

**Referencing the Icelandic National Qualifications Framework to
the European Qualifications Framework for Lifelong Learning**

DRAFT

Ministry of Education Science and Culture
National Coordination Point
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Executive Summary

This report provides the analysis and conclusion of referencing the Icelandic National Qualifications Framework (ISQF) to the European Qualifications Framework for Lifelong Learning (EQF). A coordination committee of three experts within the Ministry of Education, Science and Culture is responsible for managing the reference process and has sought collaboration with relevant stakeholders, such as teachers, teachers' associations, school principals and administrators, as well as the social partners; employers and trade unions, through a consultation process during the development of the ISQF.

The report starts by explaining the international context for the referencing process and providing an overview of the EQF, its objectives, structure and implementation. Chapter three describes the Icelandic education and training system and its recent reforms to give the national context of the referencing exercise in order to better understand the national criteria of the process. Chapter four provides a description of the ISQF, its development and implementation and chapter five presents the ten criteria and procedures for referencing national qualification levels to the EQF by addressing each of them from a national point of view, applying methods of structural and conceptual comparison. Chapter six summarises some of the main challenges encountered in the referencing work and presents the next steps in the process.

With reference to the criteria and procedures described in chapter five of the report, the conclusion is that all ten criteria are fulfilled and that the report establishes a clear and demonstrable link between the qualification levels in the ISQF and the level descriptors of the EQF in the following way:

ISQF	EQF
Level 7	Level 8
Level 6	Level 7
Level 5	Level 6
Level 4	Level 5
Level 3	Level 4
Level 2	Level 3
Level 1	Level 2
	Level 1

The report covers the whole Icelandic education system that leads to a qualification, starting from the upper secondary level to the higher education level, covering also the overlap in the first level which corresponds both to the last year of compulsory school as well as to the first qualifications at upper secondary school. Complete lists of ISQF and EQF descriptors, all levels, are provided in Annexes 1 and 2 to this report.

1. Introduction

This document is the official reference report for Iceland, providing a comprehensive referencing of the Icelandic National Qualifications Framework (ISQF) to the European Qualifications Framework for Lifelong Learning (EQF)¹.

The report serves to establish a reference to the EQF to the Icelandic qualifications framework (ISQF) which has been developed and agreed by relevant authorities² and stakeholders³ according to the Criteria and Procedures presented and agreed by the EQF Advisory Group.

The referencing process was administered by the Ministry of Education, Science and Culture and conducted by the Icelandic National Contact Point (NCP) or coordination committee, consisting of three experts from the Department of Education of the Ministry of Education, Science and Culture; Ms Björg Pétursdóttir, Head of Division of Policy and Development, Mr Ólafur Grétar Kristjánsson and Ms Krístrún Ísaksdóttir, both Advisers in the Division of Vocational and Adult Education, and other staff as needed. The NCP coordination committee also cooperated with the Ministry's Department of Science and Higher Education regarding the National Qualifications Framework for Higher Education and its links with the European Higher Education Area. The referencing of the criteria was carried out by an external expert who also wrote the report, Ms Adalheidur Jónsdóttir, Head of Communications and Senior Adviser at the Icelandic Centre for Research.

Due to the similarities of education systems in the Nordic countries, the cooperation established within the scope of the Nordic Council of Ministers was very valuable for the Icelandic NCP group. Within the scope of this network, NCPs in the Nordic countries met on eleven occasions, the first time in February 2011. The group focused on challenges related to all aspects of the EQF and the referencing from a Nordic perspective. This included giving presentations of the National Qualifications Framework development in each of the Nordic countries and the referencing work, discussions of the various understanding of qualifications and what they entailed, and finally, the referencing process was discussed. In continuation, the network focused

¹ Main acronyms used in the report:

- EQF: European Qualifications Framework for Lifelong Learning
- NQF: National Qualifications Framework
- ISQF: Icelandic Qualifications Framework
- ISQFHE: Icelandic Qualifications Framework for Higher Education
- NCP: National Contact Point

² The Icelandic Ministry of Education, Science and Culture.

³ Relevant stakeholders that have been consulted in the context of this report are: teachers, teachers' associations, school principals and administrators, local authorities and municipalities, as well as social partners representatives and occupational councils.

on the reference report itself and issues of common interest like the validation of non-formal and informal learning, international qualifications, implementation of the framework and the updating of the NQFs of the Nordic countries.

To ensure impartiality and efficient consultation, the coordination committee contracted an international expert, Ms Margaret Cameron of MSC Consulting, former manager of the Scottish Credit and Qualifications Framework Partnership and now an international expert for the development and implementation of the Bahrain Qualifications Framework. Margaret Cameron was supported by Dr David Bottomley, former Deputy Head of the Quality Assurance Agency for Higher Education in Scotland.

2. The European Qualifications Framework for Lifelong Learning

The European Qualifications Framework for Lifelong Learning (EQF) is a common European frame of reference designed to serve as a translation device to make qualifications more readable and understandable across different countries and systems in Europe, allowing the comparison of qualifications from one national system with the qualifications of another. The principal objectives of the EQF are to support people's mobility between countries and to promote lifelong learning for all.

The EQF is an overarching framework that contains eight reference levels described in terms of learning outcomes, based on the concepts of knowledge, skills and competences. It is a meta-framework that is meant to serve as a reference point for national systems, but does not concern itself with the ways in which countries structure their education and training policies, priorities or their institutions. The referencing process involves the NQF systems as a whole, whereas individual qualifications are not referenced to the EQF.

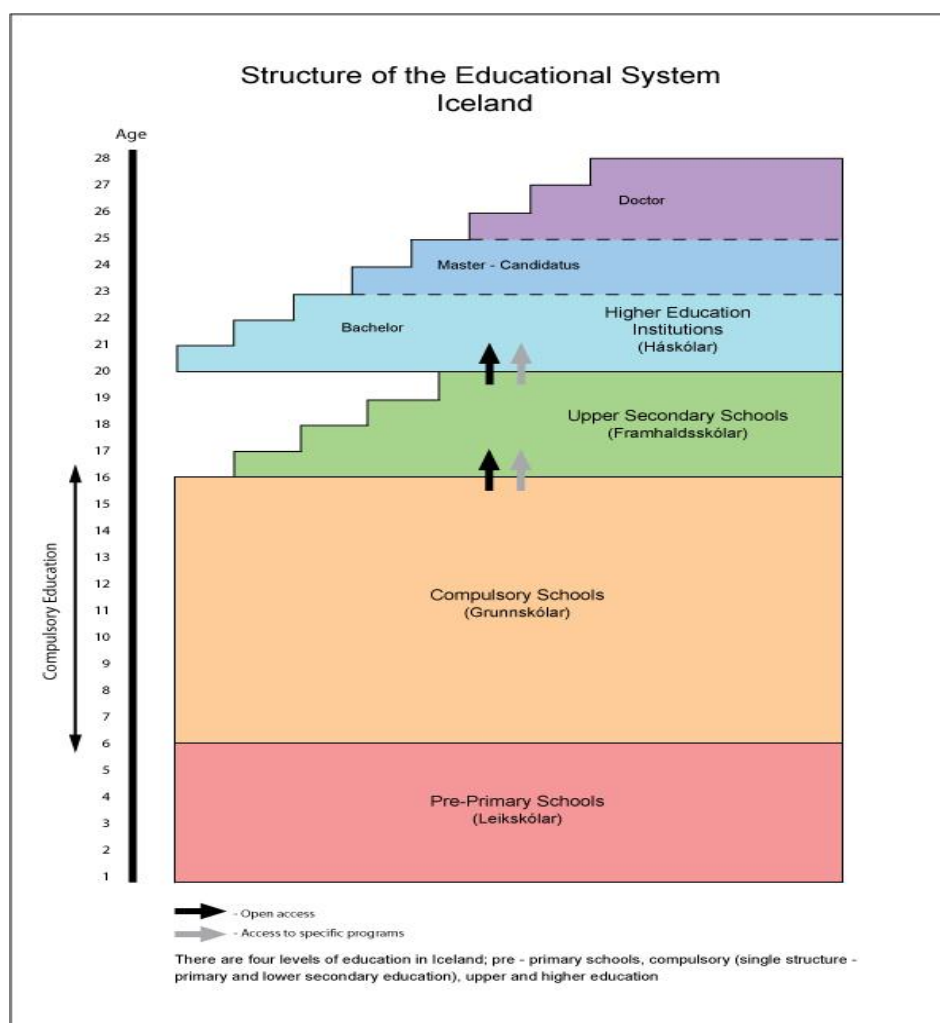
The EQF was formally adopted by the European Parliament and Council on 23 April 2008 following a process of development and consultation that was initiated in 2004 in response to requests from stakeholders in the field of education and training in various European countries for a common reference tool to increase the transparency of qualifications. The message was that it was essential for Europe to immediately invest more, and in a more efficient manner, in education and training and that each of the member states must define a clear policy for lifelong learning. Developing a European Qualifications Framework that would be a reference for a National Qualifications Framework in each country was thought to be essential in this policy work.

In order to support the referencing process, the European Commission established an EQF Advisory Group composed of relevant experts from the participating countries. The aim of the EQF Advisory Group is to ensure overall coherence in the reference process. For this purpose, the Advisory Group has developed a set of ten criteria and procedures for referencing national frameworks to the EQF. The process of referencing the Icelandic qualifications framework to the EQF has been undertaken in line with these criteria and procedures and is presented in this report.

The ten referencing criteria are addressed in Chapter 5 of the report and an overview of the European Qualifications Framework (EQF) is provided in Annex 1.

3. The Icelandic Education System and its Qualifications

The formal Icelandic education system is divided into four levels; pre-school education, compulsory education, upper-secondary education and higher education. Adult education, either formal or informal, is situated at the post-compulsory level. The structure of the Icelandic education system is shown in the following illustration:



3.1 Legislative Framework

A complete revision of the overall legislation governing the Icelandic education system has taken place over the last few years. In 2006 the Althing (The Icelandic Parliament) passed a framework legislation on universities, The Act on Higher Education Institutions no. 63/2006, where clear references were defined in the context of the development of learning at university level and of assurance of its quality.

In the spring of 2008 the Althing passed five bills that marked the future path for all school levels and for the education and appointment of teachers. These were the Pre-school Act no. 90/2008, The Compulsory School Act no. 91/2008, The Upper Secondary School Act no. 92/2008 and The Act on Education and Recruitment of Teachers and Head Teachers in Pre-School, Compulsory School and Upper Secondary School no. 87/2008, along with The Act on Public Higher Education Institutions no. 85/2008. The Adult Education Act no. 27/2010 completed the picture of the overall revision in 2010.

On the basis of the new legislation, a National Curriculum Guide was issued by the Ministry of Education, Science and Culture in May 2011, which provides a detailed framework for school activities at pre-school, compulsory and upper secondary levels as well as a guide through their objectives and goals.

The policy behind the new educational legislation is the policy of lifelong learning where the whole education system is seen as a whole from pre-school to university and adult education. It was developed in cooperation with all relevant stakeholders, including teachers' organisations, local authorities, municipalities, associations and the social partners.

The development of the ISQF was an integral part of the new legislation and corresponding curricula and was done in parallel to the revision of the Icelandic education system and development of new curricula, with the principle of learning outcomes and the national qualifications levels as main criteria in the educational reform. Descriptors were developed alongside the new curricula and focus groups were used to test the descriptors at the ISQF levels and also to verify that the level descriptions fit different final exams from different study programmes. Qualification levels are stipulated in the National Curricula.

The policy making also referred to the main emphases in educational development at international level, especially within the EU. Participation of Icelandic representatives in various policy working groups, which were established to implement the Treaty of Lisbon and are open to members of the EEA, has been beneficial to this process.

3.2 Pre-schools

The pre-primary school level is defined as the first level of the education system according to the new legislation as stipulated in the Pre-school Act from 2008. The objective of the pre-school is to provide education and care for children below the age at which compulsory education begins. The primary mission of the pre-school is to provide care and organise general activities as well as to motivate learning through play. At this school level, all learning that takes place is an integral part of the basic pre-school activities, play, daily care and general life-skills, and is not defined as providing qualifications and thus not associated with any qualifications level.

3.3 Compulsory Education

Compulsory education is organised in a single structure system, i.e. primary and lower secondary education form a part of the same school level, covering children's basic education from the age of 6 to 16. The law concerning compulsory education stipulates that education shall be mandatory for children and adolescents between the ages of six and sixteen. The Compulsory School Act from 2008 introduced some changes that were mainly a progressive continuation of previous legislative developments. The Act introduces provisions for developing more individualised learning and flexibility for pupils. It places more weight on quality assurance and puts emphasis on ensuring continuity and progression during the schooling process, than previous legislation. The Act also defines learning outcomes for the education level, placing it at ISQF level 1.

Compulsory education in Iceland is mainly concerned with providing pupils with general life skills and key competences. In terms of learning outcomes, the first competence level of the upper secondary school overlaps with the lower secondary level of the compulsory school as the description of the first level of the upper secondary school is also valid for the learning outcomes and competence objectives for the final stages of the compulsory school. This overlap is the result of the emphasis at policy level to strengthen the links between school levels to increase flexibility and thus enhance the overall study completion rate.

3.4 Upper Secondary Education

The Upper Secondary School Act no. 92/2008 introduced significant changes to the way upper secondary education was structured. New final examinations and certificates were introduced with the aim of ensuring access to suitable studies for all pupils and increasing the number of individuals that complete their studies with defined learning outcomes from upper secondary school. The organisation of study programmes and curricula was considerably decentralised and educational institutions were entrusted with increased responsibility of developing study provisions, both in general and on the margins of educational levels in order to increase flexibility and the possibilities of pupils transferring between school levels. Thus, with the new legislation, educational institutions develop their own study programmes and then send their descriptions to the Ministry of Education, Science and Culture for confirmation and validation.

The concept of fundamental pillars and key competences are introduced in the Icelandic National Curriculum Guide for Upper Secondary Schools from 2011, based on the Upper Secondary School Act from 2008. Six fundamental pillars of education are defined that are to be reflected in upper secondary school activities. These are: creative work; education for sustainability; literacy in its widest sense; health and welfare; democracy and human rights and equality. The key competences should link the fundamental pillars to the objectives of the learning outcomes, and these are: creative thinking and utilisation of knowledge; education for sustainability; literacy

and expression in Icelandic; literacy and expression in foreign languages; health; democracy and human rights; learnability and equality.

According to the National Curriculum Guide, all studies at upper secondary school level are divided into four levels of competence. However, the lower levels pertaining to the upper secondary level can overlap with the compulsory school level at one end (ISQF level 1) and the highest level can overlap with the university level at the other end (ISQF level 4).

The graphical illustration below shows how qualifications are placed within the ISQF, which also explains the overlap of qualifications between education levels. The picture can also be found in the answer to Criterion 2, explaining the structure of the ISQF.

ISQF level	Examples of Qualifications	EQF level
7	Doctorate degree	8
6	Master and Candidatus degree	7
5	Bachelor degree	6
4	Diploma at higher education level	5
3	Matriculation examination Other final examinations	4
2	Upper secondary school leaving certificate Other final examinations	3
1	Upper secondary school leaving certificate	1 & 2
ISQF		EQF

The qualifications of the ISQF levels show gradually increased demand on the pupils' knowledge, skills and competences, leading to greater specialisation and professionalism. The learning outcomes of each programme are linked to a competence level. The final objectives of study programmes are linked to competence criteria and indicate the competences that pupils are expected to have achieved upon graduation.

Study programmes in the upper secondary school end at certain qualification levels. By classifying them according to qualification levels, different requirements for the students' competences upon graduation are accented, regardless of the programme being academic, artistic or vocational.

Key competences, fundamental pillars and increased specialisation are emphasised in the description of the qualification levels. The description of the qualification levels is student oriented and independent of school level and education provider. The qualification levels are to indicate tasks and study requirements and are guidelines for

writing descriptions for course units and study programmes. The qualification levels are also informative for interested parties, both students and the economy, and the school level that receives the students upon graduation.

Upper secondary schools use a unit-credit system, so called *secondary school credits*, which make it possible to assess pupils' work in any study programme. A secondary school credit is defined as the standard for the work effort of upper secondary school students, whether their studies are vocational or academic, and whether they take place at school or elsewhere. Each secondary school credit equals 18 to 24 hours of work, corresponding to pupils working an average of three days, six to eight hours a day.

3.4.1. Qualifications at Upper Secondary Level

The Upper Secondary School Act and the National Curriculum Guide define four qualification levels at upper secondary school level. The first level extends to both the compulsory school and the upper secondary school and focuses on general education. The requirements for democracy, human rights, equality and sustainability are linked to everyday life and the individual being socially active. Students that have acquired this key competence show in their everyday life and communication that they respect other people, their values and human rights. Studies at the first level can also involve general preparation for employment where little specialisation is required and work is done under the supervision of others. In study programmes that end with the first qualification level, requirements for study progress can be unconventional and assessment primarily meant to be guiding for how students can reach their goals.

Study programmes that end at level two are characterised by short specialisation that mainly aims at professional preparation for further studies or employment that requires the employee to show responsibility and independence within a certain framework and/or under the supervision of others. The general competence of being an active citizen is expected to have been attained and attention is turned to being active and responsible in the working environment.

Study programmes that end at level three are characterised by increased requirements for knowledge, skills and competences related to specialisation and professionalism. The studies incorporate preparation for university education, regulated professions, specialised vocational education and artistic studies. Upon graduation at level three students are to be able to work independently, be responsible for planning and carrying out projects and evaluating their work.

The fourth level involves studies that take place either at the upper secondary school or under its auspices, or at university. Study completion at the fourth level is characterised by increased specialisation and/or extension, or specialisation concerning management, guidance, development or innovation.

The Ministry of Education issues arrangement of qualification levels for confirmed study completion of study programmes at upper secondary level and adult education level.

Students at upper secondary schools have the opportunity to complete their studies in study programmes that are defined at different qualification levels. The aim is to ensure that everyone can leave upper secondary school with at least some qualification, regardless of e.g. learning disabilities. Additionally, students can go on to further studies if they have completed the first three levels of the upper secondary school. Students have the possibility to graduate at different levels and upper secondary schools issue certificates to certify learning outcomes at each level.

3.4.2 Upper Secondary School Leaving Examination

The possibility of leaving upper secondary school with qualifications below traditional final examinations, such as matriculation examination or vocational education certificate, was introduced with the new Upper Secondary School Act from 2008. The result was the upper secondary school leaving examination that signifies the emphasis that is placed on the duty to provide young people with formal education, suited to their individual needs, until they are 18 years old. It is also meant to meet the needs of students who do not – or cannot, aim at other forms of graduation. Thus schools can either link the upper secondary school leaving examination to a defined study programme or to another form of the student’s participation at school designed for the student’s special needs. However, final objectives and learning outcomes should always be clear.

The upper secondary school leaving examination can be defined either at the first or second qualifications level depending on the requirements stipulated in the learning outcomes. The content of the studies can be classified as vocational, academic or artistic, but involving the objectives that characterise the qualification level of the studies. The extent of the upper secondary school leaving examination depends on the final objectives of the studies but should always be 90 to 120 secondary school credits. If a study programme for mentally disabled students is to be completed with this examination, the same rules are valid for extent of the studies.

After upper secondary school leaving examination is completed, a certificate is issued listing the qualification level of the studies, reference to the learning outcomes, a list of courses, grades where suitable and a list of other activities in which the student has participated, and are relevant to the exam.

The following table summarises the main characteristics of the upper secondary school leaving examination at ISQF level 1 and at ISQF level 2.

ISQF level	Upper secondary school leaving examination – main characteristics
1	<ul style="list-style-type: none"> • Content: studies involve general preparation for further studies or employment on the labour market where little specialisation is required and work is done under the supervision of others. • Organisation: can involve academic, artistic and/or vocational education and be organised as an integral study programme or be linked to the study programmes of the school in various ways. It can involve career days or on-the-job training. • Extent : 90-120 secondary school credits • Rights: upon graduation with upper secondary school leaving examination at level 1, students can choose either unskilled employment or further studies at upper secondary school level.
2	<ul style="list-style-type: none"> • Content: studies are characterised by rather short specialisation that mainly aims at professional

	<p>preparation for further studies or employment that require the employee to show responsibility and independence within a certain framework and/or under the supervision of others.</p> <ul style="list-style-type: none"> • Organisation: can involve academic, artistic and/or vocational education and be organised as an integral study programme or be linked to the study programmes of the school in various ways. It can involve on-the-job training. • Extent: 90-120 secondary school credits • Rights: upon graduation with upper secondary school leaving examination at level two, students can choose either employment that does not require much specialisation, further studies or accreditation for the study programmes of the upper secondary school level.
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3.4.3 Vocational Examination for Professional Rights

Vocational examination for professional rights is defined with learning outcomes in programmes providing rights for regulated professions or to receive a journeyman’s certificate. These learning outcomes can be defined at qualification levels two, three or four.

Qualifications levels of vocational study programmes shall take into consideration the requirements of the Ministry of Education, Science and Culture for key competence and competence requirements defined by the occupational council of the trade concerned. Additionally, certain rules are valid for the organisation of these study programmes.

The extent of the studies differs according to the qualifications level. Vocational examination for professional rights at ISQF level two generally includes 90 to 120 secondary school credits, level three 150 to 240 secondary school credits and level four is 30 to 120 secondary school credits, building on previously achieved learning.

Upon graduation the upper secondary school issues vocational examination for professional rights and the responsible Ministry provides the relevant licence. The certificate from the upper secondary school is to denote the qualifications level of the learning outcomes, a list of the courses taken, work-based learning, vocational training and grades.

The table below depicts the main features of the vocational examination for professional rights at ISQF levels 2, 3 and 4.

ISQF level	Vocational examination for professional rights – main characteristics
2	<ul style="list-style-type: none"> • Content: studies are characterised by rather short specialisation that aims at professional preparation for further studies for employment where the employee is required to show certain responsibility and independence. • Organisation: studies are organised as vocational education and involves on-the-job training • Extent: 60-120 secondary school credits • Rights: upon graduation with vocational examination for professional rights at the second level, students can choose either further studies or employment that requires professional rights. Continued studies involve specialisation within the vocational studies or accreditation for the study programmes of the upper secondary school level.
3	<ul style="list-style-type: none"> • Content: studies are characterised by specialised preparation for regulated professions that require the employee to be able to work independently, be responsible for planning and carrying out projects and evaluating their own work. • Organisation: studies are organised as vocational education and involves on-the-job training • Extent: 180-240 secondary school credits • Rights: upon graduation with vocational examination for professional rights at the third level, students

	can choose either further studies or employment which requires professional rights. Further studies involve increased specialisation and development at the workplace at the fourth competence level, additional studies for matriculation examination and studies at university level, or accreditation for other study programmes of the upper secondary school level.
4	<ul style="list-style-type: none"> • Content: studies are characterised by increased specialisation and/or extension, or specialisation concerning management, guidance, development or innovation. • Organisation: studies are organised as vocational education or job-related training • Extent: 30 – 120 secondary school credits • Rights: upon graduation with vocational examination for professional rights at the fourth level, students can choose either further studies at the fourth level, jobs with many responsibilities on the labour market, or jobs in the regulated professions. The studies can, in some cases, be accredited for certain studies at university level.

3.4.4 Matriculation Examination

The aim of the traditional matriculation examination is to prepare students for university education in Iceland or abroad. Duration of study for matriculation examination can differ depending on study programmes and schools, but the students' contribution is never to be less than 200 secondary school credits. Learning outcomes are, without exception, to be defined at qualification level three. The content of the studies for matriculation depends on the final objectives of the study programme but is also defined according to what kind of preparation for university education the study programme in question offers. The central issue of the studies can be academic, artistic or vocational.

The qualifications framework for matriculation study programmes are to be according to the requirements of the Ministry of Education, Science and Culture and qualification requirements of the university level. In addition to rules on minimal number of secondary school credits, special rules concern studies for matriculation. They involve qualification requirements in core subjects and other subjects, in addition to general rules relating to content and organisation of study programmes with learning outcomes at qualification level three.

Upon graduation a matriculation certificate is issued listing the special study programme, qualification level of learning outcomes, list of courses and grades. Matriculation does not automatically secure admission to all university education. Universities and faculties can make different requirements which students are additionally expected to meet and in some cases students have to take entrance examinations.

The table below shows the main characteristics of the matriculation examination at ISQF level 3.

ISQF level	Matriculation examination – main characteristics
3	<ul style="list-style-type: none"> • Content: studies are characterised by specialised preparation for university. Upon graduation from the third competence level, students are to be able to work independently, be responsible for planning and carrying out projects, and evaluating their own work. • Organisation: studies are generally organised as academic but can involve vocational training, vocational and/or artistic education • Extent: 200-240 secondary school credits • Rights: upon graduation with matriculation examination, students can choose either further studies at university level or employment on the labour market that does not require professional rights.

	Matriculation examination does not automatically ensure admission to all studies at university level. Different universities or university faculties can make various special requirements which students are additionally expected to meet and in some cases students have to take entrance examinations.
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3.4.5 Other Final Examinations

Final examinations other than matriculation examination, vocational examination for professional rights or upper secondary school leaving examination, are classified as other final examinations from upper secondary school. These include various learning outcomes that can be defined at qualification levels one, two or three. The qualifications framework for the study programmes denotes the specialisation that can be either vocational, artistic, academic or general education. Competence criteria are to take into consideration the relevant requirements of the Ministry of Education, Science and Culture, or the requirements of the profession or university field of study in question. If the qualifications framework of study programmes neither applies to preparation for specific employment nor further studies at university level, schools can seek guidance at the Ministry concerning qualification requirements.

The extent of other final examinations differs depending on the qualifications level to which the learning outcomes are linked. Other final examinations with learning outcomes at qualifications level one generally involve 30 to 120 secondary school credits, at level two generally 90 to 120 credits and at level three 150 to 240 secondary school credits. The extent of the study programmes for students with mental disabilities can be up to 240 secondary school credits, although they are defined as final examination at qualifications level one.

In the table below, the main features of other final examinations at ISQF levels 1, 2 and 3 are summarised.

ISQF level	Other final examinations – main characteristics
1	<ul style="list-style-type: none"> • Content: the studies involve general preparation for continued studies or employment on the labour market that does not require extensive specialisation and are carried out under the direction or supervision of others. • Organisation: the studies are either organised as academic, artistic or vocational education and can involve career days or on-the-job training • Extent: 30 – 120 secondary school credits, but up to 240 secondary school credits for students with mental disabilities • Rights: upon graduation at the first competence level students can choose unskilled employment or further studies at upper secondary school level
2	<ul style="list-style-type: none"> • Content: the studies are characterised by short specialisation which mainly aims at professional preparation for further studies or employment where the employee is required to show responsibility and independence within a certain framework or under the direction of others • Organisation: the studies are organised either as academic, artistic or vocational education and can involve career days or on-the-job training • Extent: 60- 120 secondary school credits • Rights: upon graduation at the second competence level students can choose further studies or employment which depends on the final objectives of the education of how specialised employment is available. Studies following the second level require increased specialisation within vocational education or accreditation for the study programmes of the upper secondary school level.
3	<ul style="list-style-type: none"> • Content: the studies are characterised by specialised preparation for specialised vocational and/or artistic education. Upon graduation from the third competence level, students are to be able to work independently, be responsible for planning and carrying out projects, and evaluating their own work. • Organisation: the studies are organised either as academic, artistic or vocational education and can involve on-the-job training • Extent: 150-240 secondary school credits

	<ul style="list-style-type: none"> • Rights: upon graduation from level 3, students can choose further studies or employment which requires professional rights. Further studies involve increased specialisation and development at the workplace at the fourth competence level, additional studies for matriculation examination and studies at university level, or accreditation for other study programmes of the upper secondary school level.
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3.4.6 Additional Education at Upper Secondary School

Additional education at upper secondary school incorporates learning outcomes from study programmes that upper secondary schools offer as continuation of defined study completion at qualification level three. Additional education at upper secondary school is defined as upper secondary school studies at qualification level four and they are to be defined by secondary school credits.

Icelandic or foreign universities can decide to assess additional education at upper secondary school for ECTS⁴ credits and this can be mentioned in any given source of information about the studies. The number of secondary school credits is, however, entirely the decision of the university in question.

The extent of the additional studies varies according to the learning outcomes. It is aimed at increased professional specialisation, management and development of the field of work. If the studies involve certified professional rights, for example master craftsman examination, the upper secondary school is to act according to the requirements set by the Ministry of Education in collaboration with the respective occupational council.

The table below provides a summary of the main features of additional education at upper secondary level at ISQF level 4.

ISQF level	Additional education at upper secondary school – main characteristics
4	<ul style="list-style-type: none"> • Content: studies are characterised by increased specialisation and/or extension of specialisation concerning management, guidance, development or innovation • Organisation: studies are either organised as academic, artistic or vocational education. Additional education at upper secondary school level is defined as upper secondary school studies and they are to be defined by secondary school credits. Precursor requirements with learning outcomes at this level are generally graduation from level three. • Extent: 30 – 120 secondary school credits • Rights: upon graduation at the fourth level, students can choose either further studies at level four or jobs with many responsibilities on the labour market. The studies can, in some cases, be accredited for certain studies at university level.

3.5 Higher Education

The system of higher education in Iceland is divided into three cycles to comply with the Bologna process. With the new Higher Education Act of 2006, the system of

⁴ European Credit Transfer and Accumulation System (ECTS) is a standard for comparing the study attainment and performance of students of higher education in Europe. ECTS credits are awarded for studies within the system.

higher education was adapted to the Bologna process, including an obligatory Diploma Supplement, introduction of the ECTS-system as well as an Icelandic National Qualifications Framework for Higher Education (ISQFHE). The ISQFHE was first issued in 2007 following the enactment of the Higher Education Act and then revised in 2010.

The ISQFHE, as a framework for higher education, was thus developed before the ISQF. During the revision in 2010, the concepts of knowledge, skills and competences in the learning outcomes descriptors were simplified with the objective of conforming to the concepts of the ISQF. Still, there are some incongruities in the descriptors at higher education level compared to lower levels descriptors, as the two systems were developed separately. This can be observed in the descriptors in Annex 1 and in Chapter 5.2 in the response to Criterion 2 for referencing the ISQF to the EQF.

The Icelandic National Qualifications Framework for Higher Education stipulates that it includes a systematic description of learning outcomes and the structure of the degrees that are awarded at higher education institutions in Iceland. The design of the framework is based on the degree structure stipulated by the Bologna process. In developing the ISQFHE, a consultation with relevant stakeholders of the higher education system was conducted. Systems from other countries such as the UK and the Nordic countries, as well as the Dublin descriptors, were taken into account. As a result of this, the ISQFHE is not just an adopted, but an adapted framework suited to the structure of a smaller nations' education system.

The following table shows the structure of degrees of the current ISQFHE⁵:

		Levels	Credits (ECTS)	Total credits (ECTS)
Cycle 4	(ISCED 5)	Level 1.1 Diploma	30 – 120	30 – 120
		Level 1.2 Bachelor degree	180 - 240	180 - 240
		Level 2.1 Graduate studies at master level	30 – 120	210 – 360
		Level 2.2 Masters degree	90 – 120	270 - 360
	(ISCED 6)	Level 3 Doctoral degree	180 -	450 -

⁵ From 2010.

All higher education institutions in Iceland, accredited by the Ministry of Education, Science and Culture according to the Higher Education Act no. 63/2006, shall follow the ISQFHE, which describes the qualifications that graduated students are to master, when they finish their studies on different levels. The ISQFHE also demands that each higher education institution describes the learning outcomes of each study programme and each course.

The ISQFHE includes a description of the structure for studies and degrees, where emphasis is placed on a description of a student's knowledge and competence at the end of a course of study. The ISQFHE has clear guidelines for the structure of courses of studies and for the degree the universities will award. According to this framework, there are three subsequent cycles of higher education: Bachelors degree, Masters and Candidatus degree; and Doctorate degree. As each cycle can cover different qualification objectives, the cycles are divided into levels.

The Higher Education Act no. 63/2006 requires all higher education institutions to define learning outcomes for each study programme. The higher education institutions' definition shall be a specialized description relevant to the study programmes offered. The higher education institutions should preferably demonstrate in which way the objectives of the definition are attained by each course or each study level, i.e. by defining their learning outcomes. Higher education institutions shall specify, in their Diploma Supplements, to which cycle and level each study programme belongs to, according to the National Qualifications Framework for Higher Education in Iceland (ISQFHE).

3.6 Adult Education

Adult education was traditionally not regulated by law in Iceland but developed according to needs and trends of the society and the labour market, alongside the formal education system. Until recently there was no legislation on lifelong learning which individuals acquired through adult education providers. This changed with the Adult Education Act nr. 27/2010 that intends to provide some guidance, especially regarding accreditation, funding and the validation of non-formal and informal learning, with the objective of increasing study completion rates and raising the overall education level of the nation.

With the new Adult Education Act, curricula and course descriptions developed at adult education level can be certified by the Minister of Education, Science and Culture, or a body assigned the task by the Minister. The certification entails a confirmation that the study fulfils general requirements for the organisation and quality of teaching, as well as the specific requirements for study content.

Historically, validation of competences has always been built into the Icelandic school system, even though the current notion of it is rather recent at international as well

as national levels. Professional experience has been regarded to be important and a vital part of vocational education and training. In fact, until recently, individuals who had been working in a particular trade for 10 years, could have their skills evaluated and even undergo a journeyman's certificate based on experience only. As for academic education, placement exams have been used for validation in specific subjects for the purpose of shortening learning cycles or for recognition between schools. Provisions that allow upper secondary schools to evaluate individuals' skills and competences are built into the legal framework, and the responsibility lies with each educational institutions. Similar rules apply to the higher education level. Admission requirements can take into account non-formal and informal education, based on assessment of general knowledge and maturity of applicants.

Within the Lisbon objectives, Iceland identified the promotion of adult education as a means to combat the relatively high drop-out rate as points of special emphasis. During the initial discussion about the EQF Icelandic stakeholders considered it to be an important tool to validate skills and competences acquired outside the formal school system.

3.7 Validation of Non-formal and Informal Learning

Validation of non-formal and informal learning in Iceland is based on the idea that learning does not only take place inside the formal school system but in all kinds of situations and in all kinds of contexts. All learning is seen as valuable and should therefore be documented, irrespective of where it was acquired.

With validation of non-formal and informal learning, opportunities for adults on the labour market to achieve education and training to further increase their competences are enhanced. By receiving recognition of their competences, individuals can continue their education based on their competence level at any given moment, and do not have to start from where their formal education ended. Validation of real skills can motivate adults on the labour market to complete a formal education, by providing re-entry into the education system and facilitating study completion.

The main incentives for developing a system for recognition of non-formal and informal learning were:

- provision of shorter learning cycles
- more transparent education and training pathways
- cost-effective individualised learning.

The system was expected to contribute to enhanced study completion, improved access to education and training opportunities for the general public and increased economic growth by enhancing the educational level in Iceland. The main incentive for individuals participating in the validation process is to gain credits to be able to

finish their studies with focus on learning outcomes and their personal level of achievement. Individual empowerment, and the assurance of being able to achieve recognition, has also been identified as important incentives for participants.

In the validation process, the system of validation of non-formal and informal learning applies the credit validation presented in the National Curriculum Guidelines for Upper Secondary Schools, which is issued by the Ministry of Education, Science and Culture and implemented by the upper secondary schools, both academic and vocational. When assessing the value of non-formal and informal learning, the upper secondary schools play a vital part in the process, as they are the validation bodies according to law. This means that all validation of vocational education must be carried out in collaboration with the upper secondary school system. The implementation of the validation system is the responsibility of collaborative structures established by the social partners.

Through the process of national policy making concerning lifelong learning, participation of the relevant stakeholders has been regarded of paramount importance. Representatives from federations of employers and trade unions as well as the occupational councils have been involved in the policy making process in order to ensure cooperation between education and industry. The system for validation of non-formal and informal learning has now been piloted and launched and has proved to be very efficient, especially when it comes to vocational education and training, providing the opportunity for people to graduate with ISQF level 3 qualifications.

The validation system can be more easily linked to professional and vocational recognition than to academic qualifications. Evaluation is more objective when it comes to vocational and professional skills and can be carried out with different assessment methods, whereas academic recognition is more subjective, and is mainly carried out with exams. So once the system is in place and the referencing process has been approved, it will provide real indicators for reference of real skills and competences needed for validation of learning taking place outside formal education, as a gateway into finalising studies at upper secondary level.

During the development process of the validation system, some concerns were expressed on behalf of the formal school system, such as that recognition of non-formal and informal learning could possibly undermine the value of formal vocational education and training. As for quality assurance, The Education and Training Service Centre, an organisation owned by the social partners, is the responsible body. The Centre is responsible for issuing curricula for non-formal training and for developing methods of quality assurance of recognition of non-formal and informal learning based on quality criteria established by the European Qualifications Framework.

4. The Icelandic Qualifications Framework

4.1 Qualification Levels of the ISQF

The objective of the ISQF and its qualifications, referring in particular to the four qualification levels pertaining to the upper secondary level, is to create a framework for learning outcomes at different levels of education for academic, vocational and artistic studies.

ISQF level	Description of principal competences	EQF level
7	Research with focus on creating new knowledge in a specific field	8
6	Research involving organised, complex processes and technical specialisation, applied in an appropriate and responsible manner	7
5	Specialisation within a field of study or profession with knowledge, specialised methodology and research, as well as communication of that knowledge	6
4	Increased specialisation and/or expansion related to innovation and development	5
3	Specialised preparation for higher education, legalised professions, vocational and arts education	4
2	Preparation for specific professions and specialised preparatory studies	3
1	General education, personal maturity and democratic activity	1 & 2
ISQF		EQF

The first level is an overlap between the compulsory and upper secondary schools and involves general education and requires pupils to have a general understanding of concepts such as democracy, human rights, equality and sustainability, stressing the importance of the pupil becoming an active citizen in society. First level studies can also involve general preparation for employment where little specialisation is required and work is carried out under supervision. Second level qualifications are characterised by short specialisation, mainly aiming at professional preparation for further studies or employment.

Level three qualifications require more competences and independence, preparing pupils for studies at higher education level, or for the regulated professions and level four can involve an overlap between upper secondary and higher education with more emphasis on autonomy, creativity and innovation.

Levels five, six and seven are all higher education qualifications, taking place within universities or research institutions. These higher qualifications require specialisation within a field of study or profession, emphasis on research, technical specialisation and the creation of new knowledge. Within the ISQF, these follow the division into

cycles and levels according to the Bologna process, but are integrated into the ISQF in their present form.

4.2 Development and Implementation

The work on developing an Icelandic National Qualifications System started in 2006. The first step was taken at higher education level, with the 2006 Higher Education Act, requiring all higher education institutions to devise study programme descriptions based on the principle of learning outcomes. The Ministry of Education, Science and Culture collaborated with higher education institutions' representatives in defining a qualifications framework that reflected the division of higher education into cycles and levels according to the Bologna process.

In October 2006, the Ministry of Education, Science and Culture organised a conference within the frame of the EU Lifelong Learning policy work in Iceland, inviting relevant players and stakeholders with the objective of taking stock of the process of the Lisbon Declaration and to plan the work on specific policy issues of interest at national level. Working groups were established before the conference, including one group that had the task of discussing the EQF and its implementation and potential impact in Iceland. The conference also contributed to the then on-going process of revising the whole education system, which resulted in new legislation for all education levels, starting with the Higher Education Act in 2006, other formal education in 2008 and completed with the Adult Education Act in 2010. One of the most important changes made was the shift to the principle of learning outcomes.

Policy work related to the event in October 2006 marked the formal start of the development of an overall Icelandic Qualifications Framework for Lifelong Learning; the ISQF. During the preparation of the new legislation for the remaining three education levels, Ministry representatives visited Edinburgh to study the Scottish qualifications framework. In continuation, provisions enabling the implementation of a qualifications framework were introduced into bills that were being developed at that time for the new Acts on pre-school education, compulsory education and upper-secondary education, as well as for teacher education. The four Acts were passed by Parliament (Althing) in 2008.

The new Upper Secondary School Act introduced a shift from a centralised system, where the Ministry of Education, Science and Culture defined study programmes and issued course descriptions, to a system where individual upper secondary schools propose the structure and content of their study programmes. In connection with the system revision, the Ministry of Education, Science and Culture decided to take the opportunity to develop an overall ISQF to ensure quality and transparency of the new system.

The Ministry (NCP) worked on developing descriptors for the lower ISQF levels in 2008 and 2009. This was done through open collaboration with upper secondary

schools and main stakeholders, in particular the occupational councils, which at the same time were devising their own methods of defining study programme descriptions. As the work progressed, draft qualifications level descriptors were published on a special website which allowed people to comment on the work during the process. The Ministry organised meetings for representatives of various academic and vocational study programmes as well as for students, inviting them to discuss the definition and adoption of descriptions of knowledge, skills and competences, the number of qualifications levels and the level descriptors. NCP representatives visited all upper secondary schools in Iceland during the process to discuss the introduction of the system with head staff and organise seminars for teachers.

In 2009 the Ministry (NCP) established three task groups that involved representatives of upper secondary school teachers and university teachers. Their task was to discuss whether some core subjects such as Icelandic, mathematics and foreign languages could be placed at specific qualification levels based on knowledge, skills and competences. At that point, academic teachers seemed to struggle a bit with this new notion, but after a whole winters' work and discussions with teachers all over the country, level descriptors were finalised. A decision was made to place all courses at the appropriate qualifications level, in order to ensure that the learning outcomes descriptions were consistent with the relevant qualifications level.

As a follow-up, task groups were established in 2012 to define knowledge, skills and competences for study programmes placing them at the relevant qualifications level, for all study programmes; from arts to sports and from natural sciences to social sciences. This work has been instrumental in defining learning outcomes and the content for the different study programmes so they can be placed at the appropriate qualifications level. In addition, the task groups serve to fulfil the goal of introducing the concept of the work and to bring out the leadership needed within the school community. Throughout the process, teachers have been encouraged to adopt the qualifications levels' concept and to assimilate it into their everyday teaching. Those responsible for developing curricula are also encouraged to integrate the concept into their work and structure courses that will support gradually increasing requirements consistent with the relevant learning outcomes.

In 2010 other five task groups were established to focus on vocational education and training (VET). The members were vocational teachers from various upper secondary vocational schools as well as occupational councils' representatives. The objective of these task groups was to examine whether the number of qualifications levels and the level descriptors were appropriate to vocational education and to emphasise the integration of learning outcomes. The reaction of the representatives was very positive. This led to the establishment of specific, sectoral task groups, e.g. for the electrical trades, house building, mechanical trades and nurse assistants that handed in fairly similar qualifications' descriptors. Finally, a task group consisting of members from the sectoral groups was established to define criteria to describe knowledge, skills and competences for VET at ISQF levels 1, 2 and 3. These criteria are now used by upper secondary schools in structuring vocational study programmes.

With the adoption of the new Upper Secondary School Act, vocational councils had to be re-appointed, but as this was delayed, it was not until 2010 that the ISQF was presented to the new occupational councils. This marks the start of the formal participation of the social partners in the development of the ISQF, even though some representatives had already been involved through the task groups. As a step to emphasising and integrating learning outcomes and the ISQF, and to ensure that the number and structure of levels was satisfactory, the occupational councils were asked to appoint task groups that would collaborate with the Ministry /NCP to make a rational proposal of where to place VET programmes in the ISQF. This work was carried out in the winter of 2010-2011. No serious disagreement came up in the cooperation between the Ministry (NCP) and the occupational councils. The results were presented to the VET community and published on the Ministry's (NCP'S) website in summer 2011. The results were considered to substantiate the chosen number of levels and descriptors.

In winter 2010-2011, representatives from the Ministry (NCP) and the higher educations carried out a revision of the ISQFHE. The delegates reached the decision that the ISQFHE descriptions should be consistent with those at lower levels in terms of knowledge, skills and competences descriptors. At that point, the levels were not renumbered, especially as descriptors for the lower levels weren't ready yet. At the same time, the NCP were in the process of defining qualifications levels for the whole education system, based on the lifelong learning concept and came up with 10 qualifications levels that described the knowledge, skills and competences from the very first education levels. The representatives involved did not reach an agreement on this approach and decided to work only with the levels that involved defined qualifications based on learning outcomes and which could be connected to the EQF. Subsequently, they decided to develop separate qualifications levels descriptors for each education level, i.e. for levels 1-4 at upper secondary level and cycles 1-3 at higher education level, with the aim of integrating them later on and redefining the level number as levels 1-7. A revised qualifications framework for higher education (ISQFHE) was issued as a Regulation in spring 2011.

General Curriculum Guides for pre-schools, compulsory schools and upper secondary schools were issued in May 2011. They all introduce the six fundamental pillars and pupils' key competences. The first qualifications level of the ISQF is described in the General Curriculum Guide for Compulsory Schools and the first four in the General Curriculum Guide for Upper Secondary Schools. The curriculum guides are equivalent to a Regulation, meaning that their publication also marks the issuing of the first four qualifications levels of the ISQF.

In the winter of 2011-2012, the vocational councils started developing descriptions for vocational qualifications for the formal VET system. These are intended to guide the upper secondary schools in developing their VET programmes' descriptions and as a basis for linking learning outcomes to qualifications levels.

The referencing of the ISQF to the EQF took place in 2012 with the report being issued in September 2012. The referencing was carried out by an external expert, who also wrote the referencing report, with the support of the NCP. Alongside the referencing process and the writing of the report, the Ministry's Department of Science and Higher Education staff prepared the self-certification report for higher education. The aim of the NCP's cooperation with the self-certification group is to attempt to reach an agreement of reassigning numbers to qualifications levels at higher education level (currently called levels 1.1, 1.2, 2.1, 2.2 and 3, see table in chapter 3.5) in order to attain continuous numbers from level 1 through level 7 within the ISQF as a whole.

4.3 Procedures for Including Qualifications in the ISQF

The Ministry of Education, Science and Culture decides on the placement of qualifications at the appropriate levels of the ISQF, after receiving study programme descriptions from schools. During the educational reform and in the case of upper secondary education in particular, the methodology of focus groups was used. The focus groups tested descriptors of the ISQF levels and verified that the level descriptors were appropriate to describe the different final exams and certificates for the various study programmes.

Suggestions for placing vocational qualifications within the ISQF are done in cooperation between the Ministry of Education, Science and Culture and the Occupational Councils. The Occupational Councils' role is to advise the Ministry regarding vocational education at upper secondary school level in their respective occupations. They propose general study objectives and define the needs for knowledge and skills which the study programme descriptions for the respective occupations shall be based on, and shall form a part of the general part of the National Curriculum Guide, and to make proposals for learning outcomes.

5. Criteria for the Referencing Process

The aim of the referencing process is to refer the Icelandic National Qualifications Framework (ISQF) to the European Qualifications Framework for Lifelong Learning (EQF). The national referencing process is considered to be an autonomous, national process where national stakeholders and authorities agree on the comparison between national qualifications levels and the EQF levels.

5.1 European Qualifications Framework Criteria and Procedures

The Recommendation establishing the EQF invites Member States to refer their qualifications framework levels to the overarching meta-framework provided by the EQF. To guide this process, the EQF Advisory Group has agreed on a set of ten referencing criteria and procedures to guide the referencing process, ensuring that it is well understood and trusted by stakeholders in participating countries.

The following table gives an overview of all 10 Criteria for the Referencing Process:

1. The responsibilities and/or legal competence of all relevant national bodies involved in the referencing process, including the National Coordination Point, are clearly determined and published by the competent public authorities.
2. There is a clear and demonstrable link between the qualifications levels in the National Qualifications Framework or system and the level descriptors of the EQF.
3. The National Framework or qualifications system and its qualifications are based on the principle and objective of learning outcomes and linked to arrangements for validation of non-formal and informal learning and, where these exist, to credit systems.
4. The procedures for inclusion of qualifications in the National Qualifications Framework or for describing the place of qualifications in the national qualification system are transparent.
5. The national quality assurance system(s) for education and training refer(s) to the national qualifications Framework or system and are consistent with the relevant European principles and guidelines (as indicated in annex 3 of the Recommendation).
6. The referencing process shall include the stated agreement of the relevant quality assurance bodies.
7. The referencing process shall involve international experts.
8. The competent national body or bodies shall certify the referencing of the national Framework or system with the EQF. One comprehensive report, setting out the referencing and the evidence supporting it shall be published by the competent national bodies, including the National Coordination Point, and shall address separately each of the criteria.
9. The official EQF platform shall maintain a public listing of member states that have confirmed that they have completed the referencing process, including links to completed referencing reports.

10. Following the referencing process, and in line with the timelines set in the Recommendation, all new qualification certificates, diplomas and Europass documents issued by the competent authorities contain a clear reference, by way of national qualifications systems, to the appropriate EQF level.

The principal aim of the criteria and procedures is to ensure that the information and documentation published by participating countries on their referencing processes is:

- validated by the competent authorities
- relevant
- transparent
- suitable for comparison
- trustworthy

The emphasis placed in the criteria and procedures on transparency and comparability is reflective of the fact that the ultimate success of EQF will depend on the ability of the participating countries to refer their NQF to it in a demonstrable, explicit and defensible way. The intention is that those who consult this published referencing information, particularly those who are not familiar with a country's qualifications, will be able to judge its validity.

As well as the emphasis on transparency and comparability, the criteria and procedures also reflect the importance of certain key features of EQF. These include:

- the fundamental importance of the learning outcomes approach to national qualifications Frameworks and EQF (criterion 3);
- the principle that qualifications Frameworks, and qualifications systems more generally, should be underpinned by well developed and robust quality assurance systems (criteria 5 and 6);
- the strength of the relationship between EQF and the 'Bologna' Framework for higher education.

The remainder of this section of the report sets out the ten referencing criteria provided by the EQF Advisory Board and provides the Icelandic response to each of them.

5.2 Response to the EQF Referencing Criteria

Criterion 1

The responsibilities and/or legal competence of all relevant national bodies involved in the referencing process, including the National Coordination Point, are clearly determined and published by the competent public authorities.

The Ministry of Education, Science and Culture is responsible for the referencing process, as the national authority for education, policy making, qualifications and quality assurance in the field of education at all levels. This role is clearly determined and published. The duty of the National Coordination Point (NCP) is assigned to the Ministry's Department of Education. The NCP role is carried out by the ISQF coordination committee's three experts from the Department of Education of the Ministry of Education, Science and Culture; Ms Björg Pétursdóttir, Head of Division of Policy and Development, Mr Ólafur Grétar Kristjánsson and Ms Krístrún Ísaksdóttir, both Advisers in the Division of Vocational and Adult Education.

During the first phase of preparation of the ISQF, relevant stakeholders were involved through open method of coordination, by inviting them to attend two seminars organised by the Ministry within the framework of the Lisbon process. The former seminar was held in 2006 and the second one in 2009. The aim was to provide a forum to discuss the development of Icelandic education policy in the context of Europe. One of the main topics of the events was the eventual development of an Icelandic National Qualifications Framework.

As a follow-up to the seminars, interested stakeholders were invited to participate in a working group to discuss the ISQF, its objectives, development, relevance and structure. The working group included representatives from educational institutions at upper secondary and higher education level, the social partners, lifelong learning centres as well as from civil society organisations. The working group provided important input and recommendations to the coordination committee in the first phase of development of the ISQF.

Following the entry into force of the revised legislation for all education levels in 2006-2010, establishing the principle of learning outcomes, the referencing process was formally started.

The referencing report was written by an external expert, guided and assisted by the NCP coordination committee, as well as by the appointed international expert. The task of the writer of the report was to document and carry out the reference between the ISQF and the EQF based on analysis of the frameworks and the work of the coordination committee, as well as of relevant legislation and the consultation process that took place during the development of the ISQF. Following this process, the referencing report has been certified by the competent national body, the Ministry of Education, Science and Culture.

Criterion 2

There is a clear and demonstrable link between the qualifications levels in the national qualifications framework or system and the level descriptors of the European Qualifications Framework.

The methodology applied during the referencing process undertaken in Iceland consisted of structural referencing on the one hand and of conceptual referencing on the other hand. The referencing process started by comparing the structure of the ISQF vis-à-vis the EQF and then a detailed comparison of the descriptors of the learning outcomes of qualification levels of the two frameworks was carried out.

The referencing was carried out by an external expert, Ms Adalheidur Jonsdottir, Head of Communications and Senior Adviser at The Icelandic Centre for Research, in close cooperation with the NCP.

Structural Comparison

The results of the structural comparison show a clear and demonstrable link between the levels in the ISQF and the level descriptors of EQF in the following manner:

ISQF	EQF
Level 7	Level 8
Level 6	Level 7
Level 5	Level 6
Level 4	Level 5
Level 3	Level 4
Level 2	Level 3
Level 1	Level 2
	Level 1

The ISQF has seven levels, whereas the EQF has eight, with the first level of the ISQF corresponding to the first two levels of the EQF, as the descriptors for ISQF level 1 are slightly more demanding than EQF level 1. The illustration below shows how the qualifications levels are placed within the ISQF.

ISQF level	Examples of Qualifications	EQF level
7	Doctorate degree	8
6	Master and Candidatus degree	7
5	Bachelor degree	6
4	Diploma at higher education level	5
3	Matriculation examination Other final examinations	4
2	Upper secondary school leaving certificate Other final examinations	3
1	Upper secondary school leaving certificate	1 & 2
ISQF		EQF

The first level qualifications of the ISQF are awarded for first upper secondary school leaving examination, but are actually the same as the descriptors for compulsory school completion. Even though there are no specific qualifications awarded at compulsory school level there is a clear overlap in the learning outcomes descriptors. Actually, there are overlaps at both ends of the upper secondary school level. The first level thus includes the learning attained at compulsory school level even though the qualification also pertains to the upper secondary level. Another overlap may occur between upper secondary school and university, which are reflected in descriptors at ISQF level 4. These possible overlaps created some challenges in the referencing process and are elaborated in more detail in Chapter 6 that tackles the main challenges in referencing the ISQF to the EQF.

This referencing report has integrated higher education qualifications into the ISQF and is presented as part of the referencing to the EQF. The National Qualifications Framework for Higher Education in Iceland (ISQFHE) has been separately aligned to the EHEA within the Bologna Process, by the Department of Science and Higher Education of the Ministry of Education, Science and Culture, and is currently preparing for the self-certification process.

EQF levels are organised in a hierarchical structure, meaning that the content of one level is assumed to automatically include the content of lower levels. Thus, each level descriptor describes additional demands for that particular level of learning. This also applies to the ISQF in principle, even though it may sometimes seem to repeat learning outcomes descriptors. In some instances there is certain repetition while sometimes the higher level involves a subtle addition to the preceding level.

Conceptual Comparison

After establishing the structural comparison of the frameworks, a conceptual comparison of the actual level descriptors can be carried out. The purpose of this comparison is to establish the links between the ISQF and the EQF and determine the similarities as well as any existing discrepancies.

The referencing process has shown that the EQF level descriptors are shorter and more general than the ISQF descriptors. This is due to the fact that the EQF is in principle a meta-framework providing the overall frame of reference for national systems whilst the description of the ISQF are more specific and elaborate more on national priorities, taking into account national policies, institutions and societal circumstances.

In the case of the ISQF, the descriptions of the learning outcomes are quite specific and include elements that could also be defined as learning objectives, such as knowledge of mother tongue, literacy and numeracy and other basic skills that are also elaborated upon in the general section of the National Curriculum Guide. In addition, the ISQF contains numerous abstract concepts, or even philosophical at times, that present a certain challenge in terms of referencing the learning outcomes. It is also a bit odd to come across references to knowledge of information technology and software skills that occur in the descriptions for higher education, but might indicate that it is time for revision of the those descriptors.

Overall, the referencing process shows that the ISQF descriptors for **knowledge** and **competences** are in general more abstract than the corresponding EQF descriptors, while the **skills** descriptors show more correspondence with the EQF ones.

Comparing ISQF level 1 to EQF levels 1 and 2 descriptors (see Table 1)

The EQF level 1 defines **knowledge** as ‘basic general knowledge’ and level 2 as ‘basic factual knowledge of a work or study’. As the EQF levels 1 and 2 both refer to basic knowledge, the knowledge outcomes in ISQF level 1 cover both of the first EQF levels as the ISQF descriptors go further. Knowledge at level 1 refers to knowledge of varied vocabulary as means of expression and then goes on to knowledge of social values such as human rights and equality as well as basic democratic values. Environmental issues and global sustainability are also covered and basic knowledge of a foreign language as well as enough knowledge to prepare for further studies is included. The ‘knowledge and understanding of the influence of role models and stereotypes on their own image and lifestyle’ seems a bit abstract at this level and does not correspond to anything in the EQF.

Skills in the EQF level 1 are described as ‘basic skills required to perform a simple task’ and in level 2 as ‘basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools’. The linkage with the ISQF is clear in the cognitive skills described in EQF level 2 and the requirements for expression and communication skills in ISQF 1.

When it comes to practical skills, the ISQF goes slightly further than solving routine problems, as it demands that pupils have acquired self-sufficiency at personal and professional level and that they are able to work autonomously, responsibly and creatively under supervision. The element of supervision is missing from the EQF description, but applying relevant information to solve routine problems is considered to be best-fit in this context, which can be further sustained by reading across the EQF level, when working under supervision is included in the competences descriptors. Finally, the ISQF carries on with the concept of sustainability and respect for the environment.

As regards **competences** outcomes, the EQF level 1 refers to the ‘competence to work or study under direct supervision in a structured context’ and level 2 to ‘work or study under supervision with some autonomy’. These descriptors sum up the skills outcomes of ISQF level 1 that focus on working in an autonomous manner under supervision. In this regard, the EQF levels 1 and 2 are considered to fit the ISQF. The ISQF descriptors are very detailed and refer to personal as well as social competences that are described in the National Curriculum Guide as fundamental pillars and key competences, such as expression in the mother tongue and in a foreign language, personal responsibility, personal relationships competences and general respect for fellow human beings and the environment in a global context. The concept of democracy, active citizenship and social responsibility is included and so are competences to link knowledge and skills to everyday life.

The first competence level of the upper secondary school overlaps with the lower secondary level of the compulsory school as the description of the first level of the upper secondary school is also valid for the competence objectives for the final stages of the compulsory school.

Due to the extensive and inclusive learning outcomes at ISQF level 1, the referencing establishes that it covers both EQF levels 1 and 2.

Table 1: EQF levels 1 and 2 and ISQF level 1 descriptors

EQF levels 1 and 2			ISQF level 1		
Knowledge	Skills	Competences	Knowledge	Skills	Competences
<i>Level 1:</i> Basic general knowledge.	<i>Level 1:</i> Basic skill required to perform a simple task.	<i>Level 1:</i> Work or study under direct supervision in a structured context.	Students have acquired: varied vocabulary to be able to express their opinions and support them; knowledge of social values, morality, human rights and equality; knowledge concerning being an active citizen in a democratic society;	Students have acquired skills to: express themselves clearly, responsibly and creatively; take part in a conversation, support their views and respect the views of others; be self-sufficient at work and in everyday life;	Students can express their thoughts and feelings in a rational context; can express themselves in a simple manner in foreign languages; have a clear self-image and are aware of how to use their strengths in a creative way;

<p><i>Level 2:</i></p> <p>Basic factual knowledge of a field of work or study.</p>	<p><i>Level 2:</i></p> <p>Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools.</p>	<p><i>Level 2:</i></p> <p>Work or study under supervision with some autonomy.</p>	<p>knowledge concerning the Icelandic environment in a global context (e.g. culture, society, nature, sustainability);</p> <p>knowledge useful as preparation for further studies;</p> <p>vocabulary to be able to express themselves in a simple manner in foreign languages and insight into the respective cultures;</p> <p>knowledge and understanding of the influence of role models and stereotypes on their own image and lifestyle.</p>	<p>apply creative thinking in all their work;</p> <p>work autonomously, responsibly and creatively under supervision;</p> <p>use different techniques in acquiring and communicating knowledge in a responsible and critical manner;</p> <p>use varied study methods;</p> <p>treat their environment with sustainability in mind.</p>	<p>can have positive and constructive relationships and collaboration with others;</p> <p>respect values of life, human rights and equality;</p> <p>show respect for the environment in a global context;</p> <p>have responsible attitude towards own welfare, both physical and mental;</p> <p>have acquired a positive attitude towards education;</p> <p>have the competence to be an active and responsible citizen in a demo-critic local community and in society as a whole;</p> <p>can link their knowledge and skills with everyday life, technology and science.</p>
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Comparing ISQF level 2 with EQF level 3 descriptors (see Table 2)

Within EQF level 3, **knowledge** is defined as ‘knowledge of facts, principles, processes and general concepts, in a field of work or study’ which adds depths to the description for the previous EQF level. The ISQF level 2 builds on the demands for knowledge of the mother tongue and of foreign languages, with focus on expression of opinion. Knowledge concerning being a responsible participant in the economy and for preparing for further studies is rather vague and does not really reflect anything in the EQF, but builds on the same notion in the previous ISQF level. The ISQF outcome of ‘knowledge concerning the environment related to specialised knowledge and/or profession’ can be considered as best-fit to the EQF descriptors, even though the environment element makes the ISQF more abstract against the more pragmatic descriptors in the EQF.

The **skills** described for EQF level 3 add some width to the previous level, demanding ‘a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information’. This can be defined as having the skills to carry out some work with certain independence. ISQF level 2 continues with communication skills from level 1, now within a field of specialised knowledge and/or profession, which can be referenced to the ‘...in a field of work or study’ in the EQF. The ISQF skills of being able to organise a simple procedure and select appropriate methods are perfectly consistent with the EQF skills, but then the ISQF goes further by demanding that pupils have acquired more initiative and autonomy in their work, than specified in the EQF.

The **competence** outcomes in EQF level 3 are to ‘take responsibility for completion of tasks in work or study’ and to ‘adapt own behaviour to circumstances in solving problems’. This introduces more autonomy in keeping with the skills demands in the ISQF and strengthens the referencing of the levels, although definition of skills and competences might be a little unclear in this sense. Again, the competence descriptors of the ISQF level 2 tend towards being more abstract than the EQF and concern themselves with communication skills, self-image, democracy, responsibility, respect and work ethics whereas the competence descriptors of the EQF level 3 are more pragmatic. The ISQF descriptors cover the practical aspects in the skills category, which makes it necessary to reference across skills and competences for a conclusion.

Table 2: EQF level 3 and ISQF level 2 descriptors

EQF level 3			ISQF level 2		
Knowledge	Skills	Competences	Knowledge	Skills	Competences
Knowledge of facts, principles, processes and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information.	Take responsibility for completion of tasks in work or study. Adapt own behaviour to circumstances in solving problems.	Students have acquired: varied vocabulary to be able to express their opinions and support them in their everyday life and in connection with specialised knowledge and/or profession; knowledge concerning being a responsible participant in the economy; knowledge concerning the environment related to specialised knowledge and/or profession; knowledge useful as preparation for further studies; vocabulary to be able to express themselves in foreign languages in connection with specialised knowledge, if necessary.	Students have acquired skills to: express themselves clearly, responsibly and creatively about their specialised knowledge and/or profession; organise a simple procedure of a profession and/or specialised knowledge and employ appropriate techniques in this context; show initiative and autonomy with the basic working methods in a specialised knowledge and/or profession; take part in a conversation about their specialised knowledge and/or profession.	Students can express their opinions and explain practices associated with specified working environment in a clear, responsible and autonomous manner; can express themselves in a simple manner in foreign languages; show respect for the principles of the working environment; respect work and working conditions; have a clear self-image and are aware of new opportunities in the environment; have acquired competence to be an active and responsible citizen in a democratic society and within the community of specialisation and/or profession; have acquired competence to link their knowledge and skill with the working environment and everyday life.

Comparing ISQF level 3 with EQF level 4 descriptors (see Table 3)

The EQF level 4 defines **knowledge** as ‘factual and theoretical knowledge in broad contexts within a field of work or study’, further broadening the scope from the previous level. The ISQF level 3 knowledge descriptors, even though they are more detailed, can be referenced to the EQF descriptors, with some linguistic difference, as

the ISQF descriptors talk about ‘specialised knowledge and/or profession’, adding the elements of responsibility and the environment. However, it could be debated at linguistic level, whether the EQF goes further by adding ‘theoretical knowledge’ where the ISQF lets ‘specialised’ suffice. Vocabulary and communication knowledge, within a field of knowledge and/or profession, in the mother tongue and in a foreign language is also demanded in the ISQF.

Skills at the EQF level 4 are described as ‘a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study’ which corresponds to ISQF level 3 descriptors to ‘show initiative and autonomy with working methods at seeking solution within a specialised knowledge and/or profession’ and can thus be quite confidently referenced. To this, the ISQF adds the skills to ‘organise a procedure and employ appropriate techniques and methods of a profession and/or specialised knowledge in a responsible manner’, which is to a certain extent reflected in the competence descriptors of the EQF 4. As before, the ISQF continues with the tradition of describing communication skills.

When it comes to **competence** outcomes, the EQF is still more concise and pragmatic than the slightly vague and abstract ISQF descriptors. The EQF level 4 specifies competence outcome as the ability to ‘exercise self management within the guidelines of work or study contexts that are usually predictable, but are subject to change’ and to be able to ‘supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities’, both of which demand competence to take on more responsibility for taking decisions and supervising other in work. These can be referenced to the skills descriptors in ISQF level 3, while the ISQF competence descriptors tend towards more subjectivity with moral responsibility, respect, democracy, communication skills and the ability to link their knowledge to science and technology and to discover new opportunities. The ISQF descriptors also introduce demands to understand the relevant education and profession in an international or global context, which might have more weight for a small national system than within a larger meta-framework.

Table 3: EQF level 4 and ISQF level 3 descriptors

EQF level 4			ISQF level 3		
Knowledge	Skills	Competences	Knowledge	Skills	Competences
Factual and theoretical knowledge in broad contexts within a field of work or study.	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Exercise self management within the guidelines of work or study contexts that are usually predictable, but are subject to change. Supervise the routine work of others, taking some responsibility	Students have acquired: varied vocabulary to be able to express their opinions and support them in their everyday life and in connection with specialised knowledge and/or profession; specialised knowledge useful for employment and/or as preparation for further studies; knowledge concerning being an active and a responsible participant in	Students have acquired skills to: express themselves clearly, critically and creatively about their specialised knowledge and/or profession; organise a procedure and employ appropriate techniques and methods of a profession and/or specialised knowledge in a responsible manner; show initiative and autonomy with working methods at seeking	Students: can express their opinions and explain practices associated with specified working conditions in a clear, responsible and critical manner; have competence in foreign languages necessary for employment or further studies; have moral responsibility in creative work; show respect for the working conditions and

		for the evaluation and improvement of work or study activities.	<p>a specialised society and/or profession; knowledge concerning the environment in a global context and is related to specialised knowledge and/or profession;</p> <p>the vocabulary and knowledge in a foreign language for further studies or in connection with a specialised knowledge, if necessary.</p>	<p>solution within a specialised knowledge and/or profession; take a responsible part in a conversation about their specialised knowledge and/or profession.</p>	<p>the employment of their general knowledge; are able to use their knowledge to discover new opportunities in the environment; have acquired competence for further studies; have competence to be an active citizen in a democratic society of a speciality and/or a profession; can evaluate their own work effort in a global context; see their education in a global context; can link their knowledge with technology and science.</p>
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Comparing ISQF level 4 with EQF level 5 descriptors (see Table 4)

ISQF level 4 overlaps between the upper secondary level and higher education level, as it covers additional education at upper secondary school and vocational examinations for professional rights (e.g. after journeyman's certificate) as well as first level diploma at higher education level, without degree. At upper secondary level, this entails that students have acquired more specialisation in their field of study or profession and are able to widen their specialisation to e.g. management, training, innovation or development. From the perspective of vocational education, the ISQF competences descriptors may have stronger reference to applied knowledge and skills. The ISQF outcome descriptors at this level tend to be rather vague in an effort to compensate both levels and presented a certain challenge in the referencing process. However, the overlap is, in a sense, also reflected in the EQF level 5 which mentions both theoretical knowledge and practical application.

The **knowledge** outcomes described for EQF level 5 refer to 'comprehensive, specialised, factual and theoretical knowledge within a field of work or study' whereas the ISQF level 4 uses the more general 'specialised knowledge useful for professional advancement and/or preparation for further studies', which treads on more careful grounds, leaving out factual and theoretical knowledge. And where EQF level 5 adds 'and an awareness of the boundaries of that knowledge', the ISQF simply demands 'specialised vocabulary in a foreign language' that may be 'useful'.

The **skills** descriptors have more similarities in the two frameworks, although the EQF level 5 'A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems' encompasses the skills descriptors in ISQF level 4 in a more concise way. The ISQF also demands creativity and techniques and methods to find solutions, as well as analytical skills for reacting to problems and skills

to communicate the acquired knowledge. Even though the wording is different, the demands that can be derived from the skills descriptors are quite close.

As regards **competences** outcomes, the ISQF level 4 descriptors are quite similar to those of ISQF level 3 without adding much more depth. The communication skills in Icelandic and a foreign language are there, the moral responsibility and the importance of seeing things in an international or global context. The EQF level 5 descriptors are more concrete and refer to ‘exercising management and supervision in contexts of work or study activities where there is unpredictable change’. The elements of supervision and unpredictable change can be referenced with more clarity to the ISQF level 4 skills outcomes rather than the competences outcomes, as the ISQF competence descriptors still tend to be rather abstract in nature. Nevertheless, the EQF level 5 competences descriptor to ‘review and develop performance of self and others’ can confidently be referenced to the ‘competences to evaluate their own work effort and that of others’ in the ISQF level 4 competences descriptors.

Table 4: EQF level 5 and ISQF level 4 descriptors

EQF level 5			ISQF level 4		
Knowledge	Skills	Competences	Knowledge	Skills	Competences
Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change. Review and develop performance of self and others.	Students have acquired: specialised knowledge useful for professional advancement and/or as preparation for further studies; specialised vocabulary in a foreign language useful for professional advancement and/or as preparation for further studies.	Students have acquired skills to: guide and communicate their knowledge in a simple and creative manner; organise a procedure, employ appropriate techniques and develop the methods of a profession and/or specialised knowledge in a responsible manner; show initiative and autonomy in working methods at analysing circumstances and reacting in an appropriate, realistic and creative manner.	Students: can express their specialised knowledge in Icelandic and a foreign language, if necessary; in work or for further studies; are able to take part in a conversation based on specialised knowledge and skills in a critical and clear manner; have moral responsibility for the utilisation and development of their specialised knowledge with regard to working conditions; have the competence to be an active and responsible citizen in a society of a speciality and/or a profession; can evaluate their own work effort and that of others in connection with the working conditions and/or specialised knowledge in a critical and constructive manner; can connect their knowledge with the global environment.

Comparing ISQF level 5 with EQF level 6 descriptors (see Table 5)

When it comes to comparing ISQF higher education levels to the EQF, it has to be pointed out that the descriptors for the higher education level in Iceland were initially written for the ISQFHE and developed separately from the rest of the ISQF, which means that they follow different principles and thus present a certain challenge in the referencing process. The main difference is that the ISQF descriptors for knowledge, skills and competences are longer and further elaborated upon, explaining what the individual descriptors entail, whereas the EQF covers the requirements in a more compact form.

Another challenge in referencing at this point is the current definition of higher education levels that will be referenced to the highest EQF levels 6-8. In the ISQFHE these are currently levels 1.1, 1.2, 2.1, 2.2 and 3, in line with the Bologna criteria. Accordingly, ISQFHE levels 1.1 and 1.2 become ISQF level 5 which is referenced to EQF level 6; ISQFHE levels 2.1 and 2.2 become ISQF level 6, referenced to EQF level 7 and ISQFHE level 3 becomes ISQF level 7 which is referenced to EQF level 8.

Thus, in keeping with the referencing method used for ISQF levels 1-4, the ISQF level 5 is referenced to EQF level 6. The challenge here is that the ISQF level 5 is divided into diploma level (without degree) and Bachelor degree, as the first higher education degree is divided into levels within the first cycle of higher education. Following the referencing process of the ISQF to the EQF and the self-certification process of the higher education level, this could be coordinated to create a harmonious whole.

Knowledge at EQF level 6 is defined to be ‘advanced knowledge of a field of work or study, involving a critical understanding of theories and principles’ which can be clearly and demonstrably referenced to the first learning outcomes of both levels of the ISQF level 5, which require ‘knowledge of the relevant field or profession’ and an ‘insight into selected theories and concepts. The descriptions in the ISQF add scientific understanding for the diploma level and latest knowledge at Bachelor level. In addition, the Bachelor level requires basic knowledge of IT, which sound a bit odd at this level, but may have its historic reasons.

The **skills** descriptors for the EQF level 6 state the requirement for ‘advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study’. Here, the best-fit principle may be applied to reference this to ISQF level 5 at both diploma and Bachelor degree level, as the descriptions of the learning outcomes differ a bit, even though it can be argued that they conduce towards similar requirements. The challenge presented here is that the EQF description is fairly general and can be better fitted to the lower level of the ISQF level 5, whereas the Bachelor level descriptors require more analysis, critical methods and the ability to support decisions on professional grounds. However, as skills and competences tend to overlap somewhat in many of the ISQF descriptions, this challenge may be solved when reading across the levels. Both ISQF levels within

level 5 require the skills to ‘apply the methods and procedures of the field or profession’ which is fairly general and both ISQF levels mention innovative thinking, which can be referenced to the mastery and innovation of the EQF level 6.

The **competences** descriptors partly solve some of the challenges presented in referencing the skills at this level. The EQF level 6 outcomes, to ‘manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts’ and ‘take responsibility for managing professional development of individuals and groups’ can quite easily be referenced to the ISQF descriptors for both ISQF levels, diploma and Bachelor. The management and application of complex knowledge within a profession are both there and so are the requirements for imitative and autonomy in project work, as well as the ability to work in a group. The best-fit principle can be confidently applied for referencing the EQF competences to take responsibility for managing professional groups to the requirement to participate in group works and lead task groups at ISQF Bachelor level. However, this management of others is not explicit at the diploma level, where cooperation with others does not include management of others.

Table 5: EQF level 6 and ISQF level 5 descriptors

EQF level 6			ISQF level 5		
Knowledge	Skills	Competences	Knowledge	Skills	Competences
Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study.	Manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts. Take responsibility for managing professional development of individuals and groups.	<i>Diploma level</i> have acquired knowledge of the relevant field or profession; have gained insight into selected theories and concepts; are able to distinguish between scientific explanations and other explanations; understand and know the position of the scientific field in a wider context;	<i>Diploma level</i> can apply the methods and procedures of the field or profession; can conceptualise, organise and implement projects; can apply the basic skills and technology that are relevant in the field; can use statistical and graphical data; can communicate issues related to the field or profession in an organised and comprehensible manner; have developed an innovative way of thinking; can describe simple scientific topics and research findings	<i>Diploma level</i> can apply their knowledge and skills in a practical way in their profession and further study; have developed the learning skills necessary to embark on further studies; can work with large degree of initiative and autonomy; can cooperate with others in projects.

			<p><i>Bachelor degree:</i> have acquired knowledge of the relevant field or profession; have acquired general understanding and insight into main theories and concepts; are aware of the latest knowledge in the relevant field; know the basic elements of information technology.</p>	<p><i>Bachelor degree:</i> can apply the methods and procedures of the field or profession; can use the relevant hardware, technology and software; can apply critical methods in analysing their topic; can support their decisions on professional grounds; can assess the methodology applied in an autonomous manner; can analyse the need for information and have the ability to find it, assess its reliability and apply it in the appropriate manner; can use recognised databases and information resources in the relevant scientific field; have acquired an open-minded and innovative way of thinking.</p>	<p><i>Bachelor degree:</i> can apply their knowledge and skills in a practical way in their profession and/or further study; have developed the competences and autonomy needed for further studies within the field; can work in an autonomous and organised manner, set goals for their work, devise a work schedule and follow it through; can participate actively in cooperation and lead task groups; are capable of interpreting and presenting scientific issues and research findings.</p>
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Comparing ISQF level 6 with EQF level 7 descriptors (see table 6)

The ISQF level 6 is divided into two levels, graduate studies at master level on the one hand and Masters degree on the other hand with the lower level referring to master level diploma without degree. Again, it needs to be stressed that the level descriptors for the higher education level were written separately and before the rest of the ISQF, with elaborate descriptors following the basic requirements at both sub-levels.

The **knowledge** descriptors for EQF level 7 add substantially to the knowledge requirements at EQF level 6, especially in terms of research, critical knowledge and original thinking. Knowledge is defined as ‘highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research’ as well as ‘critical awareness of knowledge issues in a field and at the interface between different fields’. These descriptors can be confidently referred to both levels of the ISQF level 6, which do not differ that much from each other internally, even though the higher level places more emphasis on knowledge of a scientific field or profession, whereas the lower level uses ‘knowledge within a special area of the relevant professional field’. The higher level adds knowledge acquired through research in direct terms, matching the strong research element in the EQF. Both ISQF levels within level 6 require knowledge and understanding of scientific subjects and challenges and require students to be able to provide arguments for their own solutions and findings. Knowledge of research methods and science ethics are also required, which deepens the research oriented focus of the ISQF level. Even though the ISQF level 6 descriptors contain more elements as such, the concepts included can be referred perfectly to the EQF level 7, which manages to cover them in its description. It could even be argued, that by adding knowledge, not only of a special scientific field, but also of the interface

between fields, the EQF level adds a tiny bit of extra requirement. This does not affect the referencing of the levels though.

Skills at EQF level 7 focus strongly on research and innovation, requiring ‘specialised problem solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields’. The skills descriptors in the ISQF level 6 present a bit of a challenge in the referencing as they are simply too long and elaborated. Basically, they require students to be able to put their knowledge to use through appropriate methods and procedures. The descriptors for graduate studies at master level and the Masters degree within the ISQF level 6 are almost identical in terms of applied and analytical skills and can be referenced through the best-fit principle to EQF level 7, as the basic requirements clearly lead to similar results. Overall, the EQF level 7 descriptors are more concise, whereas the ISQF descriptors tend to waver towards vagueness due to their length. The concept of innovation could be stronger at ISQF level 6, while the requirement for analysing and evaluating scientific data is included. Again, skills for using ‘relevant hardware, technology and software’ in the ISQF description seem a bit awkward at this level but may have its historic explanations.

Here, the **competences** descriptors do not really solve the challenges inherent in the referencing of the levels, even though the best-fit principle can be applied to a sufficient extent. The EQF level 7 builds directly on the previous EQF level, calling for competences to ‘manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches’ and to ‘take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams’. The ISQF descriptors are almost identical for both levels within level 6, with only very subtle differences. The main challenge is deciphering the lengthy description of the ISQF competences in order to carry out a referencing that makes sense. In actual terms, the ISQF descriptors stress autonomy and initiative in the respective scientific field as well as responsibility for the work of other individuals and teams. They also require analytical competences in terms of complex scientific issues. These can be referenced to the EQF descriptors through best-fit principle and contextual analysis. The ISQF descriptors emphasise once more communicative competences for presenting scientific issues in the mother tongue and in a foreign language.

Table 6: EQF level 7 and ISQF level 6 descriptors

EQF level 7			ISQF level 6		
Knowledge	Skills	Competences	Knowledge	Skills	Competences

<p>Highly specialised knowledge some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research.</p> <p>Critical awareness of knowledge issues in a field and at the interface between different fields.</p>	<p>Specialised problem solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields.</p>	<p>Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches.</p> <p>Take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.</p>	<p><i>Graduate study at Master level:</i></p> <p>Possess knowledge within a special area of the relevant professional field;</p> <p>possess knowledge and understanding of scientific subjects and challenges;</p> <p>can provide arguments for their own solutions;</p> <p>can place latest knowledge into context in the relevant speciality area;</p> <p>are familiar with research methods in their scientific field;</p> <p>possess knowledge of science ethics.</p>	<p><i>Graduate study at Master level:</i></p> <p>can apply methods and procedures of a specialized area of a scientific field or profession;</p> <p>have adopted the appropriate methods and procedures;</p> <p>are capable of analysing statistical information;</p> <p>can understand and tackle complex subjects in a professional context;</p> <p>can apply their knowledge and understanding in a professional approach in their work;</p> <p>can use the relevant hardware, technology and software;</p> <p>can acquire, analyse and evaluate scientific data;</p> <p>demonstrate innovative methods of developing and applying ideas;</p> <p>can apply their knowledge, understanding and proficiency for resolution in new and unfamiliar situations or in an interdisciplinary context;</p> <p>are capable of integrating knowledge, tackling complex subjects and formulating opinions based on available information;</p> <p>can recognise novelties which are based on scientific theories and/or experiments;</p> <p>can apply the methods of the relevant scientific field or/and profession to present, develop and resolve projects;</p> <p>understand research and research findings.</p>	<p><i>Graduate study at Master level:</i></p> <p>can apply their knowledge and skills in a practical way in their profession and/or further study;</p> <p>have developed the necessary learning skills and autonomy for continuing studies;</p> <p>can initiate projects in the scientific field, administer them and take responsibility for the work of individuals and groups;</p> <p>can communicate scientific information, challenges and solutions to specialists as well as to the general public;</p> <p>are capable of presenting and describing scientific issues and research findings in a foreign language;</p> <p>can make decisions in an autonomous, professional manner and support them;</p> <p>can evaluate the appropriateness of the different methods of analysis and complex scientific issues in each case;</p> <p>can communicate statistical information</p>
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			<p><i>Masters degree:</i> Possess knowledge of a specialised area of a scientific field or profession; possess knowledge of scientific subjects and challenges; have acquired knowledge through research; can provide arguments for their own findings; can place the latest knowledge in context within the relevant specialised field; know the research methods within the scientific field; are aware of science ethics.</p>	<p><i>Masters degree:</i> can apply methods and procedures of a specialized area of a scientific field or profession; have adopted relevant methods and procedures; are capable of analysing and communicating statistical information; can understand and tackle complex subjects in a professional context; can apply their knowledge and understanding in their scientific and professional work; can use the relevant hardware, technology and software; can acquire, analyse and evaluate scientific data; can apply their knowledge, understanding and proficiency for resolution in new and unfamiliar situations or in an interdisciplinary context; can develop projects and place them in context by applying methods based on scientific theories and/or experiments; are capable of integrating knowledge, tackle complex subjects and present an opinion based on the available information; can effectively apply research methods and implement small-scale research projects; understand research and research findings.</p>	<p><i>Masters degree:</i> can apply their knowledge and skills in their profession and/or further study; have developed the necessary learning skills and autonomy for continuing studies; can initiate projects, administer them and take responsibility for the work of individuals and groups; can communicate complex scientific subjects and/or scientifically supported findings, alone or in cooperation with other, to specialists as well as to the general public; are capable of presenting and describing scientific issues and research findings in a foreign language; can make decisions in an autonomous, professional manner and support them; can independently evaluate the appropriateness of the different methods of analysis and complex scientific issues in each case; can communicate statistical information.</p>
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Comparing ISQF level 7 with EQF level 8 descriptors (see Table 7)

Level 8 is the highest education level of the EQF, providing a point of reference for ISQF level 7. This level covers Doctorate studies within both frameworks, requiring the most advanced knowledge, skills and competences possible within European education systems, which entails that the levels can be easily referenced to each other.

Knowledge at EQF level 8 is defined as ‘knowledge at the most advanced frontier of a field of work or study and at the interface between fields’ which is rather straightforward. The ISQF level 7 descriptors include the same requirements, stressing creation of new knowledge and contribution to innovation as well as ‘extensive and comprehensive understanding of main theories, principles, concepts and the latest findings available’. The ISQF adds awareness of science ethics but lacks the interface between scientific fields at this point.

The **skills** described for EQF level 8 are ‘the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice’. Even though the ISQF level 7 descriptors are more detailed and could do with a more concise wording, they can be clearly referenced to the EQF level 8. Advanced research and innovation skills run through the whole description and the elements of critical analysis, new challenges, complex subjects are also there. The description includes skills to ‘conceptualise and implement extensive research that expands and/or redefines existing methodology in the field’ which is then elaborated upon by carrying out innovative research and to ‘demonstrate creativity in applying new knowledge, understanding and methods’. In addition, the ISQF requires a scientific dissertation suitable for peer-reviewed publication at national as well as international level. Once more, the usual software skills are added even though they may seem out of place in today’s world.

Competences are clearly defined at EQF level 8, where degree holders shall ‘demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to development of new ideas or processes at the forefront of work or study contexts including research’. The autonomy, initiative and responsibility are there in the ISQF level 7 descriptors and so is participation in critical debate and theoretical discussion. Through referencing the levels, it can be argued that the EQF level 8 description covers the ISQF level 7 competences and even some of the superfluous elements from the ISQF knowledge and skills descriptors of the same level, and thus serves to complete the referencing of the EQF level 8 to ISQF level 7.

Table 7: EQF level 8 and ISQF level 7 descriptors

EQF level 8			ISQF level 7		
Knowledge	Skills	Competences	Knowledge	Skills	Competences
Knowledge at the most advanced frontier of a field of work or study and at the interface between fields.	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice.	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to development of new ideas or processes at the forefront of work or study contexts including research.	Degree holders possess specialised knowledge within a scientific field. <i>This entails that students:</i> possess extensive and comprehensive understanding of main theories, principles, concepts and the latest findings available; have initiated the generation of new knowledge and its interpretation with research or other acknowledged scholarly activities that measure up to peer reviews and critique; have contributed important innovation in the form of new	Students can apply specialised methods and procedures of a specific area of a scientific field. <i>This entails that students:</i> can conceptualise and implement extensive research that expand and/or redefine existing methodology of the scientific field; can explore or develop projects that tackle new challenges and subjects within the scientific field; have full command over basic skills, technology, methods, material and sources connected to the relevant scientific field; can apply critical analysis, evaluation and integration to new and complex projects; can apply general and	Degree holders can apply their knowledge and skills in their profession and/or further study. <i>This entails that students:</i> can assume full responsibility for their own projects and for the work of others; can demonstrate autonomy and initiative in their professional and scientific work; can effectively communicate to their peers, other scholars and the general public about their field of expertise; can participate in critical debate, initiate and lead

			<p>knowledge, innovative utilisation or interpretation of existing knowledge; demonstrate their awareness of science ethics and that they have formed a considered opinion regarding their own research and that of others based on their own ethical consciousness.</p>	<p>specialised research tools and research technology in a practical manner; can use software to support and enhance the work in the relevant scientific field; can specify specialised software to improve methods and procedures; can evaluate statistical and graphical information in a critical manner; have carried out innovative research or developed methods that add to or widen the existing scope of knowledge in the relevant scientific field; demonstrate creativity in developing and applying new knowledge, understanding and methods; have adopted a critical stand towards knowledge; have presented a scientific dissertation that is suitable for publication in a peer-reviewed publication and national and international level.</p>	<p>theoretical discourse</p>
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Criterion 3

The national qualifications framework or system and its qualifications are based on the principle and objective of learning outcomes and linked to arrangements for validation of non-formal and informal learning and, where these exist, to credit systems.

The General Curriculum for Compulsory Schools from 2011 introduces the principle of learning outcomes. After the policy work carried out within the lifelong learning framework at national and European level and the new legislation put in place in 2008, learning outcomes were defined, replacing the traditional teacher oriented input-based curricula. At the end of compulsory school, pupils are expected to have acquired the knowledge, skills and competences that are defined at qualification level 1 of the ISQF, which are identical to the qualifications descriptors for the first level of upper secondary school.

Learning outcomes are also defined in the new General Curriculum for Upper Secondary Schools, also issued in 2011. This means that studies at the upper secondary school are divided into four levels of competence that, on one hand, overlap with the compulsory school, and on the other, with the university level. The levels show gradually increased demand on the pupils' knowledge, skills and competence, leading to greater specialisation and professionalism. The learning outcomes of each programme are linked to a competence level. The final objectives

of study programmes are linked to competence criteria and indicate the competence that pupils are expected to have achieved upon graduation. In structuring study programmes, upper secondary schools are to work according to the rules of the Ministry of Education as they appear, for example, in the general section of the National Curriculum Guide.

The learning outcome descriptors for the upper secondary schools also apply to validation of informal learning. The criteria for validation of non-formal and informal learning into the formal education system is placed at ISQF level three, equivalent to level three qualifications within the regulated trades. This entails that people that wish to re-enter vocational education and training, based on validation of learning outcomes, now have the opportunity to graduate with ISQF level 3 qualifications.

Descriptions of learning outcomes can be found in the National Curriculum Guides for the compulsory school and for upper secondary school respectively.

Within higher education, qualifications are linked to the credit structure of the European Credit Transfer System (ECTS), which is compulsory for all higher education institutions in Iceland to apply.

Provisions are currently underway for the possible integration of the European Credit System for Vocational Education and Training (ECVET) into the Icelandic VET system in order to increase transparency of qualifications in VET between countries with a view to facilitating mobility of trainees.

Criterion 4

The procedures for inclusion of qualifications in the national qualifications framework or for describing the place of qualifications in the national qualification system are transparent.

Since the ISQF was adopted, the principle for including qualifications into the framework is the responsibility of the Ministry of Education, Science and Culture that ensures that the expected learning outcomes are in line with the corresponding level descriptors. This comparison determines the positioning of the qualification within the ISQF.

Level descriptors linking specific qualifications to the ISQF are provided in the National Curriculum Guide which is the responsibility of the Ministry of Education, Science and Culture.

The Ministry of Education, Science and Culture decides on the placement of qualifications at the appropriate levels of the ISQF. During the educational reform and in the case of upper secondary education in particular, the methodology of focus groups was used. The focus groups tested descriptors of the ISQF levels and verified

that the level descriptors were appropriate to describe the different final exams and certificates for the various study programmes.

Suggestions for placing vocational qualifications within the ISQF are done in cooperation between the Ministry of Education, Science and Culture and the Occupational Councils. The Occupational Councils' role is to advise the Ministry regarding vocational education at upper secondary school level in their respective occupations. They propose general study objectives and define the needs for knowledge and skills which the study programme descriptions for the respective occupations shall be based on, and shall form a part of the general part of the National Curriculum Guide, and to make proposals for learning outcomes.

Criterion 5

The national quality assurance system(s) for education and training refer(s) to the national qualifications framework or system and are consistent with the relevant European principles and guidelines (as indicated in annex 3 of the Recommendation).

The Ministry of Education, Science and Culture is in principle responsible for the evaluation and supervision of educational institutions and the entire educational system. There are two approaches for external evaluation organised by the Ministry; either evaluation of schools and institutions at all levels or evaluation of the internal evaluation methods of schools and institutions.

According to legislation on all education levels, all schools and institutions are obliged to carry out internal evaluation of their work. The Compulsory and Upper Secondary Schools internal evaluation procedures are subject to evaluation and validation by an external party with experience and knowledge of quality management and of the school level in question. In accordance with the law on Higher Education Institutions no. 63/2006 the Ministry of Education, Science and Culture has published rules on quality control in higher education. The rules include provisions on monitoring of the internal quality systems set up by the Higher Education Institutions and on regular external evaluations of defined units within the institutions or of an institution as a whole. The Ministry takes the initiative in having external evaluations conducted at the level of higher education, decides when they are carried out and what the focus will be.

Iceland has been following and taking part in the work of the European Association for Quality Assurance in Higher Education (ENQA) for some years, and as a member of the Bologna-process the Icelandic Minister of Education, Science and Culture was among the Ministers in Bergen that adopted the European Standards and Guidelines for Internal and External Quality Assurance in Higher Education and those applying to Quality Assurance Agencies. The law no. 63/2006 states that although an independent Quality Assurance Agency will not be established in Iceland for the time

being the Ministry will ensure that the external quality assurance will be upheld by independent international experts, as prescribed in the Standards and Guidelines and that foreign experts will be called upon to conduct the evaluation of fields of study during the accreditation process

The latest development in quality assurance for higher education is the establishment of the Quality Board for Higher Education in 2010, which means that a formal Quality Assurance Framework for higher education was put into place by the Ministry of Education, Science and Culture. Until then, the organisation of all evaluation of tertiary education was done by the Ministry itself. In undertaking this work, the Board has worked closely with the Icelandic Quality Council for Higher Education, also established by the Ministry and operated by the Icelandic Centre for Research under the auspices of the Science and Technology Policy Council. For the purpose of developing the quality assurance system for higher education, informal discussions were held individually with all higher education institutions as well as with a range of other stakeholders, bodies and individuals, associated with higher education in Iceland. The framework is therefore firmly rooted in Icelandic higher education. Its design has benefitted from drawing on European and wider international experience and expertise, and the framework is positioned at the forefront of international development in the field of higher education.

As for the ISQFHE, it is currently (May 2012) being revised by an international committee and will undergo a self certification as required by the Bologna process.

Criterion 6

The referencing process shall include the stated agreement of the relevant quality assurance bodies.

This report on the referencing of the Icelandic National Qualifications Framework to the EQF has been agreed by the Ministry of Education, Science and Culture, as the main quality assurance body in Iceland with responsibility for lifelong learning. The referencing process has involved relevant stakeholders in the preparation phase, such as teachers, teachers' associations, school principals and administrators, local authorities and municipalities, as well as social partners' representatives and occupational councils.

Criterion 7

The referencing process shall involve international experts.

The Icelandic coordination committee worked with international partners and involved international experts in the referencing process, both through formal cooperation of the Nordic countries during the first stages of ISQF development and

referencing, as well as by involving Ms Margaret Cameron and Dr David Bottomley as international experts in the reporting process.

Nordic Network

The network of the Nordic countries was established within the scope of the Nordic Council of Ministers and operated 2011-2012. The education systems in the Nordic countries share many of the same principles and features, which made the Nordic collaboration very valuable for the Icelandic NCP. The network enabled the partners to meet and exchange ideas with experts working on the qualification systems in the other Nordic countries, discussing common challenges. The cooperation included presentations of the NQF work in each of the Nordic countries and plan for the referencing, discussions of the various understanding of qualifications and what they entail, and finally, the referencing process was discussed. In continuation, the network focused on the reference report itself and issues of common interest like the validation of non-formal and informal learning, international qualifications, implementation of the framework and the updating of the NQFs of the Nordic countries. Discrepancies in the referencing were also discussed to shed lights on the referencing method in the Nordic countries.

International Expert

To ensure impartiality and efficient consultation, the coordination committee was assisted by an international expert, Ms Margaret Cameron of MSC Consulting, former manager of the Scottish Credit and Qualifications Framework Partnership and currently working as a key expert on the development and implementation of the Bahrain Qualifications Framework (BQF). Margaret Cameron was supported by Dr David Bottomley, former Deputy Head of the Quality Assurance Agency for Higher Education in Scotland.

Criterion 8

The competent national body or bodies shall certify the referencing of the national qualifications framework or system with the EQF. One comprehensive report, setting out the referencing and the evidence supporting it shall be published by the competent national bodies, including the National Coordination Point, and shall address separately each of the criteria.

This report, which has been prepared and agreed by the NCP within the Ministry of Education, Science and Culture, as the competent national body, is the single, comprehensive report setting out the referencing, and supporting evidence, of the ISQF to the EQF. It has been presented and agreed by the Minister of Education, Science and Culture as well as by the Ministry's Permanent Secretary. By issuing the report, it acquires a Regulation status but does not need any further legislative change.

The report addresses each of the ten criteria and procedures agreed by the EQF Advisory Group and has been certified by the coordination committee on behalf of the Ministry of Education, Science and Culture.

Criterion 9

The official EQF platform shall maintain a public listing of member states that have confirmed that they have completed the referencing process, including links to completed referencing reports.

The completed and certified national report of the referencing of the ISQF to the EQF will be made available on the web, at a special website managed by the Ministry of Education, Science and Culture (www.menntagatt.is) as well as on the official EQF platform managed by the European Commission.

A link will be provided to information about the main qualifications. Examples of qualifications, especially those used frequently for mobility, will be provided to be included in the EQF portal.

Criterion 10

Following the referencing process, and in line with the timelines set in the Recommendation, all new qualification certificates, diplomas and Europass documents issued by the competent authorities contain a clear reference, by way of national qualifications systems, to the appropriate European Qualifications Framework level.

The coordination committee will coordinate a national response to criterion 10 on completion of the referencing process, including an agreed approach for the referencing of the established links between the ISQF and EQF qualifications) by the end of 2012, secure, in cooperation with relevant authorities and stakeholders, that all new qualification certificates, degrees, diplomas and Europass documents will contain a clear reference to the relevant ISQF level and a link to the corresponding EQF level.

- A reference to the ISQF and EQF levels will be added to certificates and certificate supplements in general upper secondary education, vocational education and training and adult education and training.
- A reference to the ISQF and EQF levels will be added to the diploma supplements for higher education degrees.

6. Challenges and Next Steps

A complete revision of the Icelandic education system was carried out 2006-2010, resulting in new legislation for all levels of education, from pre-school to higher education, as well as for adult education and teacher education. The ISQF was developed in parallel this revision, with the principle of learning outcomes and the national qualifications levels as main criteria in the educational reform.

6.1 Number of Levels

In the process of referencing the ISQF to the EQF, some challenges were inevitably encountered. One of the challenges at the outset of the process was to decide on the number of levels of the ISQF and how they would eventually be referenced to the EQF. The Icelandic NCP set out with eight levels, then discussed having ten levels but ended up with seven levels, which seemed to best fit the Icelandic education system. The idea was to describe the system in a realistic manner, keeping to the latest developments at national level and let the ISQF go hand in hand with the revision of the education system, while at the same time ensuring a certain internal flexibility. This was perhaps not the shortest way towards the end, but it turned out to keep the work at a practical level, ensuring stakeholder involvement and in the end, ensuring that the descriptors developed would fit the real situation as well as possible.

6.2 Overlaps and Cooperation between Levels

It was not clear at the outset of the referencing whether to include the compulsory school level at all. Everyone in Iceland graduates from compulsory school regardless of the learning outcomes acquired and the upper secondary schools are obliged to accept all students regardless of performance, so in a sense, it can be argued that there is no real qualification involved. The new Upper Secondary School Act introduced the new upper secondary school leaving examination which also presents a challenge for linking it to a qualifications level, as it mainly requires people to attend school and complete a certain number of credits instead of passing the qualifications involved.

As a matter of fact, there are overlaps between school levels at both ends; between the compulsory and upper secondary school levels (ISQF levels 1 and 2), as well as between upper secondary and higher education (ISQF levels 4 and 5). The latter is mainly due to the fact that most study programmes at upper secondary level in Iceland take four years to complete. This overlap also very apparent from the perspective of vocational education, as the competences descriptors may have stronger reference to applied knowledge and skills at ISQF level 4, while level 5 may have similar requirements, but at higher education level.

From the policy perspective, there is willingness to keep the relations between the compulsory and upper secondary active and ensure flexibility between compulsory school and upper secondary school on the one hand, and between upper secondary schools and higher education institutions on the other. In practice, this has been done for many years between compulsory schools and upper secondary schools through special agreements, while no such connection exists yet between upper secondary schools and higher education institutions. However, some upper secondary schools offer courses towards ECTS units. Cooperation between adjacent school levels is considered to be a precondition for assessment of studies between school levels.

6.3 Integration of Higher Education and Adult Education

Another challenge in the development of the ISQF was to motivate the higher education level to participate in the referencing process within the EQF criteria. There already was a national qualifications framework for higher education (ISQFHE), which was developed within the Bologna process, first in 2007 and revised in 2010, following the parameters of the Bologna structure. This presented some problems, e.g. regarding consistency of concepts and descriptors. Still, the fact that the ISQF concepts of knowledge, skills and competences, as well as the qualifications criteria, are already used in the ISQFHE, will greatly facilitate the eventual overall referencing and integration of the self-certification of higher education institutions. The aim is also to motivate higher education institutions to define admission requirements based on qualifications criteria. This would increase transparency of qualifications between upper secondary schools and higher education study programmes.

The higher education level still needs to carry out a self-certification evaluation of their process and compile a report that will later accompany the reference report.

As for adult education, one of the main challenges is to validate education acquired in the non-formal system into formal education. At present, there are no qualifications at the level of adult education and one of the next steps in the process is to establish curricula development, curricula certification, quality management and certified learning outcomes at adult education level. Validation of non-formal education will be a vital element in this respect and there are expectations that in the future, all adult education will be connected to an ISQF level. The new Adult Education Act will be helpful in achieving this, as it stipulates that curricula for adult education exceeding 40 hours in duration should be validated and certified into the formal system.

6.4 Next Steps and On-going Development

By 2012, around a third of upper secondary schools have already adopted the new system where all study programme and course descriptions are based on learning outcomes and placed at a specific qualifications level. A third part of them has just embarked on the process and a third hasn't started it. There are various reasons why the process has taken more time than initially planned. Negotiations with the

Teachers' Association haven't been successful as of yet, and in addition, the country has suffered a severe economic crisis. The goal is that all upper secondary schools will have adopted the new system by 2015 and that the first study programmes will be accredited in autumn 2012.

The accreditation process for curricula in adult education is currently being developed, together with the relevant quality criteria. Accreditation of adult education curricula will hopefully start in 2013. That should facilitate mobility of learners and recognition of competences between education levels.

The ISQF is already used as a tool for integrating new courses or fields of study in the development of study provisions; for linking to innovation; for job development and labour shortage, as well as for deciding on remuneration to companies for work-based training.

It is foreseen that workplace learning will soon be connected to qualifications levels in curricula in order to facilitate connections between funding opportunities and workplace qualifications. This means that funding would be provided for 1st level workplace learning, while the employer would pay salary for 3rd level workplace training.

There are also plans to establish a ruling committee, independently of political policies, that would rule in case of doubt as to where to place a certain qualification. Until now, this hasn't presented any problems, but such a committee could prevent possible conflicts. As of 2013, the NCP post will be moved from the Ministry to an agency.

The Ministry of Education, Science and Culture considers it very important to make teachers and school principals aware of the ISQF so they can apply the qualifications levels in their work, e.g. for managing expectations regarding expected learning outcomes. Throughout the development of the ISQF, numerous workshops, seminars and promotional activities have been organised in schools all over the country to promote the framework and invite teachers, teachers associations and other stakeholders, such as the social partners, for debates and discussions. Apart from the extensive promotion within the school system, the framework has not been promoted to any extent to students nor to the public in general, as schools first need to implement it.

It is important to promote the ISQF to ensure its successful implementation. The Ministry of Education, Science and Culture will carry out the necessary promotion in the coming months, including setting up a national ISQF website. Feedback on the referencing process will guide any further developments. The ISQF is regarded as a living tool that can regularly be revised and adapted according to needs and requirements of the education system of the future.

Annex 1 – The European Qualifications Framework for Lifelong Learning (EQF)

	Knowledge	Skills	Competences
Level 1	Basic general knowledge.	Basic skill required to perform a simple task.	Work or study under direct supervision in a structured context.
Level 2	Basic factual knowledge of a field of work or study.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools.	Work or study under supervision with some autonomy.
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information.	Take responsibility for completion of tasks in work or study Adapt own behaviour to circumstances in solving problems.
Level 4	Factual and theoretical knowledge in broad contexts within a field of work or study.	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Exercise self management within the guidelines of work or study contexts that are usually predictable, but are subject to change. Supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.
Level 5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change Review and develop performance of self and others.
Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study.	Manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts Take responsibility for managing professional development of individuals and groups.
Level 7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research	Specialised problem solving skills required in research and/or innovation to develop new knowledge and procedures and to integrate knowledge from different	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches Take responsibility for con-

	Critical awareness of knowledge issues in a field and at the interface between different fields.	fields.	tributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.
Level 8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields.	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice.	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research.

Annex 2 – The Icelandic Qualifications Framework (ISQF)

	Knowledge	Skills	Competences
Level 1	<p>Students have acquired:</p> <p>varied vocabulary to be able to express their opinions and support them;</p> <p>knowledge of social values, morality, human rights and equality;</p> <p>knowledge concerning being an active citizen in a democratic society;</p> <p>knowledge concerning the Icelandic environment in a global context (e.g. culture, society, nature, sustainability);</p> <p>knowledge useful as preparation for further studies;</p> <p>vocabulary to be able to express themselves in a simple manner in foreign languages and insight into the respective cultures;</p> <p>knowledge and understanding of the influence of role models and stereotypes on their own image and lifestyle.</p>	<p>Students have acquired skills to:</p> <p>express themselves clearly, responsibly and creatively;</p> <p>take part in a conversation, support their views and respect the views of others;</p> <p>be self-sufficient at work and in everyday life;</p> <p>apply creative thinking in all their work;</p> <p>work autonomously, responsibly and creatively under supervision;</p> <p>use different techniques in acquiring and communicating knowledge in a responsible and critical manner;</p> <p>use varied study methods;</p> <p>treat their environment with sustainability in mind.</p>	<p>Students</p> <p>have acquired competence to express their thoughts and feelings in a rational context;</p> <p>have acquired competence to express themselves in a simple manner in foreign languages;</p> <p>have a clear self-image and are aware of how they can use their strengths in a creative way;</p> <p>can have positive and constructive relationships and collaboration with others;</p> <p>respect the values of life, human rights and equality;</p> <p>show respect for the environment in a global context;</p> <p>have responsible attitude towards their own welfare, both physical and mental;</p> <p>have acquired a positive attitude towards education;</p> <p>have acquired a competence to be an active and a responsible citizen in a democratic local community and in society as a whole;</p> <p>have acquired competence to link their knowledge and skill with everyday life, technology and science.</p>
Level 2	<p>Students have acquired:</p> <p>varied vocabulary to be able to express their opinions and support them in their everyday life and in connection with specialised knowledge and/or profession;</p> <p>knowledge concerning being a responsible participant in</p>	<p>Students have acquired skill to:</p> <p>express themselves clearly, responsibly and creatively about their specialised knowledge and/or profession;</p> <p>organise a simple procedure of a profession and/or specialised knowledge and employ appropriate</p>	<p>Students</p> <p>have acquired competence to express their opinions and explain practices associated with specified working environment in a clear, responsible and autonomous manner;</p> <p>have acquired competence to express themselves in a</p>

	<p>the economy;</p> <p>knowledge concerning the environment related to specialised knowledge and/or profession;</p> <p>knowledge useful as preparation for further studies;</p> <p>vocabulary to be able to express themselves in foreign languages in connection with specialised knowledge, if necessary.</p>	<p>techniques in this context;</p> <p>show initiative and autonomy with the basic working methods in a specialised knowledge and/or profession;</p> <p>take part in a conversation about their specialised knowledge and/or profession.</p>	<p>simple manner in foreign languages</p> <p>show respect for the principles of the working environment;</p> <p>respect work and working conditions;</p> <p>have a clear self-image and are aware of new opportunities in the environment;</p> <p>have acquired competence to be an active and a responsible citizen in a democratic society and within the community of specialisation and/or profession;</p> <p>have acquired competence to link their knowledge and skill with the working environment and everyday life.</p>
Level 3	<p>Students have acquired:</p> <p>varied vocabulary to be able to express their opinions and support them in their everyday life and in connection with specialised knowledge and/or profession;</p> <p>specialised knowledge useful for employment and/or as preparation for further studies;</p> <p>knowledge concerning being an active and a responsible participant in a specialised society and/or profession;</p> <p>knowledge concerning the environment in a global context and is related to specialised knowledge and/or profession;</p> <p>the vocabulary and knowledge in a foreign language for further studies or in connection with a specialised knowledge, if</p>	<p>Students have acquired skills to:</p> <p>express themselves clearly, critically and creatively about their specialised knowledge and/or profession;</p> <p>organise a procedure and employ appropriate techniques and methods of a profession and/or specialised knowledge in a responsible manner;</p> <p>show initiative and autonomy with working methods at seeking solution within a specialised knowledge and/or profession;</p> <p>take a responsible part in a conversation about their specialised knowledge and/or profession;</p>	<p>Students:</p> <p>have acquired competence to express their opinions and explain practices associated with specified working conditions in a clear, responsible and critical manner;</p> <p>have acquired competence in foreign languages necessary for employment or further studies;</p> <p>have moral responsibility in creative work;</p> <p>show respect for the working conditions and the employment of their general knowledge;</p> <p>are able to use their knowledge to discover new opportunities in the environment;</p> <p>have acquired competence for further studies;</p> <p>have acquired competence to be an active citizen in a</p>

	necessary.		<p>democratic society of a speciality and/or a profession;</p> <p>have acquired competence to evaluate their own work effort in a global context;</p> <p>see their education in a global context;</p> <p>have acquired competence to link their knowledge with technology and science.</p>
Level 4	<p>Students have acquired:</p> <p>specialised knowledge useful for professional advancement and/or as preparation for further studies;</p> <p>specialised vocabulary in a foreign language useful for professional advancement and/or as preparation for further studies.</p>	<p>Students have acquired skills to:</p> <p>guide and communicate their knowledge in a simple and creative manner;</p> <p>organise a procedure, employ appropriate techniques and develop the methods of a profession and/or specialised knowledge in a responsible manner;</p> <p>show initiative and autonomy in working methods at analysing circumstances and reacting in an appropriate, realistic and creative manner.</p>	<p>Students:</p> <p>have acquired competence to express their specialised knowledge in Icelandic and a foreign language, if necessary in work or for further studies;</p> <p>are able to take part in a conversation based on specialised knowledge and skills in a critical and clear manner;</p> <p>have moral responsibility for the utilisation and development of their specialised knowledge with regard to the working conditions;</p> <p>have acquired competence to be an active and responsible citizen in a society of a speciality and/or a profession;</p> <p>have acquired competence to evaluate their own work effort and that of others in connection with the working conditions and/or specialised knowledge in a critical and constructive manner;</p> <p>have acquired competence to connect their knowledge with the global environment.</p>
Level 5	<p>Students:</p> <p>have acquired knowledge of the relevant field or profession.</p> <p>This entails that students:</p>	<p>Students:</p> <p>can apply the methods and procedures of the field or profession.</p> <p>This entails that students:</p>	<p>Students:</p> <p>can apply their knowledge and skills in a practical way in their profession and further study.</p>

	<p>have gained insight into selected theories and concepts;</p> <p>are able to distinguish between scientific explanations and other explanations;</p> <p>understand and know the position of the scientific field in a wider context.</p> <p>-----</p> <p>Have acquired general understanding and insight into main theories and concepts;</p> <p>are aware of the latest knowledge in the relevant field;</p> <p>know the basic elements of information technology.</p>	<p>can conceptualise, organise and implement projects;</p> <p>can apply the basic skills and technology that are relevant in the field;</p> <p>can use statistical and graphical data;</p> <p>can communicate issues related to the field or profession in an organised and comprehensible manner;</p> <p>have developed an innovative way of thinking;</p> <p>can describe simple scientific topics and research findings.</p> <p>-----</p> <p>Can apply the methods and procedures of the field or profession.</p> <p>This entails that students:</p> <p>can use the relevant hardware, technology and software;</p> <p>can apply critical methods in analysing their topic;</p> <p>can support their decisions on professional grounds;</p> <p>can assess the methodology applied in an autonomous manner;</p> <p>can analyse the need for information and have the ability to find it, assess its reliability and apply it in the appropriate manner;</p> <p>can use recognised databases and information resources in the relevant scientific field;</p> <p>have acquired an open-minded and innovative way of thinking.</p>	<p>This entails that students:</p> <p>have developed the learning skills necessary to embark on further studies;</p> <p>can work with large degree of initiative and autonomy;</p> <p>can cooperate with others in projects.</p> <p>-----</p> <p>Can apply their knowledge and skills in a practical way in their profession and/or further study.</p> <p>This entails that students:</p> <p>have developed the competences and autonomy needed for further studies within the field;</p> <p>can work in an autonomous and organised manner, set goals for their work, devise a work schedule and follow it through;</p> <p>can participate actively in cooperation and lead task groups;</p> <p>are capable of interpreting and presenting scientific issues and research findings.</p>
<p>Level 6</p>	<p>Students:</p> <p>Possess knowledge within a special area of the relevant professional field.</p> <p>This entails that students:</p>	<p>Students:</p> <p>Can apply methods and procedures of a specialized area of a scientific field or profession.</p>	<p>Students:</p> <p>Can apply their knowledge and skills in a practical way in their profession and/or further study.</p>

	<p>possess knowledge and understanding of scientific subjects and challenges;</p> <p>can provide arguments for their own solutions;</p> <p>can place latest knowledge into context in the relevant speciality area;</p> <p>are familiar with research methods in their scientific field;</p> <p>possess knowledge of science ethics.</p> <p>----</p> <p>Possess knowledge of a specialised area of a scientific field or profession.</p> <p>This entails that students:</p> <p>possess knowledge of scientific subjects and challenges;</p> <p>have acquired knowledge through research;</p> <p>can provide arguments for their own findings;</p> <p>can place the latest knowledge in context within the relevant specialised field;</p> <p>know the research methods within the scientific field;</p> <p>are aware of science ethics.</p>	<p>This entails that students:</p> <p>have adopted the appropriate methods and procedures;</p> <p>are capable of analysing statistical information;</p> <p>can understand and tackle complex subjects in a professional context;</p> <p>can apply their knowledge and understanding in a professional approach in their work;</p> <p>can use the relevant hardware, technology and software;</p> <p>can acquire, analyse and evaluate scientific data;</p> <p>demonstrate innovative methods of developing and applying ideas;</p> <p>can apply their knowledge, understanding and proficiency for resolution in new and unfamiliar situations or in an interdisciplinary context;</p> <p>are capable of integrating knowledge, tackling complex subjects and formulating opinions based on available information;</p> <p>can recognise novelties which are based on scientific theories and/or experiments;</p> <p>can apply the methods of the relevant scientific field or/and profession to present, develop and resolve projects;</p> <p>understand research and research findings.</p> <p>-----</p> <p>Can apply methods and procedures of a specialized area of a scientific field or profession.</p> <p>This entails that students:</p> <p>have adopted relevant</p>	<p>This entails that students:</p> <p>have developed the necessary learning skills and autonomy for continuing studies;</p> <p>can initiate projects in the scientific field, administer them and take responsibility for the work of individuals and groups;</p> <p>can communicate scientific information, challenges and solutions to specialists as well as to the general public;</p> <p>are capable of presenting and describing scientific issues and research findings in a foreign language;</p> <p>can make decisions in an autonomous, professional manner and support them;</p> <p>can evaluate the appropriateness of the different methods of analysis and complex scientific issues in each case;</p> <p>can communicate statistical information.</p> <p>-----</p> <p>Can apply their knowledge and skills in their profession and/or further study.</p> <p>This entails that students:</p> <p>have developed the necessary learning skills and autonomy for continuing studies;</p> <p>can initiate projects, administer them and take responsibility for the work of individuals and groups;</p> <p>can communicate complex scientific subjects and/or scientifically supported findings, alone or in cooperation with other, to specialists as well as to the</p>
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		<p>methods and procedures;</p> <p>are capable of analysing and communicating statistical information;</p> <p>can understand and tackle complex subjects in a professional context;</p> <p>can apply their knowledge and understanding in their scientific and professional work;</p> <p>can use the relevant hardware, technology and software;</p> <p>can acquire, analyse and evaluate scientific data;</p> <p>can apply their knowledge, understanding and proficiency for resolution in new and unfamiliar situations or in an interdisciplinary context;</p> <p>can develop projects and place them in context by applying methods based on scientific theories and/or experiments;</p> <p>are capable of integrating knowledge, tackle complex subjects and present an opinion based on the available information;</p> <p>can effectively apply research methods and implement small-scale research projects;</p> <p>understand research and research findings.</p>	<p>general public ;</p> <p>are capable of presenting and describing scientific issues and research findings in a foreign language;</p> <p>can make decisions in an autonomous, professional manner and support them;</p> <p>can independently evaluate the appropriateness of the different methods of analysis and complex scientific issues in each case;</p> <p>can communicate statistical information.</p>
Level 7	<p>Degree holders possess specialised knowledge within a scientific field.</p> <p>This entails that students:</p> <p>possess extensive and comprehensive understanding of main theories, principles, concepts and the latest findings available;</p> <p>have initiated the generation</p>	<p>Students can apply specialised methods and procedures of a specific area of a scientific field.</p> <p>This entails that students:</p> <p>can conceptualise and implement extensive research that expand and/or redefine the existing methodology of the scientific field;</p>	<p>Degree holders can apply their knowledge and skills in their profession and/or further study.</p> <p>This entails that students:</p> <p>can assume full responsibility for their own projects and for the work of others;</p> <p>can demonstrate autonomy and initiative in their professional and scientific</p>

	<p>of new knowledge and its interpretation with research or other acknowledged scholarly activities that measure up to peer reviews and critique;</p> <p>have contributed important innovation in the form of new knowledge, innovative utilisation or interpretation of existing knowledge;</p> <p>demonstrate their awareness of science ethics and that they have formed a considered opinion regarding their own research and that of others based on their own ethical consciousness.</p>	<p>can explore or develop projects that tackle new challenges and subjects within the scientific field;</p> <p>have full command over basic skills, technology, methods, material and sources connected to the relevant scientific field;</p> <p>can apply critical analysis, evaluation and integration to new and complex projects;</p> <p>can apply general and specialised research tools and research technology in a practical manner;</p> <p>can use software to support and enhance the work in the relevant scientific field;</p> <p>can specify specialised software to improve methods and procedures;</p> <p>can evaluate statistical and graphical information in a critical manner;</p> <p>have carried out innovative research or developed methods that add to or widen the existing scope of knowledge in the relevant scientific field;</p> <p>demonstrate creativity in developing and applying new knowledge, understanding and methods;</p> <p>have adopted a critical stand towards knowledge;</p> <p>have presented a scientific dissertation that is suitable for publication in a peer-reviewed publication and national and international level.</p>	<p>work;</p> <p>can effectively communicate to their peers, other scholars and the general public about their field of expertise;</p> <p>can participate in critical debate, initiate and lead theoretical discourse.</p>
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