases and is replaced by the quality assurance system.

In 2007, the general meeting of the Netherlands Association of Universities of Applied Sciences formally adopts the sector protocol for research quality assurance. This adoption marks the agreement on a

joint definition of research at universities of applied sciences and on the contours of the quality assurance system to be developed.

6.3.2 Extent of Research

Since the introduction of professors, their numbers have grown quickly from slightly more than 20 in 2001/2002, via more than 100 in 2003/2004, to more than 250 in 2006/2007. In 2008, the Netherlands has almost 400 lecturers. Nevertheless, with less than 400 professors (for 380,000 students) and a total research budget of approximately 75 million (lump sum and the Knowledge Development Foundation for Higher Professional Education/SIA), the extent of research can be called 'modest' for the time being.

In 2004, the professor platform [Lectorenplatform] was created. During the first stage of the development of research groups, this platform was responsible, in collaboration with the Netherlands Association of Universities of Applied Sciences, for external communication and for profiling research groups. In 2008, this platform was followed by the more network-oriented forum for practice-based research [Forum voor praktijkgericht onderzoek]. This forum plays an important role in the further design, positioning and development of research groups.

6.3.3 Nature of UAS Research

In the sector protocol, the Netherlands Association of Universities of Applied Sciences makes a clear choice for the joint designation and definition of research at universities of applied sciences. By using the term practice-based research as the umbrella term for this research, the sector protocol is giving preference to this term above other terms such as applied research and design-oriented research. These terms do less justice to the nature and diversity of research at universities of applied sciences.

Practice-based research is defined as research that is rooted in professional practice and that contributes to the improvement and innovation of professional practice. This is achieved through the generation of knowledge and insights, but also through the provision of usable products and designs and concrete solutions for

problems in the field. Added to this, this research is usually of a multidisciplinary or trans-disciplinary nature and is embedded in a range of internal and external organisational contexts, while retaining the academic reliability and validity of the research itself. Research is closely connected to education, via its contribution to education activities, lecturer professionalisation and curriculum innovation. Because the research done has relevance for – and an impact on – professional practice, education and the broader society, knowledge is circulated and published via a very wide range of channels and to various target groups.

With these characteristics, practice-based research complies with what is referred to as Mode 2 of knowledge development. The term Mode 2 refers to research that, in contrast to Mode 1 research, is less bound by traditional disciplines, and that is effected more in the context of applications. This research is performed in networks of experts from the field and networks of researchers and (as such) the quality of this research is assessed by a number of parties. This is based, on the one hand, on the recognition that scientifically valid research is concerned and, on the other hand, on the basis of the recognition that its impact on education, professional practice and society is the most important gauge for the quality of this type of research.

6.3.4 Research quality

Besides academic standards the excellence of practice-based research is measured particularly on the basis of the relevance and impact of research within professional practice, education and society as a whole. Incidentally, the evaluation and assessment of research on the basis of these perspectives is still in its infancy (worldwide). To date, emphasis in quality assurance systems elsewhere (English, Australian and Dutch universities, for example) has always focused strongly on the quality of research in the sense of scientific and academic impact.

So, traditionally, this impact is measured particularly on the basis of publications, citations and peer reviews. Within these countries and systems, steps are already being taken to find indicators and evaluation methods that place the importance and impact of research in a broader

perspective. The Netherlands has a reasonable lead in this respect. For example, the ERiC platform (Evaluating Research in Context) has been created. The parties involved in ERiC include the Association of Universities in the Netherlands [Vereniging van Universiteiten (VSNU)], the Royal Netherlands Academy of Arts and Sciences [Koninklijke Nederlandse Akademie van Wetenschapen (KNAW)], the Netherlands Organisation for Scientific Research [Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)], the Netherlands Association of Universities of Applied Sciences and the Ministry of Education, Culture and Science. These organisations work together to promote knowledge exchange and method development (at both a national and international level), with a view to more context-oriented research evaluations.

6.3.5 Diversity and Variation

Because of the diversity and variation that exist between universities of applied sciences and between domains, the system leaves responsibility for quality assurance, including the performance of evaluations on research units, with the individual institutions. The idea behind this is to promote a situation where it is possible to achieve optimal alignment between the nature and extent of quality assurance and structure, culture and (quality) policy within a specific university of applied sciences. Added to this, professors and other researchers must experience quality assurance as something for which they are responsible and which does actually promote quality. Finally, the system must do justice to the individuality of every research domain and sector.

7. Recognition & Transferability

7.1 Recognition and Equivalence

In all countries surveyed, the systems of Professional Higher Education are integrated into the National Qualifications Frameworks (or in the process of being integrated where the NQFs are still being authored), which in turn are mapped to the European Qualifications Framework (EQF). Thus, we can say that generally speaking, PHE qualifications exist within the established recognition framework of the European Higher Education Area.

The Berlin Communiqué states that: “First cycle degrees should give access, in the sense of the Lisbon Recognition Convention, to second cycle programmes. Second cycle degrees should give access to doctoral courses”.

According to the Convention, access is defined as the right of qualified candidates to apply and to be considered for admission to higher education. The term "access" implies the assessment of applicants' qualifications with a view to determining whether they meet the minimum requirements for pursuing studies in a given higher education programme. Access is distinct from admission, which concerns individuals' actual participation in the higher education programme concerned.

7.2 Are PHE and AHE equivalent across Europe?

Depending on the country being analysed, we find that we can distinguish four generic cases:

- Full equivalence of PHE and AHE, with automatic transition between cycles and profiles
- Easy transition between profiles and cycles, with bridging programmes used to prepare students for access
- Difficult transition between profiles and levels – while bridging programmes exist they are extremely demanding, and form a considerable barrier to access to the next cycle.

- No transition possible – in some countries it is not possible to transfer between profile and cycle, particularly from Level 7 to Level 8 of the EQF.

While the latter case is clearly against the provisions of the Berlin Communiqué, the third case of difficult transition is somewhat debatable, in that arguably it fits the form but not the spirit of the provisions of the Communiqué.

The European picture of transferability is somewhat confused with different multiple modalities for transfer between cycles available depending on the country. This is likely to provide significant barriers to students wishing to change countries between cycles, while at the same time changing from professional to academic profile.

We thus highlight this as an important area for further research and consolidation.

Our research presented the following picture on a per-country basis:

Country	Recognition & Transferability
BE(FL)	Graduates from PHE programmes (bachelor programmes) have to do a bridging programme to get entry to a related academic master. This bridging programme counts between 45 and 90 ECTS. During the study students transferring between different programmes (whether different in orientation or not) will have to apply for exemptions through previously earned qualifications (on basis of ECTS cards).

Country	Recognition & Transferability
CZ	No formal barriers for transfer from one level of higher education to another. As the Higher Education Act does not differentiate among the profile of study programmes, there can't be any specific measures. The only notion of "professional bachelor study programmes" is provided within the decree on accreditation, yet this does not deal with transferability matters. It is left within institutions' competence to set their own criteria and requirements as regards "specific knowledge, abilities, talent or results achieved" within previous education for enrolment of applicants to programmes of higher qualification level. The situation is more complicated when referring to the transfer from tertiary professional schools to higher education, either after graduation or during the study. There is no official scheme for automatic recognition of students' achievements within tertiary professional education. The Higher Education Act allows higher education institutions to set specific requirements for the graduates of tertiary professional schools, but this option is left to institution's decision. *Detailed information provided in CDS for CZ*
DE	There are no barriers for students transferring between different types of HE institutions.
DK	Some bridging is possible; however it is arranged on a bilateral basis and is not uniformly applied.
EE	Transfer between EQF 6 and 7, and between EQF 7 and 8 is automatic.
FI	Transfer is possible, usually by means of a bridging course (up to 1 year).
FR	There are no formal paths for transfer from PHE to AHE for graduates. All types of HE select their students after EQF 5 so no formalised bridging programmes are required between PHE and AHE. No provision is made for transfer from PHE to AHE during courses (even 2- and 3-year courses) although the opposite does not apply.
HR	Very demanding bridging programmes. Transfer from PHE 7 to AHE 8 not possible.
IE	Institution dependent. Bridging is possible.

Country	Recognition & Transferability
LT	Persons having a Professional Bachelor's qualification shall have the right to enter study programmes of the second cycle, if they meet the minimum requirements approved by the Ministry of Education and Science. Academic HEIs offer bridging programmes (rather demanding).
MT	Recognitions and transferability ensured by Malta Qualifications Framework, sometimes by means of bridging programmes.
NL	Transfer possible, but some form of selection or bridging requirement may be applied.
PL	Institution-dependent (in principle – there are no barriers since entry is determined using a learning outcomes-based approached).
PT	Automatic.
SI	Rules determined by law. There are no automatic transfers, no bridging programmes between vocational and HE programmes.

8. Concluding Remarks

At the present stage, we can witness the interplay of two strands contributing to the dynamics of the development of the European Higher Education Area. The first one is related to the harmonization of European education and training systems. On the one hand, National Qualification Frameworks are being designed and a "self-consistent field" of European qualifications is emerging, with the European Qualifications Framework as a reference system. Also, a non-trivial process of matching EQF with Qualifications Framework for Higher Education is being conducted. The new ISCED 2011 classification, compatible with EQF, is also emerging as a useful tool to classify various educational and training provisions at the global scale.

Another important strand is a multi-dimensional approach to rankings and classifications of European higher education institutions in the framework of U-Multirank project. U-Multirank is - in a way - an antidote to mostly research-based criteria used in world-wide rankings like ARWU or THES.

It is obvious that external factors and pressures may strongly influence the development of various sectors of education and training. On the other hand, different sectors have their own intrinsic dynamics and shall also influence their environment, including directions of European education and training policy.

We do hope that the outcomes of the HAPHE project will help consolidate PHE at different levels (from institutions through PHE-related networks and associations up to policy-makers).

To finalize, it is worth mentioning that the EU high-level group on modernisation of higher education has just published its first report[7] on improving the quality of teaching and learning in universities. It calls upon universities to 'Train the professors to teach', and contains valuable recommendations for improving

[7] **EU high level group: train the professors to teach;** European Commission - IP/13/554 18/06/2013

quality in teaching and learning, some of which come naturally to PHE:

Recommendation 7

> *Curricula should be developed and monitored through dialogue and partnerships among teaching staff, students, graduates and labour market actors, drawing on new methods of teaching and learning, so that students acquire relevant skills that enhance their employability.*

Recommendation 16

> *Member States, in partnership with the regions, are encouraged to prioritise, in their Partnership Agreements under the Structural Funds, initiatives to support the development of pedagogical skills, the design and implementation programmes relevant to social and labour market needs, and the strengthening of partnerships between higher education, business and the research sector.*

We foresee that several developments will have a crucial impact on the character and profile of professionally oriented programmes in the coming years, in particular:

- **"Employabilisation"** of AHE, resulting into an increased competition between university and non-university HEIs (due to the decreasing number of students, changes in the labour market etc.).
- **Introduction of NQF**: The Bucharest Communiqué (2O12) explicitly states that countries that will not have finalized the implementation of national qualifications frameworks compatible with QF-EHEA by the end of 2012 will be asked to redouble their efforts and submit a revised roadmap for this task, (which is expected to be completed by the next Ministerial meeting in Yerevan in 2015).
- **Development of Recognition of Prior Learning (RPL) / Lifelong Learning (LLL=**: there is now in some countries a possibility for the learner to use RPL for personal development within a work setting and/or for getting

exemptions for a study program or for creating a more tailor made learning pathway. This may lead to validation of non-formal and informal learning. However in most countries the main focus is still on validation of learning outcomes for someone's career and targets related to that, using qualifications for formal education (vocational education and training, VET, and higher education, HE) – offered by institutions for HE and/or VET.

- The phenomenon of **Rankings**, which has led to initiatives like the Multi-rank and U-mapping projects, as a response of the European Union (its HEIs, the European Commission, stakeholders) to a global challenge of competition and cooperation. A classification which is different from traditional rankings (focused exclusively on the level of research), but that would be based on multidimensional criteria, which takes into account different profiles and missions of HEIs, the corresponding nature of teaching (and of research), the targeted audience (first generation students, adult students).
- The importance of (academic) **'recognition'**, with the crucial role played by the Council of Europe and UNESCO in developing the (regional) Recognition Conventions (e.g. the Lisbon Recognition convention for the EHEA countries and North America).
- The growing importance of the **SCHE qualifications,** which in some countries replace the former traditional professional HE as distinguished from academic or university education. This may be due to the fact that in times of economic crisis and recession, also the number of unemployed with a qualification or degree of short cycle education is lower than the number of people without any higher qualification.

2014 in particular will be an important landmark for European Higher Education, for reasons explained underneath, which makes the

underlying study extremely relevant and timely:

- the implementation of **ISCED 2011**, as approved at the latest UNESCO conference in Paris (April 2013)
- the launching of the new European Union education program **Erasmus+**
- the beginning of the **FRAMEWORK 8 program** of the E.C.
- the publication of the first results of **U-Multi-ranking**

Professional higher education should then be fully aware of its identity and have the capacity to be a full-fledged player in the European Higher Education Area.

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