

Self-certification

Verification of compatibility of the Danish National Qualifications Framework for Higher Education with the Framework for Qualifications of the European Higher Education Area

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2009

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Preface

This report contains the conclusions of the self-certification group regarding the Danish National Qualifications Framework for Higher Education (NQF-HE). The self-certification has been conducted as part of the Bologna process to ascertain the alignment of the NQF-HE with the overarching Framework of Qualifications for the European Higher Education Area (QF-EHEA).

The self-certification has been conducted by a group consisting of representatives of national authorities and quality assurance agencies. To verify the alignment between the NQF-HE and the QF-EHEA, and to ensure the objectivity and independence of the self-certification, two international experts with profound insight into the Bologna process have played a central role in the work of the self-certification committee. In addition, stakeholder representatives have been involved in the self-certification through a consultation process.

The report is the official Danish assertion to the other Bologna process members that the Danish NQF-HE is in alignment with QF-EHEA. Secondly, it is a reference document for Danish authorities with regard to the implementation of the NQF-HE. Thirdly, the report asserts the value of the NQF-HE as a tool to promote transparency in the education sector and to compare and clarify Danish qualifications abroad.

The report consists of an executive summary and five chapters. Chapter 2 provides an introduction outlining the purpose and process of the self-certification process, and chapter 3 describes the Danish system of higher education and the role of the NQF-HE. The verification and process criteria for the self-certification are addressed in chapters 4 and 5, respectively, while chapter 6 covers issues raised by stakeholders during the consultation process.



1 Summary

At the Bologna Process Ministerial meeting in London 2007, it was decided that the compliance of each national qualifications framework with the Overarching Framework of Qualifications for the European Higher Education Area (QF-EHEA) should be asserted through a process of self-certification.

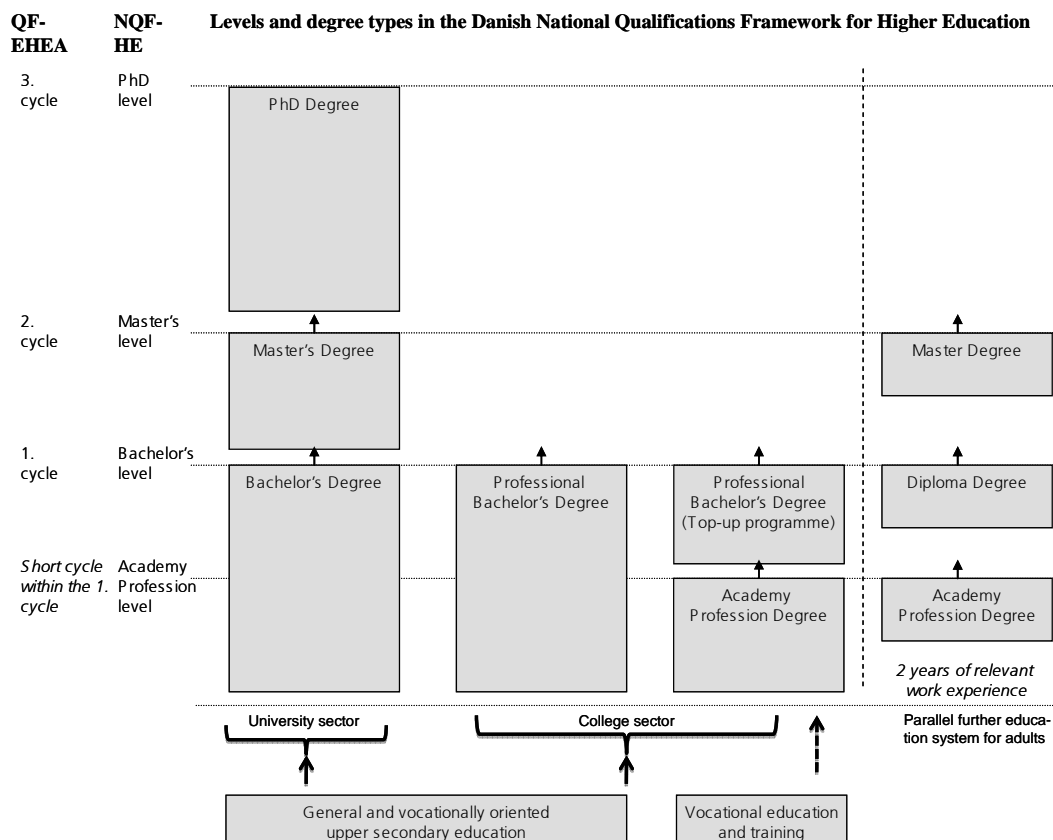
This report presents the conclusions of the Danish self-certification committee tasked to assess and verify the alignment of the Danish National Qualifications Framework for Higher Education (NQF-HE) with the Framework of Qualifications for the European Higher Education Area (QF-EHEA). The self-certification committee, which consisted of international experts and representatives of Danish authorities and quality assurance agencies, reached the following conclusion:

The Danish National Qualifications Framework for Higher Education is compatible and in alignment with the Overarching Framework of Qualifications for the European Higher Education Area.

This conclusion is based upon the assertion of the self-certification committee that all seven verification criteria and all six process criteria have been met. This conclusion has been supported by a reference group of stakeholders who were included in a consultation process. The self-certification committee noted that dissemination of the NQF-HE to national stakeholders could be stronger, and the reference group offered several suggestions as to how to realise this objective. These and other issues raised by the reference group are presented in chapter 6.

To illustrate the alignment of the NQF-HE with the QF-EHEA, the levels and degree types in the NQF-HE in relation to the QF-EHEA are presented in the figure overleaf:

Figure 1
Levels and degree types in the Danish National Qualifications Framework for Higher Education





2 Introduction

2.1 The purpose of the self-certification

In 1999 the Bologna Process was initiated by education ministers from 29 countries with the aim of establishing a European Higher Education Area (EHEA) by 2010. Currently, 46 countries are involved in the process. A central objective of the Bologna Process is to create transparent and comparable structures of qualifications with the purpose of promoting mobility and international recognition of qualifications. Essential strategies aimed at obtaining these goals are the implementation of a three cycle structure for qualifications as well as the development and realization of National Qualifications Frameworks.

A Framework of Qualifications for the European Higher Education Area (QF-EHEA) was adopted at the Bologna-meeting in Bergen 2005 by the ministers responsible for higher education. The QF-EHEA was developed by an expert working group and is also known as the Bologna Framework. The objective of introducing the Bologna Framework is to relate the different National Qualifications Frameworks to each other by linking them to the Bologna Framework in order to strengthen international transparency and recognition of qualifications as well as international mobility of learners and graduates. The three cycles of higher education described in the Bologna Framework build on the *Dublin Descriptors*, describing the general learning outcomes obtained by students through the completion of higher education programmes at different qualification levels.

Parallel to the Bologna Framework, the European Union has adopted a European Qualifications Framework for Lifelong Learning (EQF), which covers all educational levels in an eight-tiered framework. The EQF is not part of this self-certification process and will thus not be addressed in this report. Similarly, as will be expanded upon in section 3.3, two qualifications frameworks have been developed in Denmark: A National Qualifications Framework for Higher Education (NQF-HE), and a Danish Qualifications Framework for Lifelong Learning (NQF). The relation between the EQF and the NQF will be elaborated in section 3.3.2.

At the London ministerial meeting of the Bologna Process in 2007, it was decided that the link between National Qualification Frameworks and the Bologna Framework should be established through a process of self-certification where national authorities verify that the National Qualification Framework is compatible with the Bologna Framework. The self-certification in each country is to be carried out by a committee of national as well as international experts based on both verification criteria and process criteria.

This report contains the self-certification of the alignment of the Danish NQF-HE with the Bologna Framework. Through the report, it will be verified and explained how the Danish NQF-HE aligns with the Bologna Framework.

2.2 Criteria and procedures

The self-certification is based on principles and criteria developed by the Bologna Working Group on Qualifications Frameworks, which were presented at the Bologna meeting in Bergen in 2005 and adopted by the ministers of higher education at the subsequent Bologna meeting in London in 2007. The criteria include seven verification criteria for establishing compatibility between the

National Qualifications Framework and the Bologna Framework, and six process criteria to guide the self-certification process.

Verification criteria:

- The national framework for higher education qualifications and the body or bodies responsible for its development are designated by the national ministry with responsibility for higher education.
- There is a clear and demonstrable link between the qualifications in the national framework and the cycle qualification descriptors of the European framework.
- The national framework and its qualifications are demonstrably based on learning outcomes, and the qualifications are linked to ECTS or ECTS compatible credits.
- The procedures for inclusion of qualifications in the national framework are transparent.
- The national quality assurance system for higher education refers to the national framework of qualifications and is consistent with the Berlin Communiqué and any subsequent communiqués agreed by ministers in the Bologna Process.
- The national framework, and any alignment with the European framework, is referenced in all Diploma Supplements.
- The responsibilities of the domestic parties to the national framework are clearly determined and published.

The purpose of the verification criteria is not to ensure a complete match, but rather to ascertain the compatibility and consistency between the cycle descriptors of the National Qualifications Framework and the Bologna Framework. The verification criteria are further elaborated in chapter 4, which also contains the conclusions of the self-certification committee on the compatibility between the Danish NQF-HE and the Bologna Framework.

Process criteria:

- The competent national body/bodies shall self-certify the compatibility of the national framework with the European framework.
- The self-certification process shall include the stated agreement of the quality assurance bodies in the country in question recognised through the Bologna Process.
- The self-certification process shall involve international experts.
- The self-certification and the evidence supporting it shall be published and shall address separately each of the criteria set out.
- The ENIC and NARIC networks shall maintain a public listing of States that have confirmed that they have completed the self-certification process.
- The completion of the self-certification process shall be noted on Diploma Supplements issued subsequently by showing the link between the national framework and the European framework.

The purpose of the process criteria is to ensure that the self-certification process is conducted by the competent national authorities in cooperation with unbiased international experts, as well as to ensure that the results of the self-certification process are made publicly available to relevant stakeholders, such as students, employers, trade unions, higher education institutions and the ENIC-NARIC network and Bologna partners. The actual process of the Danish self-certification will be described in the following section.

2.3 The process of self-certification

On behalf of the competent ministries comprising the steering group of the NQF-HE, the Ministry of Science, Technology and Innovation has initiated the self-certification of the Danish national qualifications framework and has formally requested the Danish Evaluation Institute (EVA) to organise and facilitate the process.

The process of self-certification has been organised in three tiers:

The steering group, with representatives from the competent ministries, has held the overall responsibility for the self-certification. The ministries in question are the Ministry of Science, Technology and Innovation, the Ministry of Education and the Ministry of Culture.

The self-certification has been conducted by a **self-certification committee**. The main task of this committee was to verify how the Danish NQF-HE refers to the Bologna Framework based on the above mentioned criteria for verification. The committee has also overseen that the self-certification process was in compliance with the process criteria.

The self-certification committee consists of the following members from the competent national authorities and agencies, as well as two international experts:

- Director of Projects Jon Haakstad, NOKUT – the Norwegian Agency for Quality Assurance in Education;
- Former Head of Department Ulf Öhlund, Department for the Recognition of International Qualifications, Swedish National Agency for Higher Education;
- Head of Section Mette Juul Jensen, the Danish Ministry of Science, Technology and Innovation;
- Special Adviser Anne-Kathrine Mandrup, the Danish Ministry of Science, Technology and Innovation;
- Head of Section Cathrine Christensen, the Danish Ministry of Education;
- Head of Section Mette-Astrid Jessen, the Danish Ministry of Culture;
- Special Adviser Allan Bruun Pedersen, CIRIUS (national agency for internationalisation of education and training in Denmark);
- Senior Adviser Lars Pedersen, ACE-Denmark – the Danish Accreditation Institution;
- Director of Projects Tue Vinther-Jørgensen, EVA – The Danish Evaluation Institute.

A **reference group**, comprising relevant Danish stakeholders, was set up to comment on the results of the self-certification (the members of the reference group are listed in Appendix C). The reference group was invited to a meeting at EVA in September 2009 to discuss the immediate results of the self-certification, as reached by the self-certification committee, and to raise issues in relation to the implementation, application and future development of the NQF-HE. Subsequently, the comments of the reference group were taken into consideration by the self-certification committee. The issues raised by the reference group are reported upon in chapter 6 of this report.

Evaluation Officer Simon Holmen Reventlow Clemmensen and Evaluation Assistants Maria Sacha Aagaard and Kristine Als Velling have served as the secretariat to the self-certification process and have drafted the final report on the self-certification of the Danish NQF-HE, which was adopted by the self-certification committee at a meeting on 20 October 2009.



3 Higher education in Denmark

3.1 The Danish higher education system

3.1.1 Introduction

Over the past decades, the Danish higher education system has undergone a series of reforms. At the institutional level, reforms have aimed at consolidating programmes of higher education at fewer and more sustainable institutions. At the programme level, reforms have aimed at implementing a transparent and coherent system of qualifications at distinct levels and with distinct profiles.

3.1.2 A binary system

Danish higher education programmes are organised according to a binary division between research-based and professionally oriented programmes. The purpose of the research-based programmes is to educate students to the highest international level within and across the scientific disciplines, whereas the purpose of the professionally oriented programmes is to ensure education closely based on practice and at an international level to meet the need for well qualified professionals in the private and public sectors.

The research-based programmes are offered by 8 universities, educating approximately 121,000 students, and are regulated by the Ministry of Science, Technology and Innovation.

The professionally oriented programmes, with approximately 83,000 students, are predominantly offered by 8 University Colleges and 10 Academies of Professional Higher Education. The knowledge base of these programmes can be described as business and profession based, as well as development-based. These programmes and institutions are regulated by the Ministry of Education. A very limited number of professionally oriented programmes are offered at institutions under the auspices of other ministries, e.g. the Ministry of Defence and the Ministry of Justice, as well as by some of the universities.

A third and smaller group of educational programmes fall under the auspices of the Ministry of Culture and encompass educational programmes in the arts, and provide education for approximately 5,000 students at 15 institutions. These qualifications have not yet been integrated into the NQF-HE.

Finally, it is important to note that special programmes and degrees have been developed for further education for adults. This parallel system of further education is accorded great importance in the Danish system, with its long-standing tradition of lifelong learning for adults. The qualification levels correspond to those in the ordinary higher education system, but the adult further education programmes are distinct in terms of their content, profiles, etc. The content and delivery of these programmes shall permit adult students to utilise their professional and general life experience, as well as to combine education with a continuous working career.

3.1.3 Qualification levels

The Danish Higher Education System is organised into four qualification levels, with a number of both ordinary and adult further education degree types at each level.

The first level is named the Academy Profession level. This level is comparable to the short cycle within the first cycle, as described in the proposal for the Bologna framework presented to the ministers in Bergen. Two degree types are attached to this qualification level in the Danish NQF-HE.

The next level is the Bachelor's level. The Bachelor's level corresponds to the first cycle of the Bologna Framework. Currently three different degree types are integrated into the NQF-HE at this level.

The Master's level in the NQF-HE, which follows after the Bachelor's level, corresponds to the second cycle in the Bologna Framework. The NQF-HE has two degree types at the Master's level.

The PhD level is the highest level in Danish higher education, corresponding to the third cycle in the Bologna Framework. Just one degree type is attached to this level.

The correspondence between the levels and cycles of the two Danish and the two European qualifications frameworks is illustrated by figure 1.

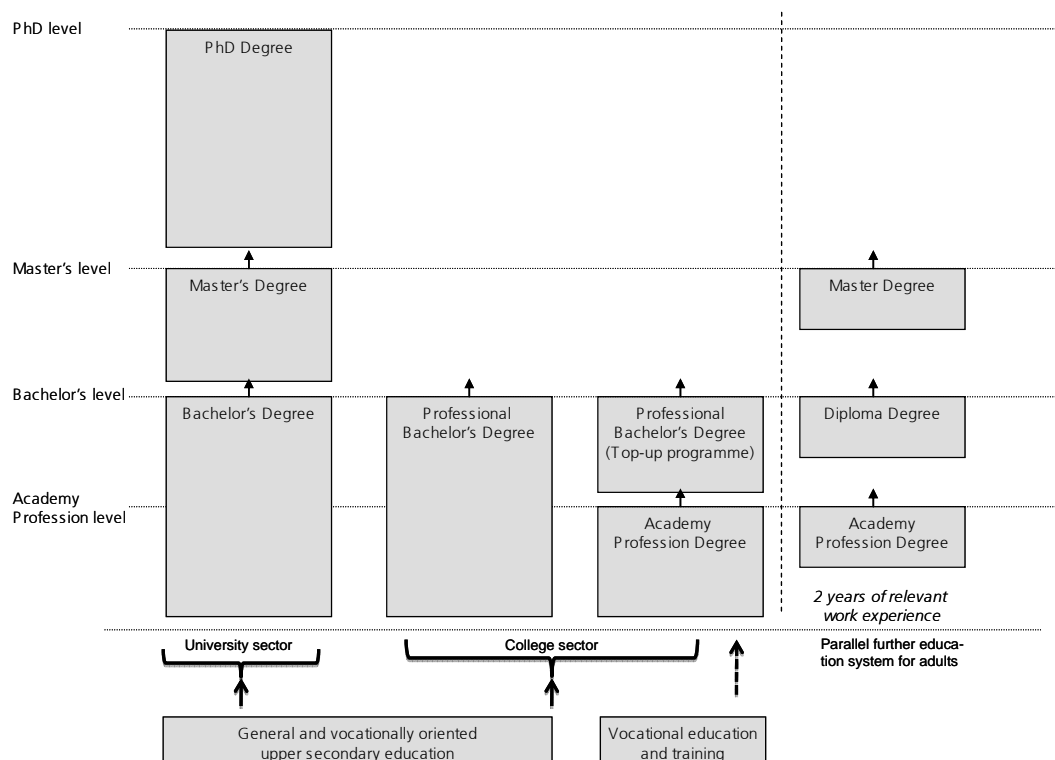
Figure 2
Correspondence between levels of Danish and European qualification frameworks

Danish Qualifications Framework for Higher Education	Qualifications Framework for the European Higher Education Area	Danish Qualifications Framework for Lifelong Learning	European Qualifications Framework for Lifelong Learning	
PhD level	3. cycle	Level 8	Level 8	Higher Education
Master's level	2. cycle	Level 7	Level 7	
Bachelor's level	1. cycle	Level 6	Level 6	
Academy Profession level	Short cycle	Level 5	Level 5	
		Level 4	Level 4	
		Level 3	Level 3	
		Level 2	Level 2	
		Level 1	Level 1	

3.1.4 Degree types

The National Qualifications Framework for Higher Education currently includes 5 ordinary degree types and 3 adult further education degree types. Specific degree types for the artistic programmes under the Ministry of Culture are under development, and are to be included in the NQF-HE in addition to the current 8 degree types. All degrees offered by Danish institutions of higher education are end-of-cycle degrees, meaning that the learning outcomes achieved through obtaining a given degree are at the same qualification level as the corresponding level in the NQF-HE, as illustrated by the figure below. This implies that there are no intermediate degrees in the Danish higher education system.

Figure 3
The Danish system of higher education



The 5 ordinary degree types are:

The Academy Profession Degree (Academy Profession level) study programmes are 90-150 ECTS and include a work placement period covering at least 15 ECTS. The programmes are development-based and combine theoretical studies with a practical approach. The programmes are often focused on specific professions or jobs. Examples of programmes currently offered are the AP in Marketing Management; AP in Hospitality and Tourism Management; AP in Computer Science; AP in Multimedia Design and Communication; AP in e-design and AP as Lab Technician. The Academy Profession Degree programmes are predominantly offered by Academies of Professional Higher Education.

The Professional Bachelor's Degree (Bachelor level) study programmes are 180-240 ECTS and include a work placement period covering at least 30 ECTS. The programmes are development-based and combine theoretical studies with a practical approach. The programmes exist in the fields of health care; bio and lab technology; media and communication; pedagogy; technology; social studies; economics and finance. Examples of programmes at this level are the programmes in nursing, teaching, as well as diploma engineer programmes, etc. Professional Bachelor's Degree programmes are predominantly offered by the university colleges.

The Bachelor's Degree (Bachelor level) study programmes are 180 ECTS. The programmes are research based and are offered in all scientific fields: natural sciences; the humanities; social sciences; theology; technology and health sciences. Examples of programmes are the BA in History; BSc. in Economics; BSc in Engineering; BA in Archaeology; BA in French; BSc. in Physics, etc. Bachelor's Degree programmes are offered by the universities.

The Master's Degree (candidatus) (Master's level) study programmes are 120 ECTS. The Master's Degree programmes are research based. They cover the same scientific fields as the Bachelor's Degree programmes and are also offered by the universities.

The PhD Degree study programmes are 180 ECTS. The PhD programmes are only offered by the universities, and some institutions under the Ministry of Culture.

The 3 degree types within the adult further education system included in the NQF-HE are:

Academy Profession Degree (VU) (Academy Profession level) study programmes are 60 ECTS. The programmes are normally offered as part-time education, and theoretical studies are combined with a practical approach. The programmes cover the same subject areas as the ordinary Academy Profession Degrees, as well as broader subject areas, e.g. business.

Diploma Degree (Bachelor's level) study programmes are equivalent to 60 ECTS. These programmes, too, are normally offered as part-time education and combine theoretical studies with a practical approach. Programmes are offered in specialised fields related to the Professional Bachelor's Degree programmes or to broader subject areas, e.g. management.

Master Degree (Master's level) study programmes are 60 ECTS. As with the other degree types in the parallel system, Master Degree programmes are part time programmes. The programmes are offered in all scientific areas within specialised subjects or interdisciplinary fields, e.g. Master of Business Administration (MBA).

3.1.5 Admission and progression

Admission to and progression within higher education are regulated by national legislation, including in some cases centrally specified admission requirements for qualifications (typically a recognised upper secondary school leaving examination certificate) and subjects. In addition, some programmes admit students on the basis of relevant vocational education programmes, or through auditions or admission tests.

In principle, completion of a degree at one level qualifies the student for admission to the next level. The University Act gives holders of a Bachelor's Degree the right to continue their studies in at least two Master's programmes. Due to the binary system, however, this is not the case for holders of a Professional Bachelor's Degree. Admission to Master's programmes may for these graduates – as well as for graduates with an unrelated Bachelor's Degree – in some cases require completion of a supplementary course. Some Master's Degree programmes allow the admission of students holding relevant Professional Bachelor's Degrees without a supplementary course.

Admission to the adult further education programmes is dependent on meeting both specific educational admission criteria plus, normally, two years' of relevant professional experience, which explains why these programmes are of shorter duration than their counterparts at the same qualification levels in the ordinary system.

Within the professionally oriented programmes, progression has recently been furthered by establishing the possibility of top-up programmes for Academy Profession Degree holders, leading to the attainment of a Professional Bachelor's Degree.

3.1.6 Governance and financing of higher education

Institutions of Higher Education have been founded in different historical periods and for different purposes. They are situated in different locations across Denmark and vary widely in both size and form. Danish Institutions of Higher Education are self-governing with independent boards responsible for the overall operation and management of the institutions. The institutions are thus outside the ministerial hierarchy but are subject to public supervision by their regulating ministries.

National legislation also differs according to the type of institution and provision of programmes. For all institutions, national legislation covers the framework of education, funding, examinations and staffing. In addition, legislation regarding the University Colleges and the Academies of Professional Higher Education also covers educational aims and curricula.

Higher education is financed by the state through a taximeter system and block grants allocated to the institutions. The taximeter system is activity-level dependent, and education funding thus relies on output control, whereby funding is allocated on the basis of the students' academic activity measured in terms of exams passed. In addition, institutions may raise additional funds

through income-generating activities and earn incentive-oriented bonuses, e.g. for high completion rates.

The appropriations are given to the institutions as block grants, to be prioritised freely by the institution within the limits of national legislation, the remit of the institution and other agreements between the institution and the regulating ministry.

Basic funding for the universities is allocated to their main objectives – education, research and other purposes. As a general principle, the universities receive their funding from two sources: 1) state funding earmarked for the universities in the annual Danish Appropriations Act; and 2) other income from research councils, e.g. the EU, private investors, etc.

In contrast to the ordinary system, where education is free of charge for the student, study programmes in the parallel system are financed partly by the state and partly by the student.

3.2 Quality assurance of higher education

Higher education institutions are responsible for the high quality provision of education and training and must establish internal quality assurance procedures. In addition, their study programmes are subject to accreditation, and the students' learning outcomes are assessed and assured by external examiners.

3.2.1 Internal quality assurance

All institutions of higher education are required to conduct systematic quality assurance of their provision of education. The quality assurance of study programmes is conducted via different types of quality systems, but typically includes course evaluations, feedback from external examiners, strategies for the further education and training of teachers, and regular interaction with stakeholders. While the institutions can independently decide which approach and method they want to apply, they are legally obliged to make evaluation results publicly available on their websites, and their internal quality work will be assessed through accreditation procedures.

3.2.2 Accreditation

Since 2007, accreditation of all study programmes has been the primary approach to external quality assurance of higher education in Denmark. Accreditation is mandatory and a precondition for attaining public funding. An Accreditation Council has the authority to award, conditionally award or deny the accreditation of programmes.

Two types of accreditation are conducted:

- Accreditation of new programmes and supplies (ex ante);
- Accreditation of existing programmes (ex post).

Accreditation is based on predefined criteria for quality and relevance (employability) as set out in the ministerial orders following the Accreditation Act. An accreditation is valid for up to six years, and at the end of this period, institutions must apply for reaccreditation.

It is integrated in the accreditation criteria that the level of a programme must be in compliance with the corresponding degree type – and thus qualification level – of the NQF-HE.

Two accreditation operators conduct the accreditation evaluations: ACE Denmark for programmes under the Ministry of Science, Technology and Innovation, and The Danish Evaluation Institute (EVA) for programmes under the Ministry of Education and the Ministry of Culture.

3.2.3 External examiners

A fundamental aspect of external quality assurance of higher education is the use of external examiners for some of the examinations a student must pass in order to graduate. The function of the external examiners is to guarantee the professional and academic integrity of an examination and assure that the same standards are applied to the examination of all students. In that way, the external examiners contribute to the quality assurance of higher education programmes, as well as to securing the legal rights of the students.

3.3 The Danish National Qualifications Framework for Higher Education (NQF-HE)

3.3.1 The Danish framework

The purpose of the Danish NQF-HE is:

- to make the degree structures more transparent and make the different paths through the education system more visible;
- to enhance international comparison with the aim of facilitating credit transfer, mobility and the recognition of foreign qualifications.

The first version of the Danish NQF-HE was developed between 2001-2003 by the Danish Bologna Follow Up Group on the initiative of the Minister of Education and the Minister for Science, Technology and Innovation.

In 2006 the relevant ministers decided that the Danish NQF-HE should be revised to bring it into line with national and European developments. A steering group was established consisting of representatives from the three ministries responsible for higher education in Denmark: the Ministry of Science, Technology and Innovation; the Ministry of Education and the Ministry of Culture.

Central themes in the revision were to include the knowledge and practical experiences gained by the higher education institutions from having implemented the original framework, and also to include the perspectives of other stakeholders on the usefulness and applicability of the framework. Another central point was to make the Danish NQF-HE compatible with the Qualifications Framework for the European Higher Education Area (QF-EHEA). Following a process of external consultation, the current NQF-HE was approved by the relevant ministers, and on 1 July 2008 it came into force.

The Danish NQF-HE contains both a systematic description of the different qualification levels at an aggregated level and the underlying descriptions of the individual Danish degree types.

Qualification levels and degree types are described in terms of the learning outcomes that students are intended to have when they finish a study programme. The learning outcomes are divided into three categories: knowledge, skills and competences, which are further subdivided into more detailed subcategories (e.g. field of knowledge, understanding and reflection level, etc.).

The NQF-HE was developed by first describing the existing degree types in terms of learning outcomes. Subsequently, the descriptors for degree types at each level were integrated in order to develop generic descriptors for the four levels in the NQF-HE.

3.3.2 The Danish Qualifications Framework for Lifelong Learning

In 2006, a political decision, following the recommendation of the EU commission, initiated the development of a Danish Qualifications Framework for Lifelong Learning (NQF) covering the entire Danish educational system in correspondence with the EQF.

The objective of the NQF is to support and promote lifelong learning and mobility by creating an overview of recognised programmes and progression routes, both within the ordinary system and within the parallel system of adult further education. A second objective is to promote the mutual recognition of Danish and international qualifications by linking the NQF and the EQF.

The NQF aims to provide a complete overview of Danish qualification levels, their typical learning outcomes and types of degrees, how they are obtained and which opportunities for further education they provide. The eight levels of the NQF are designed to correspond to the levels of the EQF.

The NQF is currently in the process of being implemented. The descriptions of the levels of higher education (levels 5-8) are identical with those of the NQF-HE, except for the description of level 5, which has been reformulated in order to embrace a group of educational programmes which are

defined as post secondary education vocational programmes and not as higher education programmes.

4 Criteria for self-certification

The heart of the self-certification process has been to evaluate whether the Danish National Qualifications Framework for Higher Education (NQF-HE) meets the seven verification criteria for compatibility with the Bologna Framework. This chapter contains the assessments and conclusions of the self-certification committee.

The self-certification committee concludes that the Danish NQF-HE meets all seven verification criteria.

Criteria 1: The national framework for higher education qualifications and the body or bodies responsible for its development are designated by the national ministry with responsibility for higher education.

Responsibility for the development of the NQF-HE rests with a steering group comprised of representatives of the three ministries responsible for higher education: The Ministry of Science, Technology and Innovation; The Ministry of Education, and the Ministry of Culture.

The NQF-HE was developed by a reference group consisting of representatives of the three ministries and relevant stakeholders from the educational sector and the labour market. The reference group was appointed by the steering group.

A section of the NQF-HE covering programmes under the jurisdiction of the Ministry of Culture is under development, and these supplementary degree types will be integrated into the NQF-HE at a later date. Both the steering group and the reference group are involved in this process, which also includes a broader consultation process.

CIRIUS, the Danish ENIC/NARIC under the auspices of the Ministry of Science, Technology and Innovation, acts as the national information point for the NQF-HE. This role has been accorded to CIRIUS by the steering group.

Criteria 2: There is a clear and demonstrable link between the qualifications in the national framework and the cycle qualification descriptors of the European framework.

As noted in the 2007 report from the Bologna Working Group on Qualifications Frameworks, the objective of the self-certification is to ascertain whether the NQF-HE is in accordance with the Framework of Qualifications for the European Higher Education Area. There is, thus, no requirement for a perfect match between the descriptors employed in the two frameworks.

To investigate whether such accordance exists between the NQF-HE and the Bologna Framework, the self-certification committee conducted a conceptual analysis and comparison of the qualification level descriptors contained in the two frameworks. The comparison was conducted in three steps.

Overall consistency

Firstly, the two frameworks were compared to ascertain whether there is an immediate recognisability between the qualification levels of the Danish NQF-HE and the three cycles of the Bologna Framework. The NQF-HE contains three qualification levels corresponding to the cycles of the Bologna Framework, as well as an Academy Profession level corresponding to the short cycle within the first cycle described in the original proposal of the Bologna Framework. The self-certification committee concluded that there is a high degree of recognisability, reflecting the fact that the NQF-HE was developed with its basis in the Bologna Framework. Furthermore, the high degree of

compatibility between the NQF-HE and the Bologna Framework also reflects the fact that Denmark has gradually been implementing the 3 cycle structure since the late 1980's. Today, this structure is firmly embedded in the Danish higher education system. In developing the NQF-HE, an approach was used whereby the existing degrees were described in a way that reflected their specific characteristics and positions in the Danish system of higher education. It was an explicit goal that the different educational programmes should be recognisable in the descriptions of the degree types. At the same time both the degree type descriptions and the level descriptions were formulated with due reference to the Dublin descriptors, but without using the specific wording of the Dublin Descriptors directly in the Danish descriptions. Thus, there is an obvious difference between the wordings of the Dublin Descriptors and the descriptors of the NQF-HE, as it has never been an objective to achieve similarity in the wordings. The international members of the self-certification committee noted that the use of knowledge, skills and competences as categories for the descriptors is a good way of achieving alignment with the Dublin descriptors while developing specific descriptors that reflect the Danish context.

External consistency

Secondly, each descriptor from the Bologna Framework was compared with the corresponding descriptor in the NQF-HE in order to assess the conceptual and semantic, as well as the discursive, consistency between the two frameworks. The committee concluded that there is consistency between the qualification level descriptors of the NQF-HE and the cycle descriptors of the Bologna Framework.

The self-certification committee noted that the terminology employed in the NQF-HE is more general and less specific than that of the Bologna Framework, in that the NQF-HE employs more meta-concepts to describe learning outcomes. For instance, under the "skills" category, no explicit mention is made of the ability to gather information. Instead, this specific skill is contained in the use of the meta-concept "methodology", as can be seen in the table below.

Tabel 1
Comparison of skills descriptors

Dublin descriptor, first cycle	Danish NQF-HE, first cycle
have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues	Must be able to apply the methodologies and tools of one or more subject areas as well as apply skills related to work within the subject area(s) or in the profession.

Likewise, the ability to reflect on ethical issues is not explicitly mentioned in the NQF-HE. In relation to a qualifications framework, this may well be due to the fact that ethics and moral issues/questions are conceived as being closely related to the professional aspects of particular qualifications, i.e. professional ethics. For those qualifications where particular ethical aspects play a particularly central role, this is included in the relevant ministerial orders and study plans. Furthermore, in a historic university perspective, ethics in a general sense are embedded in the academic disciplines themselves and the very act of research, scientific study, and scientific teaching. This may also help to explain why ethics are only mentioned explicitly for the Professional Bachelor's Degree in the Danish NQF-HE.

A further distinction between the Bologna Framework and the NQF-HE is that "critical analysis" is not mentioned explicitly in the Danish third cycle descriptors. In a Danish and Nordic context, it has proved to be unfruitful to use the term *critical thinking* as a level indicator, since development of the student's ability to think critically and engage independently with the curriculum is already sought in secondary education. It would thus be superfluous to specifically highlight this at the PhD level (which is the only cycle in the Bologna Framework where critical thinking is an explicitly stated objective), and thus the emphasis is instead placed on the ability to develop and evaluate new ideas, techniques and skills, as illustrated in the table below.

Tabel 2
Comparison of skill descriptors regarding critical thinking

Dublin descriptor, third cycle	Danish NQF-HE, third cycle
Are capable of critical analysis, evaluation and synthesis of new and complex ideas	Must be able to analyse, evaluate and develop new ideas, including design and develop new techniques and skills within the subject area.

The self-certification committee concluded that there is strong alignment between the terminologies used in the Bologna Framework and the NQF-HE, and that the differences merely stem from different traditions and are of no significant consequence. The alignment between the descriptors of the Bologna Framework and the NQF-HE is shown in Appendix B.

Internal consistency

Thirdly, the self-certification committee investigated whether there is internal consistency within the NQF-HE between the descriptions of the qualification levels and the descriptions of degree types at the different levels. The NQF-HE was established by first developing the degree type descriptions, following which the qualification levels were described using the highest common denominator as the expected learning outcome for each level to reach end-of-cycle level. The self-certification committee concluded that this has been a useful approach which has ensured a strong recognisability between the qualification level descriptions and the degree type descriptions, and a strong internal consistency in the NQF-HE. Furthermore, the approach has ensured that the NQF-HE closely reflects and is embedded in the higher education system in Denmark.

Criteria 3: The national framework and its qualifications are demonstrably based on learning outcomes, and the qualifications are linked to ECTS or ECTS compatible credits.

The self-certification committee noted that all qualifications included in the NQF-HE are clearly described using a learning outcomes based terminology. Learning outcomes are categorised as knowledge, skills and competences, and these three categories are further divided into sub-categories, allowing for a systematic approach in the formulation of outcome descriptors and easy comparison between qualification levels and between degree types. The categorisation of learning outcomes regarding knowledge for the ordinary degree types can be seen in the table below.

Tabel 3
Categorisation of learning outcomes regarding knowledge in the NQF-HE

	Academy Profession Degree	Professional Bachelor's Degree	Bachelor's Degree	Master's Degree	PhD Degree
Knowledge field	Must possess development-based knowledge of the practice and central applied theories and methodologies of the profession and the subject area.	Must possess development-based knowledge of the practice and applied theories and methodologies of the profession and the subject area.	Must possess research-based knowledge of theory, methodology and practice within one or more subject areas.	Must possess knowledge of one or more subject areas which, in selected fields, is based on the highest international research within a subject area.	Must possess knowledge at the highest international level within the research field.
Understanding and reflection level	Must be able to understand the practice and central applied theories and methodologies as well as the profession's application of theories and methodologies.	Must be able to understand the practice, applied theories and methodologies as well as reflect on the practice and application of theories and methodologies of the profession.	Must be able to understand and reflect on theories, scientific and methodologies and practice.	Must be able to understand and, on a scientific basis, reflect on the knowledge of the subject area(s) as well as be able to identify scientific issues.	Must have made a significant contribution to the development of new knowledge and understanding within the research field based on scientific studies.

Source: English translation of the Danish National Qualifications Framework for Higher Education, cf. Appendix A

The programmes and qualifications are defined in the NQF-HE as comprising a specific number of ECTS credits or an interval of ECTS credits. The use of ECTS in course descriptions is compulsory under law for all programmes of higher education in Denmark.

Criteria 4: The procedures for inclusion of qualifications in the national framework are transparent.

Overall, it is an explicit ambition underpinning the NQF-HE that it shall reflect the Danish higher education sector, and that new educational programmes are developed so that they not only meet needs and demands in society but also fit into the established qualifications structure. Thus, the self-certification committee has investigated the procedures for inclusion of qualifications, understood as both inclusion of new degree types and as inclusion of new programmes.

Inclusion of degree types

There is a limited range of Danish higher education degree types, the provision of which is dependent on type of institution. Establishment of new degree types happens at the legislative level, after which they will be included in the Danish NQF-HE by the relevant ministries via the steering group.

Inclusion of programmes

Establishment of a new educational programme requires a positive ex ante accreditation by the Accreditation Council. The criteria for accreditation are promulgated in the Accreditation Act and related ministerial orders, and it is explicitly taken into account whether a proposed programme is in compliance with the NQF-HE.

The accreditation procedures are clearly described on the websites of the accreditation operators, who also organise regular information events for institutions interested in developing and offering new educational programmes.

Criteria 5: The national quality assurance system for higher education refers to the national framework of qualifications and is consistent with the Berlin Communiqué and any subsequent communiqués agreed by ministers in the Bologna Process.

The European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), which have been developed by ENQA (the European Association for Quality Assurance in Higher Education) is the cornerstone of the Danish national quality assurance system. In the fall of 2007, a national accreditation system was established, making programme accreditation the predominant approach to external quality assurance of Danish higher education. Compliance with the ESG is a requirement for all quality assurance agencies wishing to function as accreditation operators in Denmark. In order to gain admission to the European Quality Assurance Register for Higher Education (EQAR), ACE Denmark is required to document compliance with the ESG. EVA's compliance with the ESG was confirmed on the basis of an external evaluation in 2005 reconfirming EVA's full membership of ENQA. Both ACE Denmark and EVA will undergo external evaluations in 2010 to assess their compliance with the ESG.

The main component of the Danish system for external quality assurance is the accreditation system, in which the NQF-HE is referred to in key criteria. Thus, compliance with the NQF-HE is a prerequisite for positive accreditation of both new and existing programmes.

Criteria 6: The national framework, and any alignment with the European framework, is referenced in all Diploma Supplements.

All higher education institutions providing publicly recognised programmes are legally obliged to provide a Diploma Supplement with each formal diploma issued to students completing a programme of higher education. The institutions design the Diploma Supplements individually subject to a national template, which ensures that due reference is made to the Bologna process.

CIRIUS is chair of the inter-ministerial working group tasked with ensuring that compliance of the NQF-HE with the Bologna Framework is included in the national Diploma Supplement template by January 2010. At the same time, the template will be revised so both the Bologna Framework and the EQF are referenced in future Diploma Supplements.

Criteria 7: The responsibilities of the domestic parties to the national framework are clearly determined and published.

The main parties with responsibility in relation to the NQF-HE are the three ministries represented in the steering group tasked with the maintenance of the NQF-HE: The Ministry of Science, Technology and Innovation; The Ministry of Education and the Ministry of Culture.

Other actors with responsibilities are the two accreditation operators and the Accreditation Council, who are charged with ensuring the alignment of specific educational programmes with the degree type descriptions in the NQF-HE. CIRIUS has been designated as national information point regarding the NQF-HE.

Responsibility for the implementation of the NQF-HE at the programme level rests with the institutions of higher education, which are responsible for incorporating learning outcomes in line with the degree type descriptions in their descriptions of each study programme. Public funding of study programmes presupposes a positive accreditation of each programme, including evidence that individual programmes are in compliance with the NQF-HE.

The division of responsibilities is clearly defined in Danish legislation. However, more could be done to inform outside parties and the general public as to the responsibilities of each actor in the system. This could be done via a dedicated page on the CIRIUS website and via information initiatives targeted relevant stakeholders in Danish and European Higher Education.

5 Procedures for self-certification

The self-certification committee has also considered whether the Danish NQF-HE meets the six process criteria for the alignment of national qualifications frameworks to the Bologna framework. This chapter contains the assessments and conclusions of the committee.

The self-certification committee concludes that the process of self-certification of the Danish National Qualifications Framework for Higher Education is in compliance with all 6 process criteria.

Procedure 1: The competent national body/bodies shall self-certify the compatibility of the national framework with the European framework.

The steering group responsible for the self-certification consists of representatives from The Ministry of Science, Technology and Innovation, The Ministry of Education and the Danish Ministry of Culture. These ministries are the competent national bodies.

On behalf of the steering group, the Ministry of Science, Technology and Innovation has requested the Danish Evaluation Institute (EVA) to organise and facilitate the self-certification process.

Procedure 2: The self-certification process shall include the stated agreement of the quality assurance bodies in the country in question, as recognised through the Bologna Process.

ACE Denmark and EVA are the responsible quality assurance bodies in Denmark.

The self-certification has been conducted by a self-certification committee with members from; ACE Denmark, EVA, the Ministry of Science, Technology and Innovation, the Ministry of Education, The Danish Ministry of Culture, CIRIUS and two international experts. This report serves as the stated agreement of the members of the self-certification committee.

The self-certification committee agreed on the conclusions of the report at a meeting on 20. October and thus confirmed that the Danish NQF-HE is compatible with the QF-EHEA.

Procedure 3: The self-certification process shall involve international experts.

Two international experts have been involved in the self-certification process as full members of the self-certification committee.

- Director of Projects Jon Haakstad, NOKUT – the Norwegian Agency for Quality Assurance in Education;
- Former Head of Department Ulf Öhlund, Department for the Recognition of International Qualifications, Swedish National Agency for Higher Education.

These two international experts played a key role in the discussions during the self-certification process.

Procedure 4: The self-certification and the evidence supporting it shall be published and shall address separately each of the criteria set out.

The final self-certification report will be forwarded by the self-certification committee to the steering group who will present it to CIRIUS for publication. The self-certification report will be published at CIRIUS' website www.ciriusonline.dk on the same subpage as the NQF-HE. The report will also be available on the Bologna Process website and the ENIC-NARIC website.

Procedure 5: The ENIC and NARIC networks shall maintain a public listing of States that have confirmed that they have completed the self-certification process

The self-certification committee will inform CIRIUS, the Danish ENIC-NARIC, when the self-certification process is completed in order for Denmark to be included in the list of countries that have completed the self-certification process.

Procedure 6: The completion of the self-certification process shall be noted on Diploma Supplements issued subsequently by showing the link between the national framework and the European framework.

Diploma Supplements in Denmark are issued by the institutions awarding degrees using a national template. Following the publication of this report, CIRIUS, as chair of the inter-ministerial working group, is tasked with ensuring that compliance of the NQF-HE with the Bologna Framework is included in the national Diploma Supplement template by January 2010. This will thus be noted on Diploma Supplements issued henceforth by Danish institutions of higher education.

6 Issues raised by stakeholders

Stakeholders were involved in the self-certification process through the reference group for the Danish National Qualifications Framework for Higher Education, which consisted of representatives from higher education institutions, student organisations, employer organisations and trade unions. The consultation took the form of a meeting, in which members of the self-certification committee also participated.

The reference group made general and specific comments to the draft self-certification report and thus provided valuable feedback to the self-certification committee, which enhanced the quality of the final report. In addition, several issues, which can be grouped under three headings, were raised and discussed during the meeting: the importance of a framework that includes all types of higher education programmes and degrees; the necessity of identifying a balance between flexibility and firmness in the approach to the framework; and the need for targeted information initiatives.

Inclusion of all higher education programmes and degrees

As noted in chapter 3, the educational programmes under the remit of the Ministry of Culture are not yet included in the NQF-HE, although the process of developing degree type descriptions is well advanced. There is, however, still some uncertainty as to how some specific programmes will be integrated into the Ministry of Culture's section of the NQF-HE, as their current content and structure do not fit into the proposed new degree types. This situation led to the first main theme, as the reference group took this work as an opportunity to stress the importance of ensuring that the NQF-HE is designed to be able to accommodate all types of higher education programmes in order to maximise its utility and the transparency of the Danish higher education system. However, the reference group also agreed on the importance of not forcing any programmes into the framework for the sake of completeness without first carefully assessing their peculiarities and taking these into account.

Balance between the needs for structure and flexibility in the higher education system

This conclusion led the reference group directly to the second main theme of the discussion. The reference group agreed that a fine balance must be ensured between the NQF-HE as an organising structure for the higher education system, on the one hand, and the need to maintain a flexible and adaptable system, on the other. Both objectives are important to reach, but there are risks related to each if one is not balanced by the other. If the NQF-HE is going to provide transparency in the education system, it is imperative that the levels established and described in the framework cover all higher education programmes, and that new programmes are only accredited if they fit into an already existing degree type. If this is not the case, the NQF-HE at best becomes irrelevant, and at worst misleading. Furthermore, the NQF-HE must be a useful tool for individual students, businesses and educational institutions to grasp the possibilities for, and barriers to, progression in the system, and must thus cover all recognised programmes and degrees. At the same time, the reference group stressed that the framework must not develop into a structural straitjacket that constrains the educational sector, for instance by forcing well-functioning existing programmes to change only for structural reasons. Likewise, the reference group reflected on the need to maintain the NQF-HE as a dynamic structure, and to avoid the risk that too strong an emphasis on maintaining a fixed structure might prevent the development of new educational programmes to match future societal needs.

Dissemination of the NQF-HE

The third theme, which took up most of the discussion in the reference group, concerned the need to raise awareness of the NQF-HE and its implications for higher education programmes and individual students. The NQF-HE has a dual purpose, as it serves to organise the higher education system and at the same time is a tool for the individual student to document and promote his or her achieved learning outcomes. There was consensus that this dual purpose needs to be clearly communicated to various stakeholders, and that targeted means of communication would be necessary to properly reach the wide spectrum of stakeholders in the education sector and the labour market. Thus, much of the discussion was aimed at identifying which stakeholders would be relevant to target, what kind of information they would benefit from receiving, and in which form and through which channels it should be communicated.

The overarching need for a common language and understanding regarding the NQF-HE was a central concern of the reference group. It was stressed that for the NQF-HE to be even further embedded in the higher education sector, it is crucial that the responsible ministries maintain an ongoing and constructive dialogue with the educational institutions and the rest of the sector. The reference group suggested that one way of starting such a dialogue could be to mark the completion of the self-certification process and the section of the NQF-HE covering the educational programmes under the auspices of the Ministry of Culture with a launch-conference. Such a conference could include presentations by politicians and experts from Denmark and abroad on the Bologna process and on the purpose and usefulness of qualifications frameworks. The reference group expressed even greater enthusiasm for the suggestion of a conference with workshops, where participants from educational institutions, quality assurance agencies, governmental agencies, ministries, social partners, etc. could gain hands-on experience of working with the NQF-HE and move towards a common understanding of the practical application of the framework in programme development, in promoting a dialogue with the various stakeholders in the labour market, etc.

All higher education institutions are by now acquainted with the NQF-HE and have, to a greater or lesser extent, gained experience in transforming level descriptors into tangible learning outcomes for individual programmes, modules and courses. However, many institutions find this exercise to be very demanding and difficult. Thus, the reference group suggested that it would be useful for the institutions to have a “toolbox” available with templates, inspirational tools, etc., to make the process of formulating specific learning outcomes for individual modules easier. A particularly useful tool would be examples and descriptions of how to describe final learning outcomes for a complete educational programme on just one page.

Such a brief summary of learning outcomes would also be of great value to individual enterprises who find it difficult to identify the specific skills and competences of graduates from lesser known or newly established educational programmes. A useful means of channelling information to these enterprises could be via the business units of the higher education institutions, who already have well-established links to the business sector, not least at the Academy Profession level where the largest proportion of graduates find employment in small businesses which, in turn, have limited resources for keeping up to date with developments in the broader education sector. Information about the NQF-HE and learning outcomes in general for the business sector could also help higher education institutions in their effort to explain to enterprises the important objectives and integrated role of work placement periods.

Finally, but not least importantly, individual students need to be made aware of the ways in which the NQF-HE can benefit them when moving across borders to continue their studies or find employment, especially in terms of making qualifications and competences comparable across educational systems in Europe. Thus, in addition to the Diploma Supplements already issued with all degree certificates, targeted information should be developed which explains the value of the NQF-HE in a way that is appealing to students, e.g. in the form of special web-based information that supplements the official NQF-HE homepages and which places less emphasis on the technical details. Instead, this information should focus on the practical usefulness of the NQF-HE and should be presented with an informal tone.

Appendix A

The Danish National Qualifications Framework for Higher Education

Academy Profession level	
	Persons obtaining degrees at this level
Knowledge and understanding	<ul style="list-style-type: none"> • Must possess knowledge of the practice and central applied theories and methodologies of the profession and the subject area. • Must be able to understand the practice and central applied theories and methodologies as well as the profession's application of theories and methodologies.
Skills	<ul style="list-style-type: none"> • Must be able to apply the central methodologies and tools of the subject area as well as be able to apply the skills related to work in the profession. • Must be able to evaluate practice-oriented issues as well as list and choose possible solutions. • Must be able to communicate practice-oriented issues and possible solutions to collaboration partners and users.
Competences	<ul style="list-style-type: none"> • Must be able to handle development-oriented situations. • Must be able to participate in discipline-specific and interdisciplinary collaboration with a professional approach. • Must be able to acquire new knowledge, skills and competences related to the profession in a structured context.
Bachelor's level	
	Persons obtaining degrees at this level
Knowledge and understanding	<ul style="list-style-type: none"> • Must possess knowledge of the theories, methodologies and practice of a profession or one or more subject areas. • Must be able to understand and reflect on theories, methodologies and practice.
Skills	<ul style="list-style-type: none"> • Must be able to apply the methodologies and tools of one or more subject areas as well as apply skills related to work within the subject area(s) or in the profession. • Must be able to evaluate theoretical and practical issues as well as explain the reasons for and choose relevant solution models. • Must be able to communicate academic issues and solution models to peers and non-specialists or collaboration partners and users.
Competences	<ul style="list-style-type: none"> • Must be able to handle complex and development-oriented situations in study or work contexts. • Must be able to independently participate in discipline-specific and interdisciplinary collaboration with a professional approach. • Must be able to identify their own learning needs and organise their own learning in different learning environments.
Master's level	
	Persons obtaining degrees at this level
Knowledge and understanding	<ul style="list-style-type: none"> • Must possess knowledge of one or more subject areas which, in selected fields, is based on the highest international research within a subject area. • Must be able to understand and, on a scientific basis, reflect on the knowledge of the subject area(s) as well as be able to identify scientific issues.
Skills	<ul style="list-style-type: none"> • Must master the scientific methodologies and tools of the subject area(s) as well as master general skills related to work within the subject area(s). • Must be able to evaluate and select among the scientific theories, methodologies, tools and general skills of the subject area(s), and set up, on a scientific basis, new analysis and solution models. • Must be able to communicate research-based knowledge and discuss professional and scientific issues with both peers and non-specialists.

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Competences	<ul style="list-style-type: none"> • Must be able to manage work situations and developments that are complex, unpredictable and require new solution models. • Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and assume professional responsibility. • Must be able to independently take responsibility for their own professional development and specialisation.
PhD level	
	Persons obtaining degrees at this level
Knowledge and understanding	<ul style="list-style-type: none"> • Must possess knowledge at the highest international level within the research field. • Must have made a significant contribution to the development of new knowledge and understanding within the research field based on scientific studies.
Skills	<ul style="list-style-type: none"> • Must master the scientific methodologies and tools as well as master other skills related to research and development tasks within the field. • Must be able to analyse, evaluate and develop new ideas, including design and develop new techniques and skills within the subject area. • Must be able to participate in international discussions within the subject area and disseminate scientific findings and progress to a wide audience.
Competences	<ul style="list-style-type: none"> • Must be able to plan and carry out research and development tasks in complex and unpredictable contexts. • Must be able to independently initiate and participate in national and international collaboration on research and development with scientific integrity. • Must be able to independently initiate research and development projects and, through these, generate new knowledge and new skills which develop the research field.

Descriptions of ordinary higher education degrees in Denmark (degree type descriptors)

	Academy Profession Degree (Erhvervsakademigrad)	Professional Bachelor's Degree (Professionsbachelorgrad)	Bachelor's Degree (Bachelorgrad)	Master's Degree (Kandidatgrad)	PhD Degree (Ph.d.-grad)
Knowledge and understanding					
Knowledge field	Must possess development-based knowledge of the practice and central applied theories and methodologies of the profession and the subject area.	Must possess development-based knowledge of the practice and applied theories and methodologies of the profession and the subject area.	Must possess research-based knowledge of theory, methodology and practice within one or more subject areas.	Must possess knowledge of one or more subject areas which, in selected fields, is based on the highest international research within a subject area.'	Must possess knowledge at the highest international level within the research field.
Understanding and reflection level	Must be able to understand the practice and central applied theories and methodologies as well as the profession's application of theories and methodologies.	Must be able to understand the practice, applied theories and methodologies as well as reflect on the practice and application of theories and methodologies of the profession.	Must be able to understand and reflect on theories, scientific methodologies and practice.	Must be able to understand and, on a scientific basis, reflect on the knowledge of the subject area(s) as well as be able to identify scientific issues.	Must have made a significant contribution to the development of new knowledge and understanding within the research field based on scientific studies.

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Skills					
Type of skills	Must be able to apply the central methodologies and tools of the subject area as well as be able to apply the skills related to work in the profession.	Must be able to apply the methodologies and tools of the subject area as well as master the skills related to work in the profession.	Must be able to apply the scientific methodologies and tools of one or more subject areas as well as apply general skills related to work within the subject area(s).	Must master the scientific methodologies and tools of the subject area(s) as well as master general skills related to work within the subject area(s).	Must master the scientific methodologies and tools as well as master other skills related to research and development tasks within the field.
Evaluation and decision-making	Must be able to evaluate practice-oriented issues as well as list and choose possible solutions.	Must be able to evaluate practice-oriented and theoretical issues as well as explain the reasons for and choose relevant solution models.	Must be able to evaluate theoretical and practical issues as well as explain the reasons for and choose relevant analysis and solution models.	Must be able to evaluate and select among the scientific theories, methodologies, tools and general skills of the subject area(s), and set up, on a scientific basis, new analysis and solution models.	Must be able to analyse, evaluate and develop new ideas, including design and develop new techniques and skills within the subject area.
Communication	Must be able to communicate practice-oriented issues and possible solutions to collaboration partners and users.	Must be able to communicate practice-oriented and academic issues and solutions to collaboration partners and users.	Must be able to communicate academic issues and solution models to both peers and non-specialists.	Must be able to communicate research-based knowledge and discuss professional and scientific issues with both peers and non-specialists.	Must be able to participate in international discussions within the subject area and disseminate scientific findings and progress to a wide audience.
Competences					
Action space	Must be able to handle development-oriented situations.	Must be able to handle complex and development-oriented situations in work or study contexts.	Must be able to handle complex and development-oriented situations in study or work contexts.	Must be able to manage work situations and developments that are complex, unpredictable and require new solution models.	Must be able to plan and carry out research and development tasks in complex and unpredictable contexts.
Collaboration and responsibility	Must be able to participate in discipline-specific and interdisciplinary collaboration with a professional approach.	Must be able to independently participate in discipline-specific and interdisciplinary collaboration and assume responsibility within the framework of professional ethics.	Must be able to independently participate in discipline-specific and interdisciplinary collaboration with a professional approach.	Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and assume professional responsibility.	Must be able to independently start up and participate in national and international collaboration on research and development with scientific integrity.
Learning	Must be able to acquire new knowledge, skills and competences related to the profession within a structured context.	Must be able to identify their own learning needs and develop their own knowledge, skills and competences related to the profession.	Must be able to identify their own learning needs and organise their own learning in different learning environments.	Must be able to independently take responsibility for their own professional development and specialisation.	Must be able to independently initiate research and development projects and, through these, generate new knowledge and new skills which develop the research field.

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Formal matters					
ECTS	90-150 ¹	180-240 ^{2,3}	180 ⁴	120 ⁵	180
Admission requirements	Completion of upper secondary education or relevant vocational training	Completion of upper secondary education with specific requirements for subjects and level or vocational training supplemented with requirements for completion of specific upper secondary school subjects and levels or Academy profession degree or Diploma degree	Completion of upper secondary education	Qualifying Bachelor's Degree	Master's Degree
Further education	Professional Bachelor and Diploma study programmes	Some Master's study programmes (kandidat), possibly via entrance courses, Master and Diploma study programmes	Master's (kandidat), Master and Diploma study programmes	PhD and Master study programmes	-
Main institution type ⁶	Academy of Professional Higher Education	University Colleges	Universities	Universities	Universities
Knowledge base	Business and profession-based as well as development-based	Business and profession-based as well as development-based	Research-based	Research-based	Research

¹ The study programme comprises a period of work placement of at least three months.

² The study programme comprises a period of work placement of at least six months.

³ A Professional Bachelor's study programme may also be planned as an independent extension to one or more Academy Profession study programmes with a duration of at least 90 ECTS, including a period of three-month work placement.

⁴ Propaedeutics courses may be approved in connection with the Bachelor's study programme corresponding to a maximum of 60 ECTS. In connection with some study programmes, it may be approved that the scope of the study programme exceed 180 ECTS due to a paid work placement.

⁵ For Master's study programmes (kandidatuddannelse) organised with a view to teaching at upper secondary school, it may be approved that the study programme be extended with 30 ECTS when the elective course is outside of the scope of the central study programme. Some Master's study programmes are approved to have a scope corresponding to up to 180 ECTS.

⁶ Specifies the type of institution which generally offers the type of degree in question. There are exceptions to the main rule, as, e.g., an Academy of Professional Higher Education may be approved to offer Professional Bachelor's study programmes, in the same way as the Diploma study programme in Economics and Business Administration is offered by universities.

Descriptions of the higher education degrees of the further adult education system in Denmark (degree type descriptors)

	Academy Profession Degree (VU-grad)	Diploma Degree (Diplomgrad)	Master Degree (Mastergrad)
Knowledge and understanding			
Knowledge field	Must, within a specialised area or in a wider perspective within the subject area, possess development-based knowledge of the practice and central applied theories and methodologies of the profession and the subject area.	Must, within a specialised area or in a wider perspective within the subject area, possess development-based knowledge of the practice, applied theories and methodologies of the profession and the subject area.	Must, within a specialised area or in a wider perspective of a subject or an interdisciplinary area, possess knowledge and understanding which, in selected areas, is based on the highest international research.
Understanding and reflection level	Must be able to understand the practice and central applied theories and methodologies as well as the profession's application of theories and methodologies.	Must be able to understand the practice, applied theories and methodologies as well as to reflect on the practice and application of theories and methodologies of the profession.	Must be able to understand and, on a scientific basis, reflect on the knowledge of the subject area(s) as well as be able to identify scientific issues.
Skills			
Type of skills	Must be able to apply central methodologies and tools as well as be able to apply the skills related to work in the area selected.	Must be able to apply methodologies and tools and master the skills related to work in the area selected.	Must be able to apply the scientific methodologies and tools of the subject area as well as master general skills related to work in the area selected.
Evaluation and decision-making	Must be able to evaluate practice-oriented issues as well as list and choose possible solutions.	Must be able to evaluate practice-oriented and theoretical issues as well as explain the reasons for and choose relevant solution models.	Must be able to evaluate theoretical and practical issues as well as set up, on a scientific basis, new analysis and solution models.
Communication	Must be able to communicate practice-oriented issues and solution proposals to collaboration partners and users.	Must be able to communicate practice-oriented and academic issues and solutions to collaboration partners and users.	Must be able to communicate and discuss academic issues and solution models with both peers and non-specialists.
Competences			
Action space	Must be able to handle development-oriented situations within the specialisation selected.	Must be able to handle complex and development-oriented situations in work contexts.	Must be able to handle and develop work situations that are complex, unpredictable and require new solution models.
Collaboration and responsibility	Must be able to participate in discipline-specific and interdisciplinary collaboration with a professional approach.	Must be able to independently participate in discipline-specific and interdisciplinary collaboration and assume responsibility within the framework of professional ethics.	Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and to assume professional responsibility.
Learning	Must be able to develop their own practice in a structured context.	Must be able to develop their own practice.	Must be able to independently take responsibility for their own professional development.

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Formal matters			
ECTS	60	60	60
Admission requirements	Completion of upper secondary education, vocational training or basic training for adults as well as two years' relevant work experience	Academy Profession Degree or completion of special preparatory course as well as two years' relevant work experience	Bachelor's Degree, Professional Bachelor's Degree or Diploma Degree as well as two years' relevant work experience
Further education	Diploma study programmes	Master study programmes	
Main institution type ⁷	Academies of Professional Higher Education	University Colleges	Universities
Knowledge base	Business and profession-based as well as development-based	Business and profession-based as well as development-based	Research-based

⁷ Specifies the type of institution which generally offers the type of degree in question. There are exceptions to the main rule, as, e.g., an Academy of Professional Higher Education may be approved to offer Professional Bachelor study programmes, in the same way as the Diploma study programmes in Economics and Business Administration is offered by universities.

Appendix B

Alignment of the descriptors of the NQF-HE and the QF-EHEA

The Framework of Qualifications for the European Higher Education Area	The Danish National Qualifications Framework for Higher Education
Short cycle qualification - within or linked to the first cycle	Academy Profession level
<p>Qualifications that signify completion of the short cycle - within or linked to the first cycle are awarded to students who:</p> <ul style="list-style-type: none"> • have demonstrated knowledge and understanding in a field of study that builds upon general secondary education and is typically at a level supported by advanced textbooks; such knowledge provides an underpinning for a field of work or vocation, personal development, and further studies to complete the first cycle • can apply their knowledge and understanding in occupational contexts • have the ability to identify and use data to formulate responses to well-defined concrete and abstract problems • can communicate about their understanding, skills and activities, with peers, supervisors and clients • have the learning skills to undertake further studies with some autonomy 	<p>Persons obtaining degrees at this level</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none"> • Must possess knowledge of the practice and central applied theories and methodologies of the profession and the subject area • Must be able to understand the practice and central applied theories and methodologies as well as the profession's application of theories and methodologies <p>Skills</p> <ul style="list-style-type: none"> • Must be able to apply the central methodologies and tools of the subject area as well as be able to apply the skills related to work in the profession • Must be able to evaluate practice-oriented issues as well as list and choose possible solutions • Must be able to communicate practice-oriented issues and possible solutions to collaboration partners and users <p>Competences</p> <ul style="list-style-type: none"> • Must be able to handle development-oriented situations • Must be able to participate in discipline-specific and interdisciplinary collaboration with a professional approach • Must be able to acquire new knowledge, skills and competences related to the profession in a structured context

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First cycle qualification	Bachelor's level
<p>Qualifications that signify completion of the first cycle are awarded to students who:</p> <ul style="list-style-type: none"> • have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study; • can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study; • have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues; • can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences • have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy. 	<p>Persons obtaining degrees at this level</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none"> • Must possess knowledge of the theories, methodologies and practice of a profession or one or more subject areas • Must be able to understand and reflect on theories, methodologies and practice <p>Skills</p> <ul style="list-style-type: none"> • Must be able to apply the methodologies and tools of one or more subject areas as well as apply skills related to work within the subject area(s) or in the profession • Must be able to evaluate theoretical and practical issues as well as explain the reasons for and choose relevant solution models • Must be able to communicate academic issues and solution models to peers and non-specialists or collaboration partners and users <p>Competences</p> <ul style="list-style-type: none"> • Must be able to handle complex and development-oriented situations in study or work contexts • Must be able to independently participate in discipline-specific and interdisciplinary collaboration with a professional approach • Must be able to identify their own learning needs and organise their own learning in different learning environments

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Second cycle qualification	Master's level
<p>Qualifications that signify completion of the second cycle are awarded to students who:</p> <ul style="list-style-type: none"> • have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with the first cycle, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context • can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study • have the ability to integrate knowledge and handle complexity, and formulate judgments with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments • can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non specialist audiences clearly and unambiguously • have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous 	<p>Persons obtaining degrees at this level</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none"> • Must possess knowledge of one or more subject areas which, in selected fields, is based on the highest international research within a subject area • Must be able to understand and, on a scientific basis, reflect on the knowledge of the subject area(s) as well as be able to identify scientific issues <p>Skills</p> <ul style="list-style-type: none"> • Must master the scientific methodologies and tools of the subject area(s) as well as master general skills related to work within the subject area(s) • Must be able to evaluate and select among the scientific theories, methodologies, tools and general skills of the subject area(s), and set up, on a scientific basis, new analysis and solution models • Must be able to communicate research-based knowledge and discuss professional and scientific issues with both peers and non-specialists <p>Competences</p> <ul style="list-style-type: none"> • Must be able to manage work situations and developments that are complex, unpredictable and require new solution models • Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and assume professional responsibility • Must be able to independently take responsibility for their own professional development and specialisation

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Third cycle qualification	PhD level
<p>Qualifications that signify completion of the third cycle are awarded to students who:</p> <ul style="list-style-type: none"> • have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field • have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity • have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication • are capable of critical analysis, evaluation and synthesis of new and complex ideas • can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise • can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society 	<p>Persons obtaining degrees at this level</p> <p>Knowledge and understanding</p> <ul style="list-style-type: none"> • Must possess knowledge at the highest international level within the research field • Must have made a significant contribution to the development of new knowledge and understanding within the research field based on scientific studies <p>Skills</p> <ul style="list-style-type: none"> • Must master the scientific methodologies and tools as well as master other skills related to research and development tasks within the field • Must be able to analyse, evaluate and develop new ideas, including design and develop new techniques and skills within the subject area • Must be able to participate in international discussions within the subject area and disseminate scientific findings and progress to a wide audience <p>Competences</p> <ul style="list-style-type: none"> • Must be able to plan and carry out research and development tasks in complex and unpredictable contexts • Must be able to independently initiate and participate in national and international collaboration on research and development with scientific integrity • Must be able to independently initiate research and development projects and, through these, generate new knowledge and new skills which develop the research field

Appendix C

The reference group

Higher education sector representatives:

- Association of Danish Business and Technical Colleges: Søren Clemmensen
- Rector's Conference - Danish Ministry of Culture: Torben Holm
- Rectors' Conference - University Colleges Denmark: Randi Brinckmann
- Universities Denmark: Berit Eika

Student representative:

- The National Union of Students in Denmark: Nils Wiese

Labour market representatives:

- FTF - Confederation of Professionals in Denmark: Erik Schmidt
- DI – the Confederation of Danish Industry: Sarah Gade Hansen
- AC – The Danish Confederation of Professional Associations: Birgit Bangskjær

Appendix D

Glossary of abbreviations

ACE Denmark	The Danish Accreditation Institution
AP	Academy Profession Degree
CIRIUS	The national agency for internationalisation of education and training in Denmark
ECTS	European Credit Transfer and Accumulation System
EHEA	European Higher Education Area
ENIC	European Network of Information Centres
ENQA	the European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register for Higher Education
EQF	European Qualifications Framework for Lifelong Learning
ESG	European Standards and Guidelines for quality assurance in higher education
EVA	The Danish Evaluation Institute
NARIC	National Academic Recognition Information Centre
NOKUT	the Norwegian Agency for Quality Assurance in Education
NQF	Danish Qualifications Framework for Lifelong Learning
NQF-HE	The Danish National Qualifications Framework for Higher Education
QF-EHEA	The Framework of Qualifications for the European Higher Education Area