Ministry of Education, Science and Culture
2013

OECD review:

SKILLS beyond SCHOOL

National Background Report for
ICELAND

Ministry of Education, Science and Culture
July 2013

Published by: Ministry of Education, Science and Culture
Solvholsgata 4
IS-150 Reykjavík
Tel.: +354-545 9500
Fax: +354-562 3068
E-mail: postur@mrn.stjr.is
Website: www.menntamalaraduneyti.is

Layout and text: Minstry of Education, Science and Culture

ISBN 978-9935-436-19-1
July 2013

This report was prepared by Skúlína Hlíf Kjartansdóttir (national coordinator of the OECD project in Iceland) for the Ministry of Education, Science and Culture in cooperation with Stefán Stefánsson, Head of Division for Vocational and Adult Education, and Kristrún Ísaksdóttir, Adviser in the Division for Vocational and Adult Education of the Ministry of Education, Science and Culture, and several other ministry officials. The report is an input to the OECD Review of Post Secondary Vocational Education and Training, *Skills beyond School*. The Icelandic report, however, not only reviews the post-secondary level but also the upper secondary as well as the tertiary level. The report was prepared in response to guidelines the OECD provided to all countries. Further information about the OECD review is available at: *www.oecd.org/education/vet*

The author received support from a working group for the project in Iceland, consisting of members of the Occupational Committee of the Occupational Councils in Iceland, and several individuals working within vocational education, that kindly gave their time for an interview.

Contents

Foreword

This report contributes to the **OECD thematic review of post-secondary vocational education and training (VET)** for Iceland. For the sake of continuity it will furthermore outline aspects of the **upper secondary** vocational education and training, **tertiary** vocational education and the growing **lifelong learning sector**, that also contributes significantly to VET in Iceland.

The review aims to map the scope of VET in the participating countries, the diversity of institutions and programmes, fields and modes of study. It is intended to present a broad scope that encompasses diverse systems of post-secondary VET, to allow for meaningful comparability between countries.

VET refers to various forms of education and training. It can be provided within and outside the formal education system, in adult learning and in the workplace. Within the education system VET can be offered at different levels. In Iceland, occupation related education and training starts at upper secondary level and continues throughout the post-secondary and tertiary levels. It is also a significant part of adult education. At any level of education, VET programmes can vary greatly in terms of length, outcomes (including the possibility of transition to higher levels of education), time spent in training in companies, etc.

The definition of the terms **programme** and **institution** as they **are** used in this report:

Programme refers to one year of study or more (full time equivalent) at upper secondary level (ISCED 3), post secondary level (ISCED 4) or tertiary level (ISCED 5), leading to a recognised qualification. Vocational programmes are designed for, and typically lead to, a particular profession.The main focus of an **institution** is the delivery of such programmes.

Thirteen countries participate in the project at three different levels: 1) countries do a full review, 2) countries write a background report and receive a visit and comments, 3) countries write a background report.

Countries taking part with a full review: Austria, Denmark, Egypt, Germany, Israel, Korea, the Netherlands, Switzerland, the United Kingdom (England), and the United States (with case studies from Florida, Maryland and Washington State).

Countries taking part with a background report, visit and comments: Belgium (Flanders), Canada, Iceland, Romania, Spain, Sweden and the United Kingdom (Northern Ireland and Scotland).

Background reports will be prepared by all these countries, as well as by France and Hungary. All the reports will be published on the country studies page as they become available.

Background reports are intended for five main audiences:

- Skills beyond School;
- reviewers who will visit the country;
- those interested in VET within the country that is writing the report;
- countries participating in the review;
- those interested in VET at an international level and in countries that are not participating in the review.

Upon confirmation by the countries, background reports are placed on the OECD/Skills beyond School website, from where they can be widely disseminated.

I would like to thank the working group in Iceland, my interviewees, the Skills beyond School team and colleagues in other participating countries for discussions during the preparation of this report.

Skúlína Hlíf Kjartansdóttir

Draft background report, July 2012
Final background report, July 2013

Abbreviations

HEI	Higher education institution
ICT	Information and communication technology
IT	Information technology
IDAN	IÐAN Vocational Training Centre
IUE	Iceland University of Education (from 1998 to 2008)
ISCED	The International Standard Classification of Education
MESC	Ministry of Education, Science and Culture
NATLOGUE	National dialogue and structural sustainability in education and training
Rannís	The Icelandic Centre for Research
RU	Reykjavik University
UCE	University College of Education (from 1971 to 1997)
UI	University of Iceland
VET	Vocational Education and Training

Introduction

1.1 The Scope of the Report

This report seeks to establish an understanding of the influential factors in the development of VET in Iceland during the years 2000–2011. It provides the necessary background to review these developments and explores the need for change that manifests itself during this period.

The report is divided into 17 chapters:

1. VET in the education system in Iceland
2. Programmes
3. Institutions
4. Statistical overview
5. Mix of provisions
6. Workplace training
7. Access routes, second chance opportunities and equity
8. Transitions to the labour market
9. Steering and governance
10. Funding and incentives
11. Social partners
12. Qualifications framework
13. Teaching
14. Career guidance
15. Quality assurance
16. Policy developments and initiatives
17. Strengths and challenges
18. Summary

1.2 General Policy Context

Iceland is a **representative democracy** with an elected president. General elections are held every four years to select 63 members of parliament. The Icelandic parliament, or The Althing, has legislative as well as fiscal power,i.e. the power to make decisions on public spending and taxation (Althing, 2011).

The current constitution came into effect on 17 June 1944, when Iceland gained full independence from Denmark, but is currently under revision following a nationwide debate at a National Forum 2010 (Iceland Assembly, 2010) and a preparation of a bill by The Constitutional Council in 2011 (Stjórnlagaráð, 2011). This debate was brought about by changes in the Icelandic economy and tremendous impact on living conditions, as a result of the 2008 economic crisis.

As of 1 January 2011 the **population** of Iceland was 318.452 (Statistics Iceland – Hagstofa Íslands, 2011b). Although increasing, the population growth of 0,3% in

2010 was historically low. This is due to negative net migration in 2010, just barely outweighed by the natural population growth. Nevertheless, the population has grown in the past five years by an annual average rate of 1,2%. The life expectancy at birth is 81 years (The World Bank, 2011).

The population increased in three out of eight **regions** of the country in 2010, mainly in the capital region and the Northeast. The decrease was highest in the Westfjords region. All regions of the country suffered negative net migration, with the capital region the only region to gain in numbers. There is a great disparity in population; the capital, Reykjavik, had 118.427 inhabitants in 2011, while some of the smaller rural districts had population of less than 100. The total population living in the eight municipalities forming the greater Reykjavik area is 200.852. In 2010, Iceland comprised 76 municipalities. The disparity makes for great challenges in providing a competitive and varied educational system serving all citizens.

Figure 1–1. Population change 2005–2010 by size of groups of municipalities

			Hlutfall *Percent*	
	Sveitarfélög alls *Municipalities, total*	Mannfjöldi 1. janúar 2010 *Population 1 January 2010*	Breyting frá 2009 *Change from 2009*	Meðalbreyting á ári sl. 5 ár *Average annual change last 5 years*
Alls *Total*	**77**	**317.630**	**-0,5**	**1,6**
5.000+	9	239.816	0,0	2,0
2.000–4.999	13	42.939	-0,3	0,3
1.000–1.999	10	16.555	-0,3	1,4
500–999	19	12.240	-0,1	-0,1
200–499	13	4.498	-0,2	-0,8
<200	13	1.582	-0,2	-1,2

Source: Statistics Iceland, 2010.

The **age structure of the population** is characterised by a relatively high number of young people and people at working age:

Figure 1–2. Population by gender and age

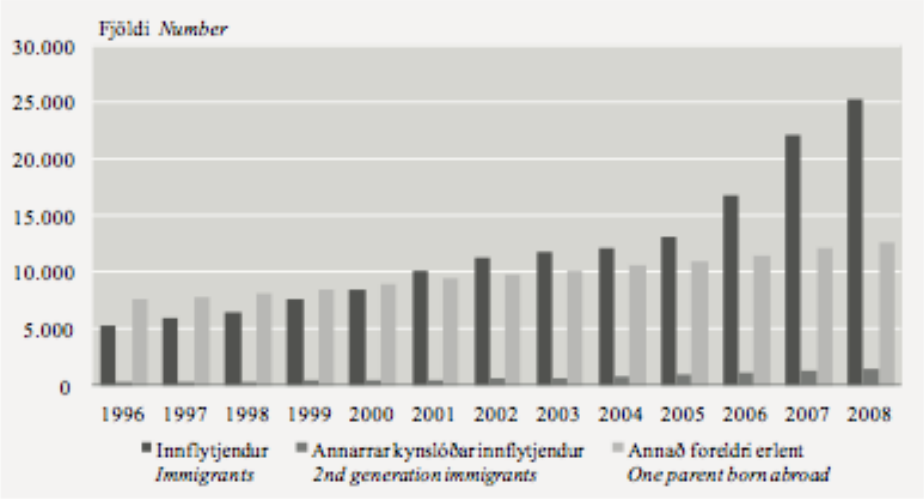
1 January 2011	Total	%	Males	Females
Total	**318.452**	**100,0**	**160.006**	**158.446**
0–14 years	66.592	20,9	33.994	32.598
15–64 years	212.687	66,8	107.999	104.688
65 years and over	39.173	12,3	18.013	21.160

Source: Statistics Iceland – Iceland in Figures, 2011.

From 1996 to 2008 Iceland experienced tremendous growth in **immigration** (Statistics Iceland – Hagstofa Íslands, 2009) that collapsed in 2009 following the

economical crisis. In 1996 there were 5.357 immigrants in Iceland (1,8% of the total population) compared with 25.265 (8%) in 2008.

Figure 1–3. Immigrants and persons with foreign background 1 January 1996–2008

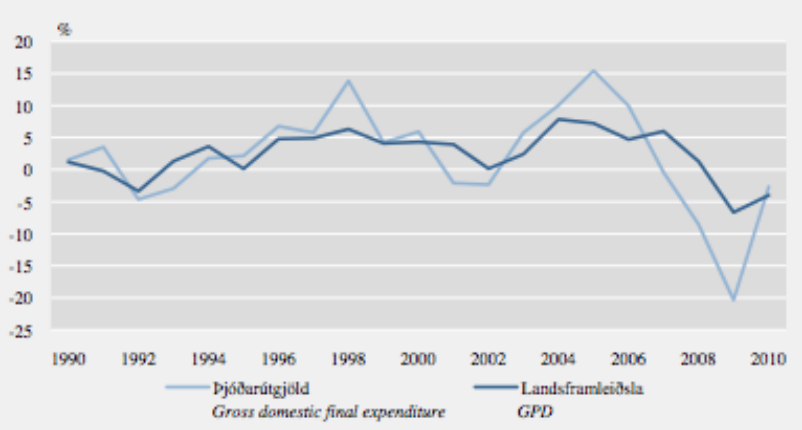


Source: Statistics Iceland, 2009.

The share of **immigrants** in Iceland is now comparable to that of the other Nordic countries. A vast majority of immigrants comes from Europe outside the Nordic countries (68% in 2008 compared to 40% in 1996). Immigrants from Poland are by far the largest immigrant group and now 35,9% of all immigrants in Iceland were born in Poland. The immigrant community in Iceland comprises individuals from around 50 countries. In January 2010 the number of immigrants in Iceland was 26.171 or 8,2% of the population The net migration is projected to be negative until 2012 (Statistics Iceland – Hagstofa Íslands, 2010).

Great fluctuations have characterised **economic development** in Iceland in the first decade of the 21st century and during the first years of the decade the GDP annual growth rate was lower than the average in the OECD countries. For the period 1990–2010 the GDP annual growth rate in Iceland was 2,4%, but was 2,2% on average in the OECD countries (Statistics Iceland – Hagstofa Íslands, 2011a). The relationship between GDP and domestic expenditure can be viewed here:

Figure 1–4. GDP and domestic final expenditure, annual growth rate in Iceland

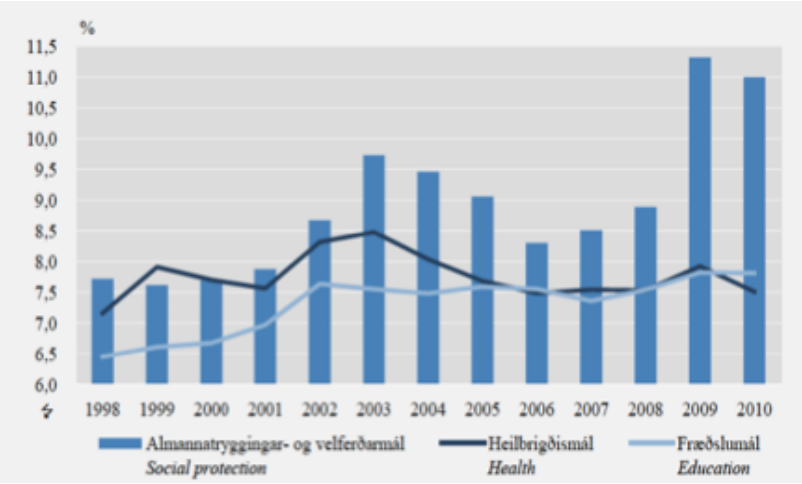


Source: Statistics Iceland, 2011.

The contraction of **national production** in 2009 (6,7%) and 2010 (4%) is the greatest since 1968, when it was 5,5%. This has resulted in a consequent reduction in **national expenditure** (2,7% in 2010) and reduction in state contribution on all levels. The overall cut in government expenditure was around 10% per year in 2009 and 2010, but with a different emphasis according to sections (S. Ólafsson, 2011).

Total **education expenditure** in Iceland in 2010 amounted to 128.2 billion ISK or 8,3% of GDP. Thereof, general government expenditure was 116.7 billion ISK or 91,0% of the total, and private expenditure was 11.5 billion ISK or 9,0% of the total. The share of education expenditure of total general government expenditure was 15,7% (Statistics Iceland – Hagstofa Íslands, 2011e). While cuts have been implemented in health and education, the expenditure in social protection has increased to meet the impact of the recession and increased unemployment:

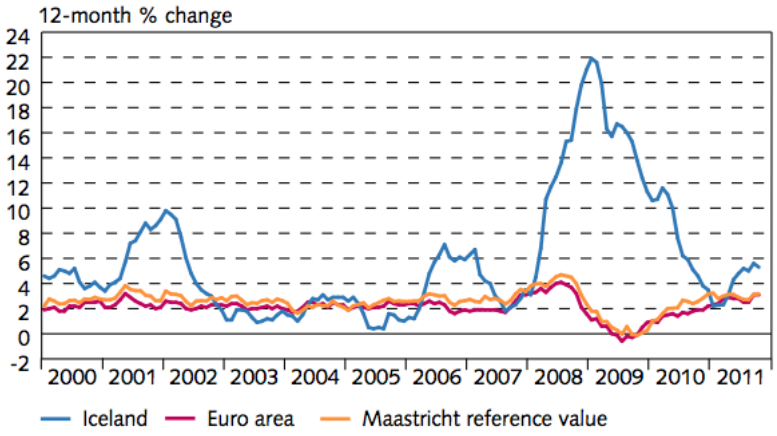
Figure 1–5. Expenditures on social protection, health and education in Iceland 1998–2010



Source: Statistics Iceland, 2011.

During the last three years the Icelandic economy has been subject to great fluctuations and restructuring. **National debt** is among the highest in Europe and **inflation** soared towards the end of 2008 but is now reaching similar numbers as before the recession:

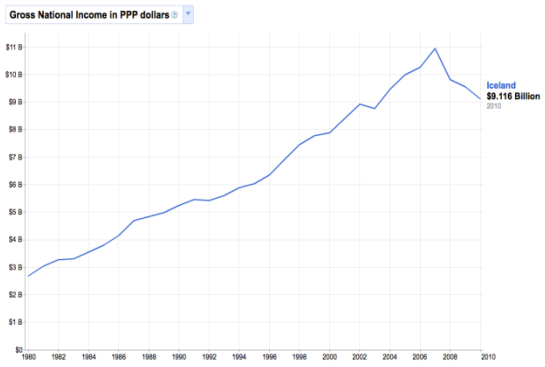
Figure 1–6. Inflation in Iceland and Europe, January 2000 – September 2011



Source: Statistics Iceland, Central Bank of Iceland, 2010

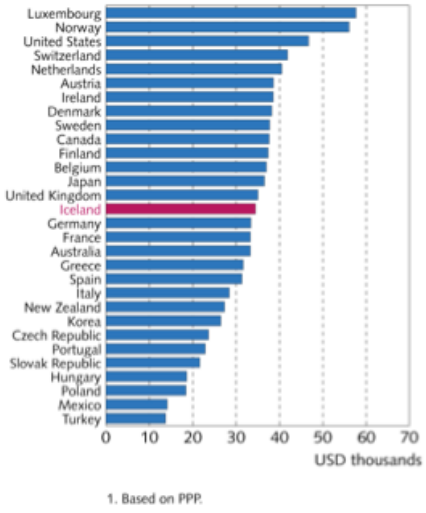
The **gross national income per capita** for Iceland is at an average level compared with other OECD countries.

Figure 1–7. Gross national income per capita in Iceland, 2010



Source: World Bank, 2010

Figure 1–8. Gross national income per capita in OECD countries 2009



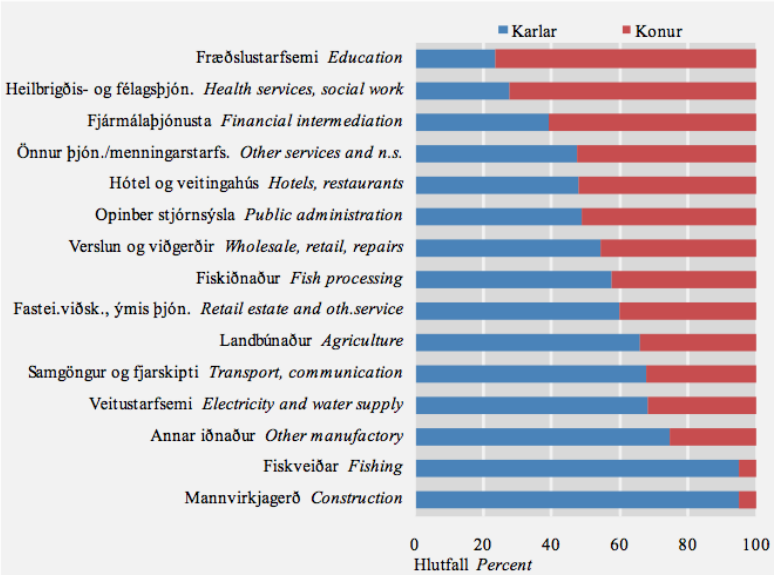
Source: World Bank, 2009

According to the labour force survey of Statistics Iceland (Statistics Iceland – Hagstofa Íslands, 2011c), the **labour force** totalled 182.500 in the 3rd quarter of

2011 compared with 181.900 the year before. The number of employed persons was 171.800 and unemployed persons were 10.700. The **labour force participation rate** in the 3rd quarter of 2011 was 81,0% in total, men's participation was 84,4% and women's participation was 77,6%. The 81% rate of participation is well above the average OECD rate, which is around 72%. The Icelandic economy still depends heavily on the fishing industry which provides 40% of export earnings or more than 12% of GDP and employs 7% of the work force, even though in the last decade the economy has been diversifying into manufacturing and service sectors, particularly within the fields of software production, biotechnology, creative industries and tourism.

The Icelandic labour market has a considerable gender bias. In 2010, 2,3% of women and 9% of men worked in agriculture and fisheries, 8,1% of women and 28,2% of men worked in industry. The largest group of women, 89,5%, worked in the service sector compared to 62,8% of men.

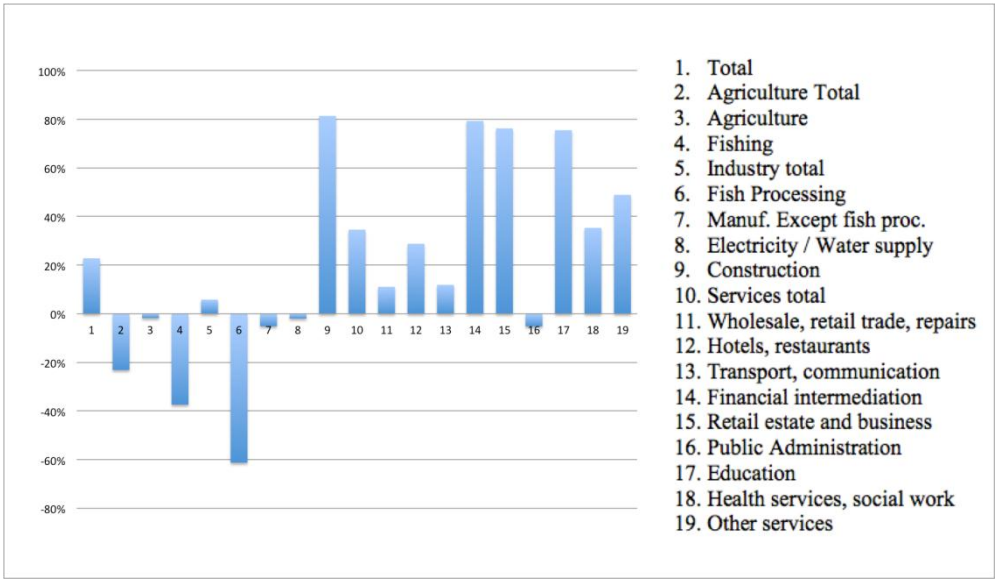
Figure 1–9. Percentage distribution by gender within economic activity 2010



Source: Statistics Iceland, Labour market statistics 2010.

The Icelandic society and labour market has been in rapid transition since 1995 and the accompanying changes have greatly affected living conditions. The foreign investments of Icelandic companies have increased, privatisation and market economy have advanced and technology and globalisation have had their impact. The labour market has changed accordingly. Changes in participation in the labour market between 1998 and 2008 can be described with a reduction in traditional economic activity, like agriculture, fishing, fish processing and the manufacturing industries, electricity and water supply, as well as public administration, but with growth in all others, especially in the construction industry, financial intermediation, retail estate and business, and education.

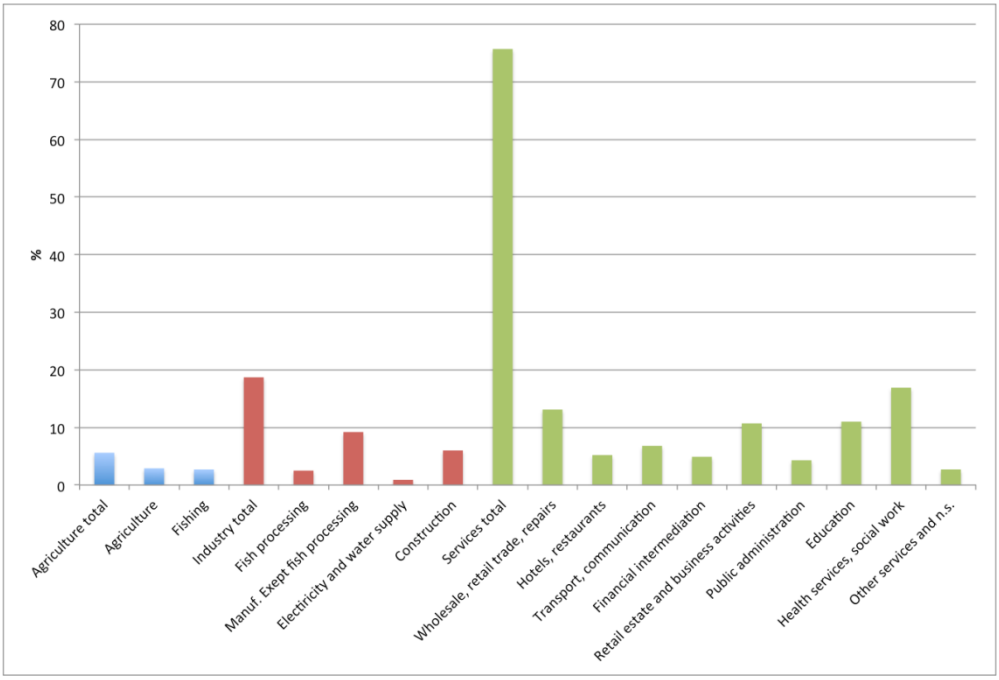
Figure 1–10. Change in number of persons employed by economic activity between 1998 and 2008



Source: Statistics Iceland, Labour market statistics 2012.

In the years following the recession in 2008 there is a decline in construction, financial intermediation and business sectors but an increase in the number of persons employed in various service industries, such as health, social services, education, retail trade, real estate and business activities.

Figure 1–11. Percentage of persons employed by economic activity 2011



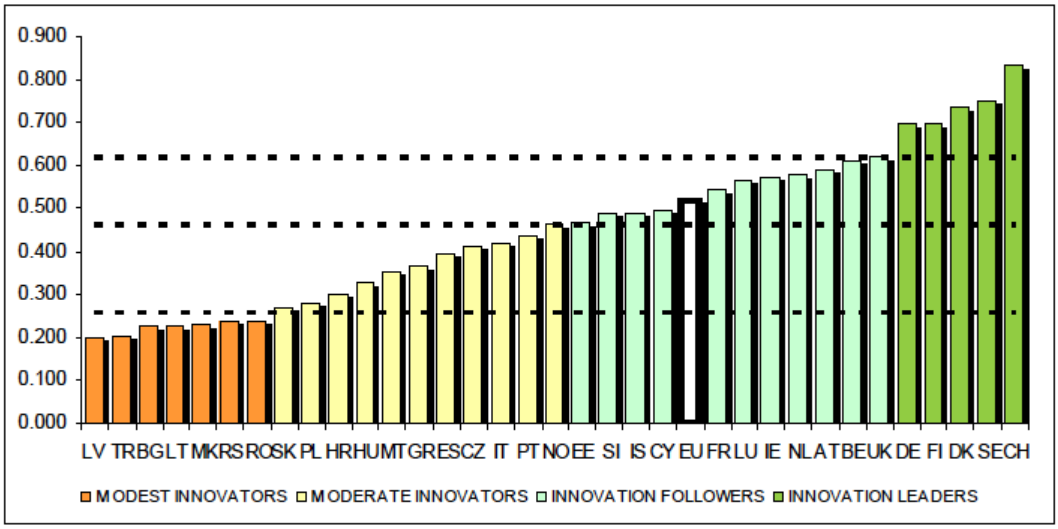
Source: Statistics Iceland, Labour market statistics 2012.

In the late 20th century the emphasis in the economy was still on traditional economic activities, such as agriculture, fishing and fish processing, manufacturing industries, construction and the energy industry. It is not until the new millennium that the public and governmental focus starts to shift onto future potential economic activities, such as high-tech industries and computer technology.

In 2002 a bill was presented to parliament for governmental support of research, innovation and technological development in companies (Alþingi, 2002) and an act on tax incentives for innovation companies was passed in 2009 (Alþingi, 2009).

In the 2010 Innovation Union Scoreboard – The Innovation Union's performance scoreboard for Research and Innovation (UNU–MERIT, 2011), comparing the member states with other European countries, Iceland is labelled as "innovation follower", with a below EU average growth / performance (1,3%):

Figure 1–12. European Countries' Innovation Performance, 2010



Source: (UNU-MERIT, 2011)

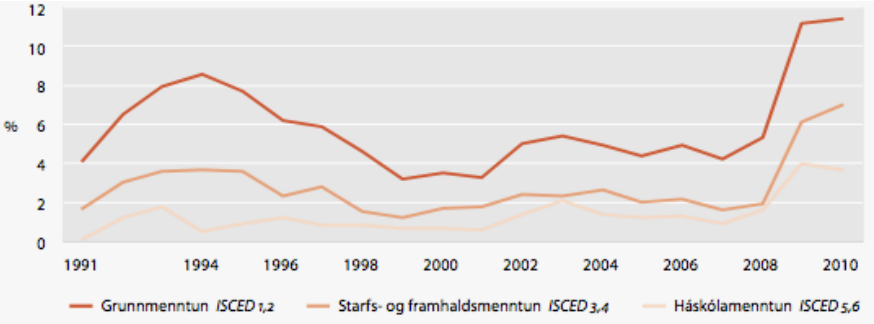
Iceland's strengths are in open, excellent and attractive research systems, finance and support, firm investments and linkages & entrepreneurship. Relative weaknesses are in intellectual assets and outputs.

The cultural and creative industries in Iceland have been coming into their own since 2000 when tourism, films, game development, music and other related activities started making their mark. Associations of the creative industries initiated a research in 2010, an economic mapping exercise (Sigurðardóttir & Young, 2011), that revealed that Iceland's creative industries generated a total turnover of ISK 189 billion in 2009, accounting for 6,36% of the economy's total VAT-taxable turnover. Full time equivalent jobs in the creative industries numbered 9.371 in the same year. This is important to note in relation to

vocational education and to consider the different contexts that this development provides.

The **unemployment rate** in the 3rd quarter of 2011 was 5,9% (2010: 6,4%); 5,6% for males and 6,2% for females (Statistics Iceland – Hagstofa Íslands, 2011c). It has come down considerably from a peak of 8,1% in 2010 (Vinnumálastofnun – Directorate of Labour, 2011). Long term unemployment, especially for young people aged 16–24, without further education, has been increasing.

Figure 1–13. Unemployment rate by education levels 1991–2010



Source: Statistics Iceland – Statistical Yearbook of Iceland, 2011.

The Icelandic **system of government** is based on the principle of three–way division of power. According to the Constitution of Iceland, the parliament and the president jointly exercise legislative power (The Icelandic Eurydice Unit, 2010). Judges exercise judicial power. The Icelandic parliament is legally and politically responsible for the education system. It determines its basic objectives and administrative framework. All education is under the aegis of The Ministry of Education, Science and Culture, as is the legal administration and financing of education, with only a few exceptions, in particular fields of VET.

Education in Iceland has traditionally been organised within the public sector and there are relatively few private institutions in the school system. Almost all private schools receive public funding.

A fundamental principle of the **Icelandic education system** is that everyone shall have equal access to education irrespective of gender, economic status, geographic location, religion, and cultural or social background. This principle is stated in the Icelandic constitution as well as in the various laws pertaining to the different educational levels. Education is compulsory (primary and lower secondary education) from age six through sixteen, i.e. for ten years. Emphasis is placed on providing the opportunity for upper secondary education for all and everyone has the legal right to enter school at the upper secondary level, irrespective of results at the end of compulsory schooling. Vocational education and training is provided at the upper secondary level, post-secondary level and tertiary level.

From 2002 Iceland has actively participated in EU programmes and various working groups for the improvement of national educational systems. The main focus of the Ministry of Education, Science and Culture in Iceland has been on the following themes (Mennta- og menningarmálaráðuneytið, 2007a):

- Modernisation of higher education
- Teachers and trainers
- Increasing participation in maths, science and technology
- ICT in education
- Recognition of learning outcomes

From 2006, dialogue and debates with discussion groups and stakeholders' participation in Iceland have formed the basis for policy change and system improvements – these resulted in new legislations towards the end of the decade.

Laws now governing the educational system in Iceland are: The Pre-Primary School Act from 2008 (Althing – Icelandic Parliament, 2008d), The Compulsory School Act from 2008 (Althing – Icelandic Parliament, 2008c), The Upper Secondary School Act from 2008 (Alþingi – Icelandic Parliament, 2008), The University Act of 2006 (Ministry of Education, 2006) and The 2010 Adult Education Act (Althing – Icelandic Parliament, 2010). The various institutions that offer higher education are also governed by individual acts passed separately for each institution. All these Acts have an adjustment period for implementation until 2015. Other legal acts impacting VET in Iceland are The 2008 Act on the Education and Recruitment of Teachers and Head Teachers in Pre-School, Compulsory School and Upper Secondary School (Althing – Icelandic Parliament, 2008b), The 2009 Act on Educational and Career Councellors (Althing – Icelandic Parliament, 2009) and The 2010 Adult Education Act (Althing – Icelandic Parliament, 2010). Together these acts, which have been issued in the last five years, form a coherent legal framework for education in Iceland and the formation of a lifelong learning strategy.

The global financial crisis and the following recession that hit Iceland in the fall of 2008 posed several challenges for the education system and for the implementation of the policy embedded in the legislation (Minstry of Education Science and Culture, 2011). This has resulted in education budget cut in general, but also delaying the full realisation of the reform (K. S. Blöndal & Jónasson, 2011a).

New national curriculum guidelines were published in the fall of 2011, but their full implementation has been delayed until 2015, in part due to financial restraints, but also to a lack of consensus among stakeholders regarding key issues in the implementation of the policy. These include the role of teachers, the definition of their work and how wages are determined in relation to the legislative changes and the new curriculum. The municipalities have also put pressure on the state to make structural changes in the school system in order to increase cost efficiency. Finally, stakeholders in industry have voiced demands that the education system be more aligned with the economy. Since late 2008 various stakeholders have

been advising the Ministry of Education, Science and Culture on the development of a National Qualification Framework (NQF) in keeping with European Qualification Framework (EQF). The referencing process to the EQF will be carried out in 2012.

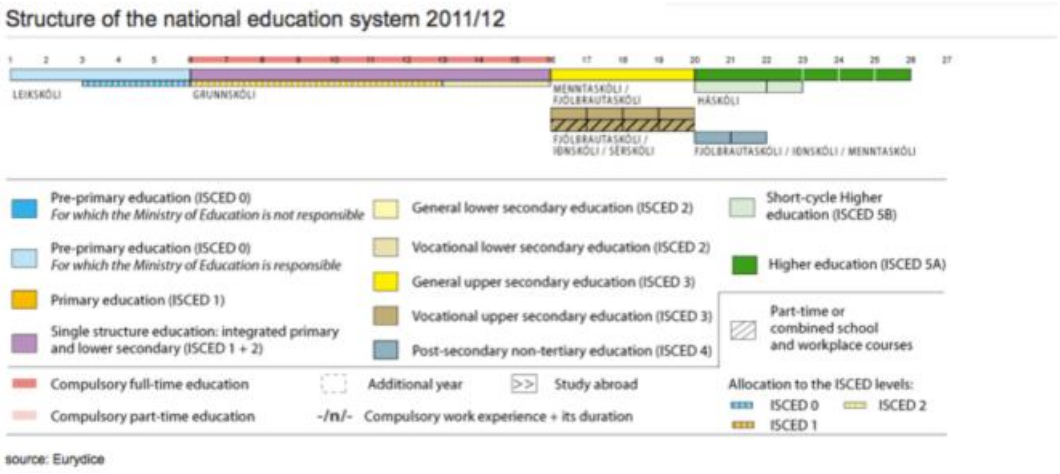
2 Education in Iceland – VET in the Education System

2.1 The Organisation of the Education System

The Icelandic parliament is legally and politically responsible for the education system, determining its basic objectives and administrative framework. The Ministry of Education, Science and Culture is responsible for the implementation of legislation at all school levels from pre-, primary and compulsory education through the upper secondary and higher education levels, in addition to continuing and adult education. The Ministry is in charge of making curriculum guides for pre-primary, compulsory and upper secondary schools, issuing regulations and planning educational reforms (The Icelandic Eurydice Unit, 2010).

The educational system in Iceland is divided into four levels: pre-primary, compulsory (a single structure for primary and lower secondary education), upper secondary and higher education (post-secondary non-tertiary and tertiary education). In 2008 Statistics Iceland published an Icelandic version of the ISCED97 classification system, which is now used to classify education and fields of study (Hagstofa Íslands, 2008).

Figure 2–1. Structure of the national education system in Iceland 2011/12



Source: The Ministry of Education, Science and Culture, 2012.

The municipalities are responsible for all operation of pre-primary and compulsory education, as well as the construction, operation and maintenance of facilities in accordance with the Compulsory School Act from 2008. Upper secondary schools and higher education institutions are the responsibility of the government, except for some private institutions that are self–funded or partly funded by the state. Education in Iceland has traditionally been organised within the public sector and almost all private schools receive public funding.

Equal opportunities and open access to education are predominant features of the Icelandic education system. Implicit in the main principle of equal rights to education is the compulsory schools' responsibility to attend to the educational needs of every student. Pupils with special needs have the right to study support, based on an evaluation of their needs. The special education support can take place at a special education unit within the school, in the general classroom, or both. Less than 0,5% of each cohort attends special school, but 25% of students receive some form of special educational support while attending mainstream classes, 30% of boys and 20% of girls (Iceland Statistics, 2009a).

Just under a third of the Icelandic population is registered in formal education. A total of 58% of pupils study at pre-primary and compulsory level, 24% at the upper secondary and post-secondary level and 18% at the tertiary level. Each cohort has for the past 50 years numbered between 4.200–4.500 individuals. For the last five years around 95% of the cohort enters upper secondary school at the age of sixteen (Minstry of Education Science and Culture, 2011).

The number of immigrants and individuals with a foreign background has increased considerably in the last decade. The ratio of immigrant children is measurably lower in Iceland than in the neighbouring countries. More than three fourths of second generation immigrants are below the age of ten, which signals the rather short history of immigration in Iceland (Iceland Statistics, 2009b). In recent years, increased measures have had to be taken by the education system to cater for the needs of students with a foreign background.

In 2010, 93,5% of the 16 years old population registered for upper secondary education. Of those, students without foreign background are the largest group (94,5%). Upper secondary school attendance of 16 years old immigrants or students with foreign background is lower, between 90% (of those born in Iceland that have one foreign parent) and 74,6% (immigrants). Proportionally, immigrant students suffer the greatest dropout, as only 50% are still at school at the age of 18 (Iceland Statistics, 2011).

The Icelandic government has taken part in the work programme of the *European Union – Education and Training 2010* strategy, which aimed for educational improvements and implementation of various processes, such as the Lisbon process and the Bologna process, concentrating on the following areas (Mennta- og menningarmálaráðuneytið, 2007a):

- Modernisation of higher education
- Teachers and trainers
- Making maths, science and technology more attractive
- Improved use of ICT
- Recognition of learning outcomes

2.2 Formal Education

2.2.1 Compulsory Education

There are 175 compulsory schools in Iceland, 10 of which are private schools. In autumn 2010 there were 42.539 students registered in compulsory education, of which 61% came from schools in the greater Reykjavík area and 39% from regional schools. Icelandic children attend pre-primary school from birth to 6 years, which is when they enter their compulsory education. They start compulsory education at the age of 6 and complete it in the year when they turn 16. Compulsory education is a single structure system with no formal separation between primary and lower secondary level, or between general and vocational studies.

The National Curriculum Guides define the main objectives of learning and teaching, the structure and organisation of study, as well as division of time between instruction in different subject areas. The National Curriculum Guides are valid for both the compulsory education as well as the upper secondary education. Each compulsory school determines if particular subjects are taught in a separate or integrated way. The National Curriculum Guides define required learning outcomes within each subject area and some flexibility is allowed in how pupils fulfil the learning outcomes of particular subjects and subject areas. The National Curriculum Guides divide the compulsory school into three stages (Mennta- og menningarmálaráðuneytið, 2011b), with different emphasis and learning outcomes, where teaching time is allocated (Appendix 1[1]). There is a strong emphasis on the Icelandic language, mathematics and foreign languages, which occupy a substantial part of the curriculum, or 43%. Art and vocational subjects take up 15% of the time and IT and technical subjects get 3%. IT and technology subject group consists of media studies, library studies, IT and ICT. The art and vocational subject group consists of a) music, visual arts and performance arts, b) design and woodwork, textiles and home economics. Most of these subjects have traditionally been taught in special classrooms and are often the children's first encounter with vocational workshops.

The reference timetable is a guide for the schools and headmasters have the responsibility to arrange for structure of teaching and can arrange the distribution of subjects within its limits (Mennta- og menningarmálaráðuneytið, 2011b). In the last three years, or grades, of compulsory school, the arts and vocational subjects are not necessarily a fixed subject of the timetable, but are often offered as subsidiary subjects. The main curriculum guide for the compulsory school level states that care should be taken to keep a balance between academic and vocational subjects, and school leaders and teachers should be aware that the arts and vocational subjects are not ousted from the curriculum when schoolwork is organised. Art and practical subjects should also cover half of the time allocated to the school electives (9,90%). In 2008–2009 a research was carried out by Ann Bamford, with the intention of mapping the art and cultural education, evaluating the quality and charting its future potential and challenges (Bamford, 2011). Its

[1] Appendix 1: Time allocation to subjects in the national curriculum for compulsory schools.

main findings on the policy level were that education in new media should be developed further and that provision in the art and cultural subjects should be developed with a holistic view to the student's education, supporting an interdisciplinary, creative learning through the arts. It also suggested an initiation of a formal relationship between schools and the creative industries.

The reason for these precautionary comments of the main curriculum guide, on behalf of the art and practical subjects, might stem from the fact that PISA examination emphasis and general academic loop-sidedness in the school system has brought on an imbalance that does not work in favour of art or vocational subjects. Nevertheless, this creates an informal priority order of school subjects, that students might internalise and could affect their choice for further study. If career guidance is not provided during the teenage years the likelihood is that the information of choice is limited or biased and will be affected by other prevailing influence.

It is noteworthy that when students gain their 10th grade qualification at the end of compulsory school, the emphasis is on the results in Icelandic, mathematics and languages, irrespective of the choice that the student is making for further education when entering upper secondary school. All students have the right to access upper secondary school at the age of 16, according to the current regulation (Mennta- og menningarmálaráðuneytið, 2008). Before, the school could set entry requirements for minimum grades and the student's course of study could be determined by the minimum grades of these three subjects. Although all students can now be admitted to upper secondary school, including those who do not possess the minimum grades in Icelandic, mathematics and languages, they do not necessarily benefit from good results in other subjects, such at good art grades and grades in vocational subjects. The students who do not possess the minimum grades in Icelandic, mathematics and languages can enter pre-courses to qualify for entry, or enter special needs education where they follow a special course until 18 years of age. The practice in many schools has been that student are asked to carry on studying academic subjects, in which they have failed, before being accepted into vocational programmes of choice. This could be a potential motivation spoiler and a contributing factor to dropout in upper secondary school.

Examinations and other forms of assessment, usually written, are carried out by individual teachers and schools (Eurydice, 2008). Assessment is therefore not standardised between different schools and teachers. The way in which reports on pupils' progress are written varies greatly, but they are given regularly throughout the school year. Nationally coordinated examinations (samræmd könnunarpróf) are given in core subjects, Icelandic and mathematics, in 4^{th} and 7^{th} grade. According to the new Compulsory School Act from 2008, all students should undergo a nationally coordinated examination in Icelandic, mathematics and English in the last year of compulsory education, as from 2009. The examination is held in the beginning of the last year of compulsory education and no longer serves as an admission requirement to a specific field of study at the upper secondary level.

2.2.2 Upper Secondary Education

Students start their upper secondary education at the age of 16. The typical course length is four years, for students between 16 and 20 years, but the length of the courses can vary considerably, especially for vocational courses. The VET system in Iceland is a mixed system (school-based or school-based and work-based). Most vocational programmes, especially in the certified trades, run their courses with workplace training, which can vary considerably in length. Some vocational courses do not have workplace training.

All pupils who complete compulsory schooling have the legal right to upper secondary education, regardless of their results in the tenth grade of compulsory school. The pupil's and/or parents' choice of an upper secondary school is unrestricted, but a particular situation exists in Iceland at the upper secondary level, where each school is responsible for the admission of students in accordance with its agreement with the Ministry of Education, Science and Culture (Eurydice – Eurostat, 2012). The upper secondary school can set specific admission requirements for entry to individual study programmes. Regulations on enrolment of pupils and admission requirements to the different study programmes are in force and are defined by each school, but have been coordinated partly by the Ministry of Education, Science and Culture. Since 2012 a change of regulation has been in force that permits schools to offer students with legal residence within the school district a priority access to programmes, other than those that are specialised, but formerly the schools were obliged to admit at least 40% of those students.

There are 34 public upper secondary schools (framhaldsskólar) registered in Iceland according to the Ministry of Education, Science and Culture. Five of those are private schools. Sixteen upper secondary schools are located in the capital region and eighteen in the rural areas, scattered around the country (Ministry of Education, 2011). The Upper Secondary School Act covers school activities of the public upper secondary schools, but also other schools that offer courses at the upper secondary level and have been accredited by the Minister of Education, Science and Culture (Alþingi – Icelandic Parliament, 2008).

Thus, the types of schools that offer courses in vocational education at the upper secondary level are: comprehensive schools (23), grammar schools (9), specialised schools (21) and music schools (39). This data is provided by Statistics Iceland and is based on the international ISCED classification (Hagstofa Íslands, 2008). In addition, two universities offer vocational education at upper secondary level within a limited range of subjects. This grouping is not necessarily indicative of their functions and activities. The grammar schools, as a rule, do not offer vocational education, except in art subjects or as education and training of special needs students, but provide academic programmes in natural sciences, social sciences, languages, arts and business/economic studies.

The comprehensive upper secondary schools were established in the late 1970s in keeping with the policy to offer both academic and vocational programmes of study, to combine the qualities of the grammar and vocational schools. The development of comprehensive schools followed: "…not only the rationale of economy in rural areas, but also fundamentally the goal of eradicating as much as possible any question of status difference between the different types of programmes, and facilitating transfers between programmes and schools whenever students so desire. In fact, this did not happen frequently; rather, what transpired fairly soon was that academically able vocational students, especially in the comprehensive schools, switched to academic programmes." (Jónasson, 1994) This merging of academic and vocational programmes has been a focus of development at the upper secondary level since the 1970s and is a continued emphasis in the most recent law on upper secondary education, in the government's attempt to give equal status to vocational and academic education within a holistic system and to ensure that the matriculation examination can be completed from both vocational and academic tracks (Minstry of Education Science and Culture, 2011).

The curriculum at the upper secondary level is outlined in the National Curriculum Guidelines, issued by the Ministry of Education, Science and Culture, issued in 2011 (Mennta- og menningarmálaráðuneytið, 2012e). The NGC define the objectives of individual subjects and fields of study.

The 1996 Upper Secondary School Act required that there should be academic, vocational, artistic (fine arts) and general programmes of study, all of which could lead to higher education. The 2008 Act does not stipulate programmes of study, but that upper secondary levels studies should conclude with a final examination, such as upper secondary school leaving certificate, vocational education providing professional rights, matriculation examination, or other defined study completion that may be aimed at specific occupations and provide relevant professional rights (Althing – Icelandic Parliament, 2008e).

The study programmes differ in length, from one to eight semesters. Vocational education takes place in school and with workplace training, but some programmes are school-based only. The upper secondary education can be divided into the following types of programmes:

G*eneral programme* of 1–2 years are open to students who have not yet decided on a path of study, and those who hold a compulsory school diploma but do not fulfil admission requirements into longer academic programmes at the upper secondary level.

Academic programmes are of eight semesters (4 years) duration, concluding with the matriculation examination. Four different study programmes are usually on offer: social sciences, natural sciences, languages, and business and economics.

Vocational programmes are the most numerous of study programmes in the upper secondary education. Study in vocational programmes provides preparation for

work of specific vocations or for continued study. Vocational programmes can be of short duration, 1 or 2 years, but most of them are of 3–4 years duration. Many of the vocational programmes lead to specific professional qualifications and jobs in the labour market. A matriculation examination may also be taken through a vocational track.

Arts programmes of three years duration which are designed to prepare students for further education and work in the field of the arts.

Special programmes are designed for special needs students, who have had extensive special education in compulsory school and are unable on academic grounds to participate in other courses of study (Ministry of Education, Science and Culture, 2008). The special programmes are part of the mainstream system and some of the comprehensive schools make a special effort to offer such programmes.

The public upper secondary schools need to comply with article 12 of the 2008 Act, in order to set up programmes, which are conditional to a three-year school contract, that is revised every year. Upper secondary schools shall formulate descriptions of their study programmes and submit for Minister approval. Upon confirmation from the Minister, the description of the upper secondary school study programmes become part of the upper secondary school National Curriculum Guide. Any grammar school, comprehensive school or specialised school can offer the matriculation examination – *Stúdentspróf*, providing it has been accredited by the Ministry of Education, Science and Culture to run the programme. This exam is still a condition for university entry, although with some exceptions. The matriculation examination usually requires 140 credits. Students qualifying in vocational subjects must therefore usually add relevant subjects to their education in order to proceed to higher education at university.

Traditionally, the grammar schools operate with a class system, where a group of students keep together for the whole duration of study, but the comprehensive schools and special schools operate on a unit-credit system, where the school term is divided into course units, each of which is worth a certain number of credits. Students are consequently able to control the speed of their education, to a certain degree, based on their personal circumstances. This system is used in most of upper secondary institutions in Iceland. Many upper secondary institutions offer evening courses in adult education and distance learning is also on offer at most schools. During the 2001–2010 period **109 fields of vocational studies** were provided at the upper secondary education system, at the ISCED3 level (see p.31 for a definition of the ÍSNÁM 2008, the national version of the ISCED-97 classification system).

In the year 2010, 16.598 (61%) students were registered as studying in comprehensive schools, 6578 (24%) in grammar schools, 3512 (13%) in specialised schools (mostly in art, crafts and vocational programmes) and 563 (2%) in music schools – in total 27.351 students. These numbers include students studying at the ISCED 3 as well as at ISCED 4 level (Statistics Iceland – Hagstofa

Íslands, 2011d). Most students at the upper secondary level choose academic studies. In 2010, 17.938 (66%) students were registered in academic programmes at the upper secondary level (ISCED 3) but 9.044 (34%) students were registered in vocational programmes.

2.2.3 Higher Education

Post-secondary non-tertiary Education

Legislation on upper secondary education covers post-secondary non-tertiary education (ISCED 4) which in most cases takes place in upper secondary schools. All education at this level is classified as vocational education (ISCED 4C). The length of studies is 1–2 years, depending on programmes, which are often attended by mature students. Access to programmes at the post-secondary level is based upon the certificate awarded on satisfactory completion of upper secondary education, or its equivalent.

The providers of vocational courses at ISCED 4 level in 2010 are comprehensive colleges (10), grammar schools (2), visual art schools (1), private schools (2) and universities (3).

The study fields or programmes that are defined as post-secondary non-tertiary are rated at the ISCED 4 level by Statistics Iceland (Hagstofa Íslands, 2008), belonging to a level called *Viðbótarstig*. They are all within vocational education. The programmes at *viðbótarstig* straddle the boundary between upper secondary and tertiary education and serve to broaden the knowledge and competences of upper secondary education graduates. These programmes are designed to prepare students for studies at first stage of tertiary education or for direct labour market entry. They do not lead to a tertiary qualification. The programmes usually have a full-time equivalent duration of 1 to 2 semesters.

The programmes at *viðbótarstig* have historical precedents in master courses for the certified trades, technology studies for tradesmen and in programmes in special schools and art schools, that provided vocational courses and art education from 1975 onwards – the terms used previously were *sérskólastig* or *millistig*. Many of these courses were run as evening courses and were not included in statistics before 1997 (Hagstofa Íslands, 2008). The statistics before 1992 are therefore not particularly reliable, but Statistic Iceland estimates that since 1997 around 1200 to 1500 students have registered at *millistig* each year. The current classification, according to ÍSNÁM–2008, took effect in 2007 and up to that time the students at *millistig* took courses that now belong to either ISCED 4 or ISCED 5B. During 2001–2010, between 272–1068 students were registered each year in post-secondary non-tertiary education.

During the 2001–2010 period **64 fields of vocational studies** were provided at the post-secondary non-tertiary education level, at the ÍSNÁM 4 level. The majority

of those, or 37 (58%) were master courses in the certified trades, but other programmes were 27 (42%). The most popular of these were within the health sector, electrical technologies and computer/media technologies, transport and tourism.

Tertiary Education

The Icelandic higher education system is a relatively small and unitary system compared to other countries. The system is characterised by one large, multi-divisional higher education institution with several faculties, The University of Iceland (established in 1911), and a number of smaller and more specialised institutions. The system has grown extensively in the last two decades and the number of students has increased considerably. Currently, there are seven HEI's operating at the higher education level, four public institutions and three private ones. The public institutions are: Háskóli Íslands/The University of Iceland, Hólaskóli/Holar University College, Háskólinn á Akureyri/Akureyri University and Landbúnaðarháskóli Íslands/The Agricultural University of Iceland. The private institutions are Háskólinn á Bifröst/Bifrost University, Háskólinn í Reykjavík/Reykjavik University and Listaháskóli Íslands/Iceland Academy of the Arts.

Access to tertiary education is unrestricted or open and based on the matriculation examination and a satisfactory completion of upper secondary education, or its equivalent. In Iceland, institutions organise their own student selection procedures, with regard to national standards limiting the number of enrolments. The Higher Education Act allows higher education institutions to set specific admission requirements for students, such as requiring students to pass an entrance examination or to undergo assessment. Specific provisions for entry/continuing studies are in place in some fields. This is the case for the Faculty of Medicine at the University of Iceland which organises a selection procedure for students of medicine and physiotherapy at the point of entry. Competitive examinations at the end of first semester are also practiced in some faculties. So far, entry examinations are not widely used, although certain university departments have suggested this measure in order to cope with increasing student numbers.

In the beginning of 1998, new framework laws entered into force for higher education (Act no. 136/1997) whose main objective was to fix the structure of higher education and to summarise the main conditions higher education institutions had to fulfil in order to be able to use the term ¨university¨ and to award degrees on completion of studies. The Act also stipulated that operations in each university would be specified in more detail in laws, regulations, operating procedures and organisation specification for each institution. The legal framework created a new environment, with decentralisation and more autonomy for institutions that enabled variety and competition at university level. It included the licencing of private sector provision of university teaching that allowed private institutions to charge school fees and attract investment from the private sector. This resulted in a period of increase in course/degree offers of 55% in 5

years, mostly in post-graduate studies, doubling of the student population (Mennta- og menningarmálaráðuneytið, 2007a) and increased research activity. At the same time, considerable fiscal pressure was put on government which increased budgetary provision at most levels of the education system to provide for the expansion (Suppanz, 2006). The changes brought on the need for quality control and clarification of the profile and specific role of new institutions in the higher education system. Merger of university institutions entered the agenda, some were carried out, but others await future decisions or re-structuring of the higher education system.

All Icelandic HEI's are now subject to the Higher Education Act of 2006 (Ministry of Education, 2006). The main objective of the Act is to establish a legal framework for all higher education institutions, irrespective of their form, no longer distinguishing between public and private institutions. The Act authorises the minister of education to certify privately funded higher education institutions upon fulfilling of certain conditions set out in the Act and sets out more stringent criteria for recognition and quality control. The 2006 Act establishes the National Qualifications Framework for Higher Education and lists accreditations. The Act also defines the objectives of quality assurance of instruction and research, explicitly establishing mechanisms of internal quality assurance as a prerequisite for institutional certification. The objectives are to ensure that the conditions of higher education institutions' certification are fulfilled; to improve teaching and research; to induce responsibility of higher education institutions with respect to their own work and to ensure increased competition ability at global level (Alþingi, 2006). The 2006 Act redefines offers of courses and the main rule is that the higher education institutions can now decide on their own organisation of teaching, research, courses and assessment.

Iceland's participation in EU work for improvements in education have impacted the higher education system and implementation of the Bologna-process has been a main impetus in development and reorganisation of higher education in Iceland into a three-tier system in 2001–2010.

Despite the increase in course offer and in student population, the general expansion of higher education has not been in favour of vocational education and training. This last decade, the number of students enrolling in vocational education at the tertiary level has steadily decreased. Along with this general expansion, continuing higher education has also increased. The providers of vocational courses at the tertiary level (ISCED 5B) in 2010 are universities (4), visual art college (1) and music colleges (7). During the 2001–2010 period **13 fields of vocational studies** were provided at the tertiary level of the education system, at the ISCED 5B level. The most popular of these studies are teacher training and computer science. In 2010 18.846 (98%) students were registered in academic programmes at the tertiary level, but 383 (2%) students were registered in vocational programmes.

2.3 Adult Education

Adult education and lifelong learning has gained much impetus during the last decade. The social partners, such as The Confederation of Icelandic Employers (SA) and The Icelandic Federation of Labour (ASÍ) managed in 2001 to coordinate their efforts and put forward joint objectives for cooperation on adult education and vocational training (S. A. Alþýðusamband Íslands, 2001). The main objective was to provide workers, which had not completed upper secondary education, with an opportunity and access further education in order to improve their position in the labour market.

The Icelandic government provided support to fulfil these objectives. In 2002 The Education and Training Service Centre (Fræðslumiðstöð atvinnulífsins) was established, through an agreement in labour market negotiations and with support and financial contribution from the parliament (Fræðslumiðstöð atvinnulífsins, 2013). This led to strengthening of adult education infrastructure and the vocational training centres. It has also resulted in adult education curricula development, increased course provision and improved career counselling, enlarged student population and various development projects being put in place, such as on recognition and validation of non-formal and informal learning and development of a quality system for adult learning, or the EQM (European Quality Mark), all of which has increased the variety and options in vocational education in Iceland. The Education and Training Service Centre holds a leading role in curricula development and operates closely with 14 continuing education centres around Iceland, which offer programmes based on the centre's curricula (Fræðslumiðstöð Atvinnulífsins, 2012b).

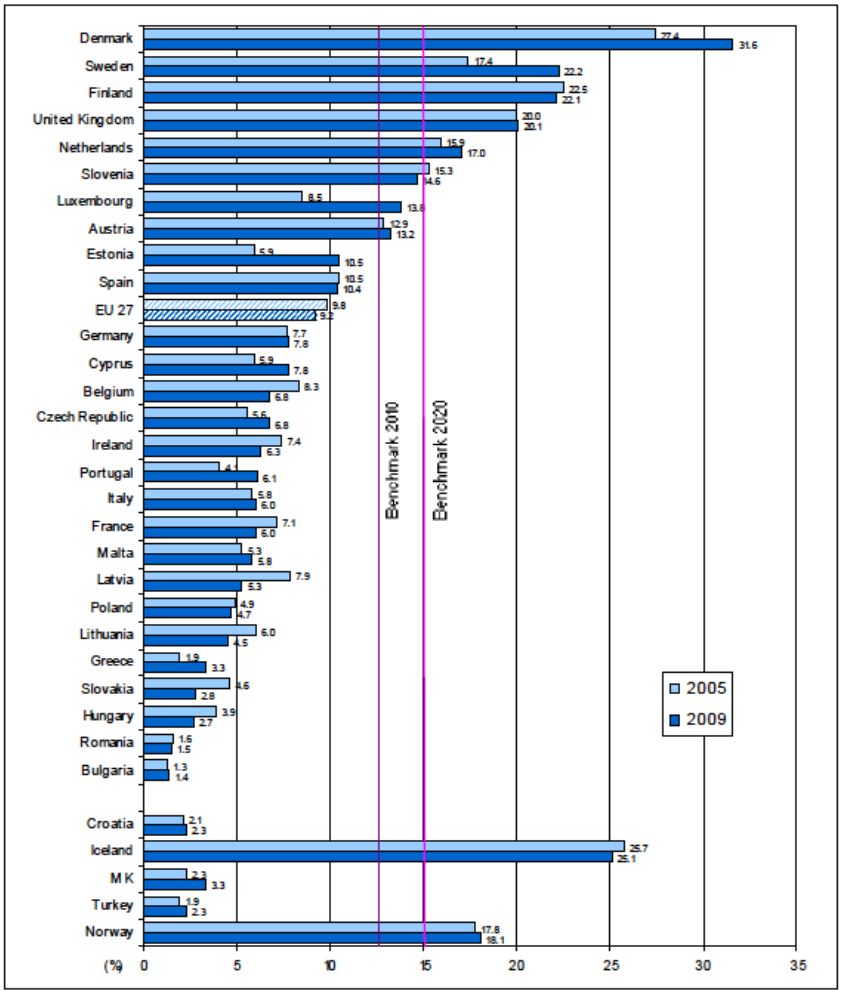
The Icelandic government has developed a national policy on lifelong learning, in keeping with EU educational policies, and in 2010 The Adult Education Act was passed, manifesting formal acknowledgement of educational suppliers in adult education / continuing education as well as governmental financial support (Alþingi, 2010). The Act extended the operations of The Education and Training Service Centre to include the civil service employees' union (BSRB), so that its continuing educational services now cover the full extent of the labour market. The owners of The Education and Training Service Centre are The Icelandic Confederation of Labour (Alþýðusamband Íslands, 2012), The Confederation of Icelandic Employers (Samtök Atvinnulífsins, 2012), The **Federation of State and Municipal Employees (BSRB, 2012), The Ministry of Finance (Ministry of Finance, 2012) and The Association of Local Authorities in Iceland (Samband Íslenskra Sveitarfélaga, 2012).**

In 2010, 70.200 individuals aged 16–74 attended some kind of non-formal continuing education and vocational training, or 31,4% of the population (Hagstofa Íslands – Iceland Statistics, 2011b). Women were more active in seeking training, with 35,1% female participation and 27,8% of males. The participation of people, which are not on the labour market in 2010, is high, or 39%. The participation has risen steadily since 2003, when Statistics Iceland

started to gather information on non-formal education in relation to labour market surveys; it has gone up from 22,3% of the population in 2003 to 25,2% in 2010.

Participation in lifelong learning in Iceland is among the highest in Europe. The EU benchmark for lifelong learning in 2010 was 12,5% and has been set to 15% for 2020. The participation in Iceland in 2009 was 25,1%:

Figure 2–2. Participation of adults in lifelong learning in European countries
Percentage of the adult population aged 25–64 participating in education and training (2009).



Source: European Commission. (2011).

3 Programmes

The Ministry of Education, Science and Culture published a draft definition of vocational education and training in 2010. VET is defined as follows, in Icelandic and English (Mennta- og menningarmálaráðuneytið, 2010c):

Menntun og þjálfun sem stefna að því að afla fólki þeirrar þekkingar, starfsvits, leikni og/eða færni sem nauðsynleg er í ákveðnum atvinnugreinum eða almennt á vinnumarkaðinum.

Education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular industries or in general in the labour market.

In 2008 Statistics Iceland published a national version of the ISCED–97 classification – ÍSNÁM – 2008 (Hagstofa Íslands, 2008). This classification is now in use for all formal education. Most of VET takes place at three levels; in upper secondary education it is the level 3CV, at post-secondary level at 4CV and at tertiary level at 5B.

A part of VET takes place in non-formal education, in adult education centres, in evening schools and in the workplace. Statistics Iceland does not yet gather data or classify adult education and lifelong learning that takes place in non-formal settings (Ásgrímsson, 2012). Still, it gathers information on lifelong learning participation in yearly labour market surveys and produces projected statistics from those, for all education levels.

Formal vocational education and training starts at the upper secondary level and continues at the post-secondary non-tertiary level and at the tertiary level. Furthermore, vocational education and training is increasingly taking place in informal or non-formal educational settings, as continuing professional education in upper secondary schools, art schools and universities, as well as in lifelong education centres, at private schools and institutions, and in the workplace. Implementation of validation of non-formal and informal learning and of a National Qualifications Framework in keeping with EQF will make it easier for students to get recognition of their learning outcomes. Some continuing education programmes at the higher education level are of more than 2 semester duration and can lead to a professional qualification.

For the period 2001–2010 Statistics Iceland lists a total of 190 fields of study or programmes in vocational education on all three ISCED levels, 113 fields at the upper secondary, 64 fields at the post-secondary non-tertiary level and 13 fields at the tertiary level. The programmes on offer differ considerably in number, organisation and duration of study.

3.1 Vocational Programmes at Upper Secondary Level

Most of the fields of study at the upper secondary level fall within one ISCED category (3CV), which contains vocational programmes of different duration. An overview of the different categories is given in Appendix 12[2]. VET programmes at the upper secondary level range from one semester (0,5 years) to ten semesters (5 years), with most programmes being of four-year duration. They cover a wide spectrum of study fields, counting 113 in total (Appendix 2[3]).

Some fields of study, mostly within the arts (3BP – dance, musical instrument performance and singing) and personal development (3CP – disabled students and domestic science) offer courses that are classified as pre-vocational programmes. One field of study (3AV – fine arts) is classified as vocational education and prepares students for access to academic studies at higher education institutions, but will also prepare students for participation in the labour market, without further training, for a specific job.

Workplace training can be a part of all vocational learning, but varies a lot in duration (3–126 weeks). Some vocational programmes do not include any workplace training, despite government and school effort to organise it and this is often the case for new study fields like media studies, multi-media and computer studies. Workplace training is traditionally embedded in programmes for the certified trades, but has lately been subject to shortening of training periods in some vocational programmes.

According to the ÍSNÁM-2008 classification (ISCED levels of the Icelandic educational system) VET education at the upper secondary level (3CV) does not aim at giving students direct access to further education at higher education level. Rather, it leads to work in the labour market, to further studies at the post-secondary non-tertiary level or to further studies at upper secondary school. The learning prepares students for participation in the labour market, without further training. The learning outcomes at this level give formal qualifications that qualify the students for certain jobs in the labour market. This is the level at which most VET students study. There are also study fields at the upper secondary level that provide access to VET education at the tertiary level (5B), which introduce students to the labour market and prepare them for further studies in VET (3BP). The learning outcomes at this level do not give any qualifications on the labour market and these studies should contain VET subjects to ¼ part, as a minimum.(Menntamálaráðuneytið, 1999f)

[2] Appendix 12: Levels of Education – Description of ISCED–97 levels.
[3] Appendix 2: Registered students in vocational education at the upper secondary level.

3.1.1 Certified Trades and other Vocational Fields of Study

Traditionally, the certified trades have dominated the VET scene at the upper secondary level (Appendix 8[4]), but now they constitute 38% of the provision at this level. Student numbers in the certified trades generally seem be going down, but increasing in many other fields of study (see Appendix 2[5] for reference). It is also noticeable that some of the study fields of the certified trades contain very few students. In all, 60 certified trades (with 8 sub-trades) have a legal status by regulation (Ministry of Industry, 1999). Out of these, 17 are inactive, or 23% of the certified trades, meaning that they have not been taught during the last decade. These are typically subject fields within the area of crafts / cultural subjects, but also certified trades like metal casting and mould making, ship and boat building. Many health care occupations (Mennta- og menningarmálaráðuneytið, 2012c) are also certified, by law (Alþingi, 2012), and require operation licencing from The Directorate of Health (Landlæknisembættið, 2012).

Surveying the list of study fields for the upper secondary level 2001–2010 reveals some fluctuations in the provision. Some fields of study are terminated or in recession, like marketing and export, accounting and multimedia, electromechanical techniques and environmental studies. Other fields of study were incorporated into new fields, such as industrial design, that transferred into art & design programmes that were established around the year 2000. Some are only activated when sufficient number of students is ready to enrol in a course, like bookbinding, shoemaking or saddlery. Other fields make an occasional entry, such as large-scale industry studies, electric distribution techniques, stonemasonry, butchering, pedagogic and leisure studies and ground crew training in airports. The new entries are: assistants in pre-primary schools, school assistants, acoustics, film production, nursing receptionist, naturopathic medicine, garment technician, cabin crew training and security services (broad programmes). There are, furthermore, some that make rare appearances, like a programme in fish processing, an employment for many in the fish industry and an important source of revenue for Iceland's economy, which is only provided by one educational institution in the whole country. A school called Fiskvinnsluskólinn was in operation for 25 years teaching fish processing (Gunnarsson, 2002), but went out of operation in 2001, as its provision did not seem to fit labour market or students' needs. An attempt was made in 2010/2011 to create a new provision for learning fish processing at Icelandic College of Fisheries in Grindavik (Fisktækniskólinn – Icelandic College of Fisheries, 2012).

[4] Appendix 8: Overview of national policy on VET and lifelong learning.
[5] Appendix 2: Registered students in vocational education at the upper secondary level (ÍSNÁM 3CV).

3.1.2 Types of Programmes – Diplomas, Credentials and Certifications

Statistics Iceland classifies 17 types of programmes at the upper secondary level, 14 of which fall within vocational education (Appendix 5[6]).

Most of the programmes have open access, with ISNÁM level 2 as minimum entrance requirement, but some require grade certificates (marine engineering, marine captain) as well as work placement, to progress between course/grades, or they have set requirements of 2 years completion of academic subjects before entering certain vocational programmes.

3.1.3 Qualifications and Types of Careers

All graduates can continue to upper secondary education, whatever the result of their exams or assessment in compulsory education, but Pupils that have not acquired the desired minimum marks for entry to specific programmes, have to enter a general study programme to attain the minimum grades in academic subjects in order to enrol in programmes at the upper secondary level.

Some programmes at the upper secondary level are structured in a step-wise succession. This is the case for many certified trades programmes, which start with a basic programme that can be a shared programme for a group of trades (like the metal trades or the food and catering trades). Not all schools graduate students in these programmes (Appendix 6[7]). Many students complete a basic course in their chosen trade and then continue in the certified trades programmes, but some students graduate on completion of the basic course. The basic courses vary in duration, from one to four semesters. In other subjects, like marine engineering, students receive a certificate at each step they pass. Those who acquire a certificate after having completed the programmes in school and have fulfilled the apprenticeship contract with a trade master, proceed to journeyman's examination.

In an overview of qualifications at the upper secondary level for 113 study fields (an ISCED term (UNESCO, 1997) used by Statistics Iceland for classification of educational programmes and their content) it can be observed that 52% of the study fields qualify students with certificates for work in the certified trades, at some level, 4% qualify students with an art examination, but 48% qualify students with qualifications, that do not give a certification to a specific job, but a diploma of competence in the relevant subjects:

Próf og prófgráður	Qualifications	Number	%
Grunnpróf úr iðn	Certified trade basic examination	4	4%

[6] Appendix 5: Types of programmes, minimum entrance requirements – diplomas, credentials and certifications.

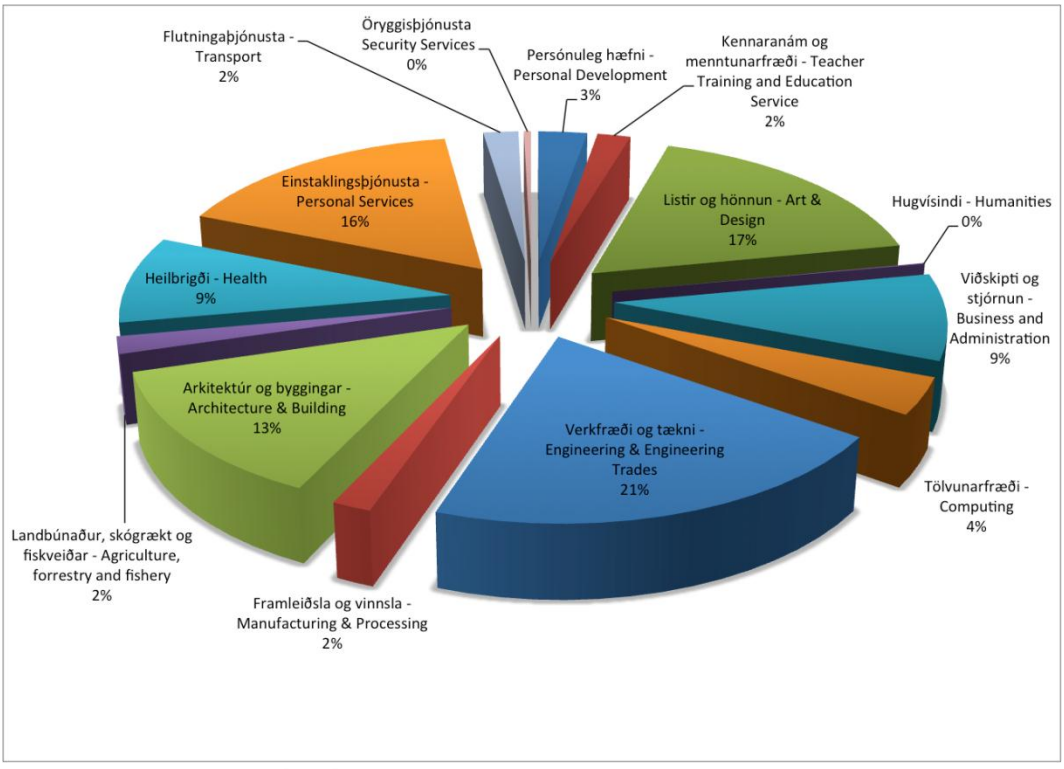
[7] Appendix 6: Types of Qualifications – Programmes leading to them and the Awarding Organisation.

Réttindapróf starfsgreina	Vocational certificate	12	11%
Burtfararpróf úr iðn	Certified trade school certificate	10	9%
Sveinspróf	Journeyman's examination	33	29%
Grunnpróf starfsgreina	Vocational basic examination	3	3%
Hæfnispróf starfsgreina	Diploma of competence	47	42%
Framhaldspróf í dansi	Upper secondary dance examination	1	1%
Framhaldspróf í tónlist	Upper secondary music examination	2	2%
Framhaldspróf í myndlist	Upper secondary art examination	1	1%
Total:		**113**	**100%**

Table 3–1: Qualifications distribution in VET – Upper secondary level 2001–2010. *Source: Statistics Iceland, 2011.*

With further reference to the 113 study fields and the ÍSNÁM2008 classification the following narrow fields, relating to occupations, can be observed:

Figure 3–1: Narrow Fields of Study – Upper Secondary Level (3CV) 2001–2010



Source: Statistics Iceland, 2011.

The majority of students in VET at the upper secondary level are studying within the fields of engineering and engineering trades (21%), arts and design (17%), personal services (16%), building trades (13%) and in other

various fields to a lesser extent (33%). For a more detailed breakdown of each fields of study – see Appendix 13[8].

3.2 Vocational Programmes at post-secondary non tertiary level

At the post-secondary non-tertiary level all programmes are vocational and fall within the same category (4CV) of the ÍSNÁM2008 classification (Appendix 3[9]). The programmes' duration is 0,5–2 years. In total they count 64 study fields.

The post-secondary level has its origin in master-classes for the certified trades, industrial study programmes and art studies that go back as far as to 1975, but with quite few students. Most of the programmes at this level, that before was termed special-school level (sérskólastig) or middle-level (millistig) were evening classes and were not properly registered until 1997 (Ásgrímsson, 2011). Before 1992, less than 100 students were usually counted at this level, but since then the numbers have risen, along with the variety of programmes and courses. This has been spurred by developments in the trades and the labour market in general and a need for a workforce with an advanced technical knowledge and expertise. Another factor influencing the development of VET at the post-secondary level is the academic drift, a tendency to transfer former occupational non-university education to higher education level, that occurs simultaneously in this period and has the effect that some programmes and schools, formerly registered as providing vocational education, transform their programmes and transfer to the tertiary level. Examples of schools that made this transfer are Fósturskóli Íslands (School for pre-primary school teachers), which merged with The Iceland University of Education, and Tækniskóli Íslands, that transformed into Tækniháskóli Íslands and later merged with The University of Reykjavík (2005). What characterises the current post-secondary education in Iceland is that it does not have a formal post-secondary college sector and the programmes at this level are offered by upper secondary schools, some universities, art schools and private educational institutions.

The fields of study at the post-secondary non-tertiary level can either be directed at giving access to academic programmes at university (5A), to VET programmes at university (5B) or they will not offer the opportunity to further studies at higher education level and will lead to work in the labour market or to further studies at the post-secondary level.

[8] Appendix 13: Number of students in VET Education at the Upper Secondary Level, by narrow Fields of Study, 2001–2010.
[9] Appendix 3: Registered students in vocational education at the post-secondary non tertiary level.

3.2.1 Certified trades and other vocational fields of study

Master programmes in the certified trades made up 56% of the provision during 2001–2010 at the post-secondary level, with other fields of study counting for 44%.

Surveying the list of study fields for the post-secondary non-tertiary level for 2001–2010 reveals that only around 38% of the programmes are taught continuously, around 21% make an occasional entry, 15% appear to be new entries and 4% seem to have been terminated in the form they had been taught previously. The decade has been a period of restructuring of higher education and some fields of study, that before were only taught at the upper secondary level, progressed to the post-secondary level, or developed into academic programmes at the tertiary level.

3.2.2 Types of programmes – diplomas, credentials and certifications

Statistics Iceland identifies two types of programmes in vocational education at the post-secondary non-tertiary level (Appendix 5[10]). These are *master craftsman's programmes* at post-secondary level in the certified trades and *vocational programmes* at post-secondary level, 1,5 years. The minimum requirements for access are completion of vocational programmes at the 3A or 3C (certified trades) level.

3.2.3 Qualifications and types of careers

Studying at the post-secondary level can lead to three different qualifications, *a master craftsman examination*, *vocational certificate* and *a diploma of competence* (Appendix 6[11]).The master craftsman examination and the vocational certificate will give the right to work in a particular occupation.

Observing the qualifications at the post-secondary level for the 64 study fields it can be deduced that 59% of programmes give qualifications of a master craftsman in a certified trade examination and 19% a vocational certificate:

Próf og prófgráður	**Qualifications**	**Number**	**%**
Hæfnispróf á framhaldsskólastigi	Vocational programmes at the upper secondary level resulting in a diploma of competence	1	2%

[10] Appendix 5: Types of Programmes – Minimum Entrance Requirements – Diplomas, Credentials and Certifications.
[11] Appendix 6: Types of Qualifications – Programmes leading to them and the Awarding Organisation.

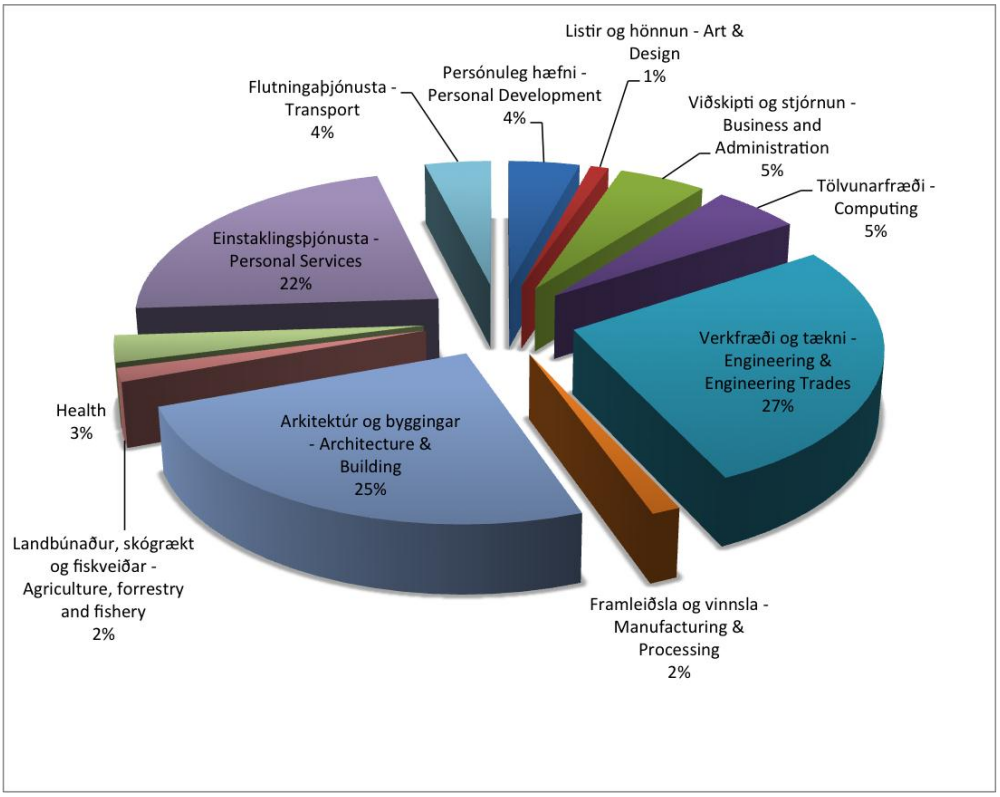
Hæfnispróf á viðbótarstigi	Vocational programmes at the post-secondary non-tertiary level resulting in a diploma of competence	13	20%
Réttindapróf á viðbótarstigi	Vocational programmes at the post-secondary non-tertiary level resulting in a vocational certificate	12	19%
Iðnmeistaranám	Master craftsman in a certified trade examination	38	59%
	Total:	**64**	**100%**

Table 3–2: Qualifications distribution in VET – Post-secondary level 2001–2010. *Source: Statistics Iceland, 2011.*

The minority of programmes will give qualification with diplomas of competence, or 22%.

With further reference to the 64 study fields and the ÍSNÁM2008 classification following narrow fields, relating to occupations, can be observed:

Figure 3–2: Narrow of Fields of Study – Post-secondary Level (4CV) 2001–2010



Source: Statistics Iceland, 2011.

The majority of students in VET at the post-secondary level are studying within the fields of engineering and engineering trades (27%), architecture and building trades (25%) and personal services (22%). The attendance in other fields is between 1–5%, such as computing, business and administration, personal development, transport, health, agriculture, forestry and fishery, and art & design.

3.3 Vocational Programmes at Tertiary Level

During the eighties and nineties the higher education sector in Iceland expanded gradually and regulatory improvements were made in vocational education at the upper secondary level (Appendix 8[12]). Despite a higher education explosion in Iceland, starting in 1999, much later than in the rest of Europe, it has not led to expansion in VET. On the contrary, student numbers in VET have decreased gradually for the last ten years and the provision of VET programmes has remained almost static at the tertiary level.

What might explain this is partly an *institutional drift*, when institutions drift between educational sectors (professional schools becoming universities, with programmes changing accordingly) and a *drift of the student body*, that tends to choose academically-based programmes in preference to the vocationally-based programmes (Jónasson, 2004). Furthermore, as the implementation of the Bologna-process emphasised The Three Cycle System, it has been noted that some vocational programmes, especially those of shorter duration, did not fit the system restructuring and were discontinued. The economical situation and annual budget cuts from 2008, might also have contributed to slow renewal in the provision of vocational programmes at the tertiary level.

According to the 2008 Upper Secondary School Act, upper secondary schools are authorised to offer programmes in continuation of defined learning outcomes at the third level of competences (Mennta- og menningarmálaráðuneytið, 2011c). These programmes are defined as additional studies (viðbótarnám) at the fourth level of competences and cited in upper secondary school units. Programmes at the fourth level can be evaluated as credit units (ECTS) at the tertiary level, in accordance with the Higher Education Act nr. 63/2006. This is on the premise of each higher education institution, national or international. The upper secondary schools have to present the programmes as learning at the fourth level, but if an agreement is in place with a higher education institution this can be stated in offerings for the studies.

[12] Appendix 8: Overview of national policy on VET and lifelong learning.

3.3.1 Vocational fields of study

In all there are 13 fields of study registered by Statistics Iceland in 2001–2010 as being vocational education (5B) at the tertiary level. These 13 fields are not usually in continuation of the certified trades taught at lower levels, except for the two study fields of industrial management and industrial operation, but fall within other areas, like of teacher training, art and design, agriculture and transport (Appendix 4[13]).

Surveying the list of study fields for the tertiary level for 2001–2010 reveals that only around 54% of the programmes are taught continuously, 8% make an occasional entry, 15% appear to be new entries and 23% seem to have been terminated. The largest student groups to follow these programmes are in the field of teacher certification and computer science. Considering the sporadic provision, as well as the decrease in numbers of students during the period, it can be assumed that VET at the tertiary level is clearly in recession at this point in time. The net entry rate in tertiary type B education in Iceland is one of the lowest in the OECD area.

3.3.2 Types of programmes – diplomas, credentials and certifications

Statistics Iceland identifies 15 types of programmes in vocational education at the tertiary level (Appendix 5[14]).Of these 3 are vocational: *tertiary programmes of 2 years not leading to a university degree*, *tertiary programmes of 3 years not leading to a university degree* and *teacher's qualification programme with no degree*. The minimum requirement for access is completion of academic programmes at the 3A or vocational programmes at the 3B level for the general VET tertiary programmes, but 4C level for the teacher's qualification.

3.3.3 Qualifications and types of careers

Studying at the tertiary level can lead to eight different qualifications (Appendix 6[15]) two of which are vocational, *vocational programmes at the tertiary level resulting in a vocational certificate* and *vocational programmes at the tertiary level resulting in a diploma of competence*. Of the 13 study fields in question at the tertiary level, 54% provide students with a vocational certificate and 46% provide them with a diploma of competence

Próf og prófgráður	**Qualifications**	**Number**	**%**
Hæfnipróf æðra náms	Diploma of Confidence	6	46%
Réttindapróf æðra náms	Vocational Certificate	7	54%

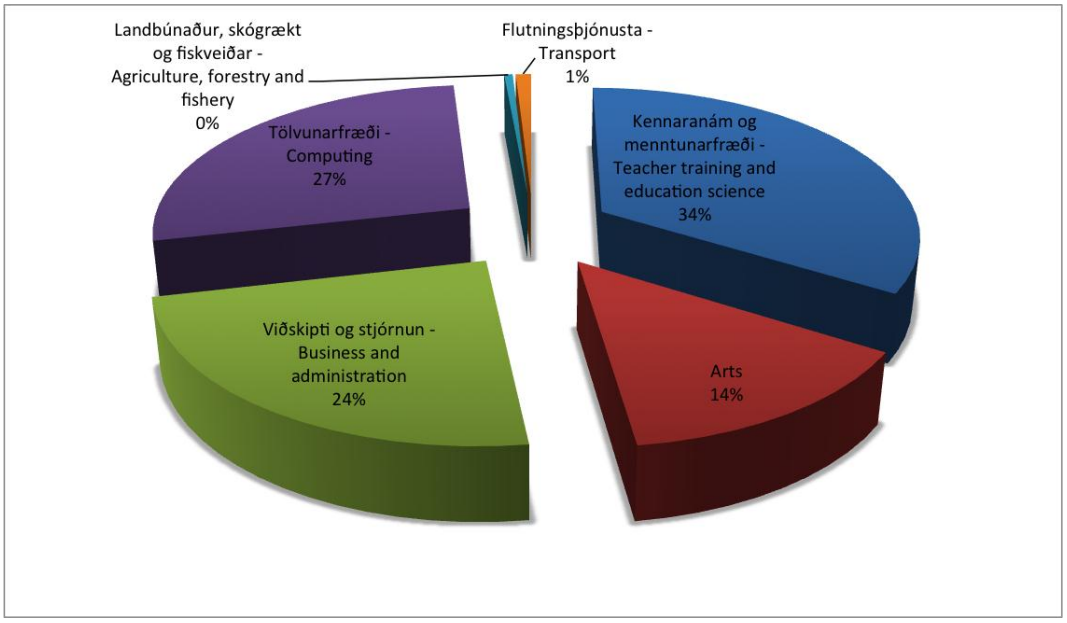
[13] Registered students in vocational education at the tertiary level (ÍSNÁM5B) – Statistics Iceland student register 2001–2010.
[14] Appendix 5: Types of Programmes – Minimum Entrance Requirements – Diplomas, Credentials and Certifications.
[15] Appendix 6: Types of Qualifications – Programmes leading to them and the Awarding Organisation.

Total:	**13**	**100%**

Table 3–3: Qualifications distribution in VET – Tertiary level 2001–2010.
Source: Statistics Iceland, 2011.

With further reference to the 13 study fields and the ÍSNÁM2008 classification, following narrow fields, relating to occupations, can be observed:

Figure 3–3: Narrow of Fields of Study – Tertiary Level (5B) 2001–2010



Source: Statistics Iceland, 2011.

The majority of students in VET at the tertiary level are studying within the fields of teacher training (34%), computing (27%), business and administration (22%) and arts (14%). The attendance in other fields is minimal between 0,5–1%, in transport, agriculture, forestry and fishery.

4 Institutions

There are 79 educational institutions, operating at the upper secondary, post-secondary and tertiary level which provide vocational education. Some of them operate on more than one educational level. By form of operation they are divided into three categories: public institutions, government dependent private institutions and independent private institutions (Appendix 7[16]).

Institutions by Form of Operation	Number of Students	%	Number of Institutions	%
R = Public institutions	5941	62%	29	37%
E = Government dependant private institutions	3428	36%	44	56%
I = Independant Private Institutions	253	3%	6	8%
Total:	9622	100%	79	100%

Table 4–1: Number of students and VET institutions at Upper Secondary, Post-secondary and Tertiary Level, by form of operation – 2010.

Source: Statistics Iceland, 2011.

The government wholly funds the public institutions at the upper secondary and post-secondary level. The government dependent private institutions receive more than 50% of their operational costs from public financing in the form of a contribution for each student, based on a financial model in use for the public institutions (Sigurðsson, 2008). The independent private institutions receive less then 50% of their operational cost from public financing and rely mostly on fees from students or private funding to meet their costs.

In the late 1990s, various secondary schools were upgraded and new private institutions were established (Elvar Örn Arason & Briem, 2005). In the period 2001–2010 a drift can be observed of public schools opting from the governmental public form of operation, to becoming government dependent private institutions. In the year 2001 there were 26 government dependent private institutions listed by Statistics Iceland but in 2010 the number of government dependent private institutions had risen to 64. The change can be seen in relation to educational policy on decentralisation of the educational system and the intention to give the institutions room to govern their own affairs and to attract external and private funding. It is also in keeping with the demands of the social partners in the labour market that have put the autonomy and initiative of educational institutions on the agenda and the right of students / parents to be able to attend their school of choice.

In Europe, the vast majority of students are enrolled in public institutions (82%) and, on average, 14% of students from primary to upper secondary education receive their education in private settings, both grant aided (government dependent) and independent. Independent private educational institutions that

[16] Appendix 7: VET Institutions – Upper Secondary, Post-secondary and Tertiary Education – 2010.

receive less than 50% of their funding from the State Budget on average, account for only 2,9%. Between 2000 and 2009 in Central and Eastern European countries, the percentage of students in private institutions increased by around one and two times, the greatest increase was recorded in Sweden where the figure almost tripled and in Iceland where it doubled (Eurydice – Eurostat, 2012). Furthermore, since 2006, the proportion of students in private settings has remained almost constant, with only a slight increase of 1,1% points at European level – and this increase was largely due to the continuing rise in student numbers in the private sector in Cyprus, Hungary, Portugal, Sweden and Iceland.

4.1 Institutions at the Upper Secondary Level

There are 72 VET institution operating at the upper secondary level, 25 operate as public institutions, 41 as government dependent private institutions and 6 as independent private institutions:

Institutions by Form of Operation	Number of Students	%	Number of Institutions	%
R = Public institutions	5474	66%	25	35%
E = Government dependant private institutions	2522	31%	41	57%
I = Independant Private Institutions	253	3%	6	8%
Total:	8249	100%	72	100%

Table 4–2: Number of students and VET institutions at the Upper Secondary Level, by form of operation – 2010. *Source: Statistics Iceland, 2011.*

Statistics Iceland groups schools providing vocational education at the upper secondary level into the following four categories in 2010: comprehensive schools (22 schools), grammar schools (3 schools), vocational / industrial specialised schools (13 schools) and music schools (29 schools). The group of vocational / industrial schools includes 3 adult education centres. In addition, two universities were providing vocational education at the upper secondary level in a limited range of subjects (Appendix 7[17]).

Although all schools at the upper secondary level have an equal standing according to law, they do vary considerably when it comes to provision of programmes and in emphasis of their school curriculum. The variation may be explained partly by historical factors, social role and traditions in teaching, area of expertise, as well as to regional differences and potential for development.

Judging from the number of students, the majority of the provision in vocational education at the upper secondary level is provided by comprehensive schools (5437 students) and vocational schools (2446 students) and to a lesser extent by

[17] Appendix 7: VET Institutions – Upper Secondary, Post-secondary and Tertiary Education.

universities (163 students), music schools (158 students) and grammar schools (45 students). The largest institution at the upper secondary level has just over 2500 students (1756 in vocational studies at this level), but the smaller institutions can have less than 5 students studying at a programme at any given time (usually music schools).

4.1.1 Types of Schools

The main types of schools, which provide vocational education at the upper secondary level, are:

Comprehensive schools (fjölbrautaskólar) which offer academic study programmes comparable to that of the grammar schools that conclude with a matriculation examination. These schools also offer theoretical and practical training as in the vocational / industrial schools and, in addition, some other programmes providing vocational and artistic education.

Grammar schools (menntaskólar) which offer four-year academic study programmes that conclude with a matriculation examination (stúdentspróf).

Vocational / industrial – specialised schools (starfsmenntskólar, iðnskólar, sérskólar, símenntunarstöðvar) which offer theoretical, artistic and practical study programmes in the certified trades and some non-certified trades, mainly in the visual arts and performing arts.

Music schools (tónskólar) which offer theoretical, artistic and practical study programmes that can be transferred to other educational institutions, like grammar schools or comprehensive schools, for completion of upper secondary education with a matriculation examination.

4.1.2 Institutions

In all there are 40 comprehensive, grammar and vocational schools and 29 music schools that provided vocational education at the upper secondary level in 2010 (Appendix 7[18]). Of those, 31 are located in the Greater-Reykjavík area, but 38 are located in other regions. The provision of study programmes according to regions varies, the provision is markedly larger in the Greater Reykjavík area and most limited in the south and west of Iceland and in the West Fjords (Ministry of Education, 2008). The list of schools below is intended to indicate variety,

[18] Appendix 7: VET Institutions – Upper Secondary, Post-secondary and Tertiary Education.

regional conditions and impact of these different institutions that are randomly drawn from the complete list of institutions.

The Technical College of Reykjavik / Tækniskólinn – skóli atvinnulífsins (Tækniskólinn, 2012b) is a vocational / industrial institution in Reykjavík and the largest single provider of vocational education in Iceland, with around 2500 students. It was established in 2008 with a merger of Iðnskólinn í Reykjavík and Fjöltækniskólinn, and maintains a strong affiliation with industry and the labour market. It consists of 11 schools, each with its own headmaster and a certain educational autonomy: Iceland Flight Academy, School of Building and Construction Trades, School of Design and Handicraft, School of Electrical Technology, School of General Academic Studies, School of Hairdressing, School of Information Technology, School of Marine Engineering, School of Navigation, School of Master Craftsmanship, Multicultural School and the School of Continuing Education. It provides close to 30 study programmes at the upper secondary level, most of them in the certified trades, but also in some non-certified trades.

Breiðholt College / Fjölbrautaskólinn í Breiðholti (Fjölbrautaskólinn í Breiðholti, 2012) is a comprehensive school in Reykjavík with close to 2100 students. This first comprehensive school was established in 1975 and now provides 14 programmes, 9 of which are vocational or art based. There are special programmes of study and support available for immigrants and disabled students.

Borgarholtsskóli (Borgarholtsskóli, 2012) is a comprehensive school in Reykjavík, established in 1996, with close to 1500 students. The school provides vocational education at the upper secondary level in the metal and car mechanic trades, social services, multimedia and art.

Comprehensive Secondary School at Ármúli / Fjölbrautaskólinn við Ármúla (Fjölbrautaskólinn við Ármúla, 2012) is a comprehensive school with around 2600 students, established in 1981, that offers general education as well as vocational education at the upper secondary and post-secondary level, as a core school in health studies.

Technical College of Hafnarfjörður / Iðnskólinn í Hafnarfirði (Iðnskólinn í Hafnarfirði, 2012) is a comprehensive school of around 600 students in Hafnarfjörður, a town south of Reykjavík. It is a vocational school by tradition, established in 1928, providing programmes in the building and construction trades, metalwork, electrical trades, hairdressing, technical drawing and art and design.

Kópavogur Grammar School / Menntaskólinn í Kópavogi (Menntaskólinn í Kópavogi, 2012) is a comprehensive school, established in 1973, with around 1300 students. It provides academic as well as vocational programmes at the upper secondary level, such as food preparation, cooking and culinary services, baking, waiting and hotel servicing. It also provides programmes in travel and tourism, and tour guiding. It operates on the upper secondary level, as well as on

the post-secondary non-tertiary level. It cooperates with the trades and offers secondary education (ISCED Level 3) in the area of hotel and restaurant operations in partnership with the University Centre Cesar Ritz in Switzerland.

Of the regional vocational institutions at the upper secondary level, *Akureyri Comprehensive College / Verkmenntskólinn á Akureyri* (Verkmenntaskólinn á Akureyri, 2012) is the largest regional institution providing vocational education at the upper secondary and post-secondary levels, with around 1700 students. It offers programmes in the building trades, electrical trades, metal and car mechanics, marine engineering, culinary trades, hairdressing, health, sports and the arts, as well as academic study paths.

Verkmenntaskóli Austurlands (Verkmenntaskóli Austurlands, 2012), established in 1986, is a comprehensive school and the only vocational school in the East of Iceland, with close to 300 students. It provides vocational programmes at the upper secondary and post-secondary level in the building trades, electrical and metal trades, marine captain and marine engineering, hairdressing, programmes for assistants in pre-primary and compulsory schools and assistant nurses. It did run a large-scale industry study programme for 2 years and cooperates with local companies and the aluminium smelter Alcoa in Reyðarfjörður.

The South-West part of Iceland, the Reykjanes peninsula, is the location of *Sudurnes Comprehensive College / Fjölbrautaskóli Suðurnesja* (Fjölbrautaskóli Suðurnesja, 2012) that was established in 1976. It has around 1250 students and provides academic and vocational programmes at the upper secondary level in computing and IT, arts, metal and electrical trades, building and construction trades, car mechanics, marine engineering and fishing gear technology.

Fjölbrautaskóli Suðurlands (Fjölbrautaskóli Suðurlands, 2012) in South Iceland is a comprehensive college with approximately 1000 students. It offers academic and vocational programmes in the arts, media, basic courses in metal and electrical trades, car mechanics, building and construction, sports, assistant nursing, travel and tourism and equine studies.

Fjölbrautaskóli Vesturlands (600 students) and *Menntaskólinn á Ísafirði* (300 students) are located in West Iceland and in the West Fjords. These comprehensive schools have offered both academic and vocational education at the upper secondary level and post-secondary level, but the provision is not as extensive as that of schools in other regions and they have recently had to make cuts in their provision, especially of the post-secondary programmes. Their provision is typically in the arts, computer studies, metal trades and engine maintenance, building and construction trades, marine engineering and food technology, social and health care.

The Upper Secondary School Act from 1996 (Alþingi – Icelandic Parliament, 1996c) created operational conditions for private institutions (government dependent private) like *Keilir – Institute of Technology (KIT) / Keilir – Miðstöð vísinda, fræða og atvinnulífs, The Icelandic Film School / Kvikmyndaskóli*

Íslands, Reykjavik School of Visual Arts / Myndlistaskólinn í Reykjavík, The Health Master School / Heilsumeistaraskólinn and dance schools (*Danslistaskóli JSB, Klassíski Listdansskólinn*), that have made their mark in vocational education in the last decade at the upper secondary level and signal changing times.

Keilir – Institute of Technology (KIT) / Keilir – Miðstöð vísinda, fræða og atvinnulífs (Keilir, 2012) was established in 2007 and has currently around 500 students. It provides programmes at the upper secondary level, such as pre-primary school assistants, sports, aircraft operation and air traffic control, cabin crew training, and at post-secondary level, in the fields of entrepreneurial studies and company operation).

Icelandic Film School / Kvikmyndaskóli Íslands (Kvikmyndaskóli Íslands, 2012) has been operating for almost 20 years. It has currently around 100 students and provides programmes at the upper secondary level in direction and film production, technical aspects of film making, screen writing, directing, and acting.

Reykjavik School of Visual Arts / Myndlistaskólinn í Reykjavík (Myndlistaskólinn í Reykjavík, 2012) was established in 1947 by artists and now provides programmes at compulsory, upper secondary and post-secondary level. Around 120 students are registered. In recent years it has cooperated with various European schools in the development of new curricula in art education at the post-secondary level and most recently with the Icelandic grammar school Kvennaskólinn í Reykjavík (Kvennaskólinn í Reykjavík, 2012) on a cross-disciplinary study programme in academic subjects and art.

The Health Master School / Heilsumeistaraskólinn (Heilsumeistaraskólinn, 2012) opened its door to students in 2010 and has around 50 students. It offers a three-year programme in traditional herbalism and naturopathy.

The music schools (government dependent private) provide programmes mainly in singing, music theory and musical instrument instruction. The Reykjavik schools with the highest number of students are: *Tónlistarskóli FÍH*, *Söngskóli Sigurðar Dementz*, *Söngskólinn í Reykjavík*, *Tónskóli Sigursveins*. Regional music schools can be found in all main regions. *Tónlistarskólinn á Ísafirði*, *Tónlistarskólinn í Vestmannaeyjum*, *Tónlistarskólinn á Akureyri* are examples of established music schools and cultural institutions in their respective regions. Schools for dancing, such as Listdansskóli Íslands, Danslistaskóli JSB and Klassíski listdansskólinn, are now private/supported schools and provide programmes at the compulsory and upper secondary levels.

4.2 Institutions at the Post-secondary Non-Tertiary Level

There are 15 VET institutions that operate at the post-secondary non-tertiary level, 9 public institutions and 6 government dependent private institutions:

Institutions by Form of Operation	Number of Students	%	Number of Institutions	%
R = Public institutions	349	35%	9	60%
E = Government dependant private institutions	641	65%	6	40%
I = Independant Private Institutions	0	0%	0	0%
Total:	990	100%	15	100%

Table 4–3: Number of students and VET institutions at the Post-secondary Non-Tertiary Level, by form of operation – 2010.
Source: Statistics Iceland, 2011.

Statistics Iceland groups schools providing vocational education at the post-secondary level into the following three categories in 2010: comprehensive schools (8 schools), vocational / industrial – specialised schools (4 schools) and universities (3 schools) – (Appendix 7[19]).

Judging from the number of students, the majority of VET provision at the post-secondary level is provided by comprehensive schools (644 students), universities (267 students) and to a lesser extent by vocational schools (79 students). The largest institutions are The Technical College of Reykjavik with 381 students, Reykjavik University with 181 students and Kópavogur Grammar School with 138 students, but the smaller institutions registered only 10–20 students in 2010. The regional schools all have very few students at this level, 10–25, except for Holar University College that registered 67 students in 2010.

4.2.1 Types of Institutions

Comprehensive schools (fjölbrautaskólar) which offer vocational courses at the post-secondary level that vary with respect to curriculum and duration from one semester to 2 years. The courses can be roughly divided into trade master courses, theoretical professional courses and theoretical courses in the certified and some non-certified trades, some with practical professional training.

Vocational / industrial – specialised schools (starfsmenntskólar, iðnskólar, sérskólar, símenntunarstöðvar) which offer variation of study opportunities, from short courses up to 2 years theoretical, technical, artistic and practical programmes of study in the non-certified trades, like agricultural studies, transport, business and entrepreneurship, electrical technology, and in the visual arts and performing arts. Some include practical professional training.

19 Appendix 7: VET Institutions – Upper Secondary, Post-secondary and Tertiary Education.

Higher Education Institutions (háskólar) which offer 1–2 year academic study programmes, which are mainly theoretical and technical, some with practical training, in fields like mechanical, electronical and building technologies for tradesmen, in travel and tourism and fish farming.

4.2.2 Institutions

Most institutions providing post-secondary education are government dependent private institutions. The largest provider of VET education at the post-secondary level is *The Technical College of Reykjavik*, with 351 students in 2010. Apart from master programmes in the certified trades the school offers programmes in multimedia, company operation, air traffic control, illumination technique and ceramic forming course, in cooperation with Reykjavik School of Visual Arts.

Reykjavik University / Háskólinn í Reykjavík provided programmes at the post-secondary level for 181 students in 2010 in mechanical technology, electrical technology and building technology for tradesmen. Another university, Holar University College also provided study programmes at this level for 67 students in fish farming and travel and tourism.

Kópavogur Grammar School / Menntaskólinn í Kópavogi is a public institution offering programmes in hotel services, tour guide and travel and tourism, apart from master courses for the certified trades, and had 138 students at the post-secondary level in 2010.

Electrical Industry School / Rafiðnaðarskólinn (Rafiðnaðarskólinn, 2012), *Isavia / Flugstoðir* (Flugstoðir, 2012) and *Reykjavik School of Visual Arts* / Myndlistaskólinn í Reykjavík are government independent private institutions. Rafiðnaðarskólinn is jointly owned by **RSÍ** (The Union of Icelandic Electrical Workers) and **SART** (The Association of Electrical Contractors). It offers around 40 programmes in electrical technique and electronic techniques. Flugstoðir offers programme in air traffic control to around 15 students and Myndlistaskólinn í Reykjavík offers programmes in ceramics, drawing and textiles at the post-secondary level.

Some of the regional schools offering post-secondary education, such as Saudarkrokur Comprehensive College / Fjölbrautarskóli Norðurlands Vestra , South Iceland Comprehensive College / Fjölbrautaskóli Suðurlands, Sudurnes Comprehensive College / Fjölbrautaskóli Suðurnesja, West Iceland Comprehensive College / Fjölbrautaskóli Vesturlands, Egilsstaðir Grammar School / Menntaskólinn á Egilsstöðum, The Vocational School of East Iceland / Verkmenntaskólinn á Austurlandi and The Vocational School at Akureyri / Verkmenntaskóli Akureyrar and Keilir, but it is mostly limited to master programmes with only 10–25 students attending the courses each year. Keilir is the exception, offering programmes in entrepreneurial studies and company operation, with 16 students in 2010.

4.3 Institutions at the Tertiary Level

There are 13 VET institutions operating at the tertiary level, three are public institutions and 10 operate as government dependent private institutions:

Institutions by Form of Operation	Number of Students	%	Number of Institutions	%
R = Public institutions	118	31%	3	23%
E = Government dependant private institutions	265	69%	10	77%
I = Independant Private Institutions	0	0%	0	0%
Total:	383	100%	13	100%

Table 4–4: Number of students and VET institutions at the Tertiary Level, by form of operation – 2010. *Source: Statistics Iceland, 2011.*

Statistics Iceland groups schools providing vocational education at the tertiary level into the following three categories in 2010: higher education institutions (4), vocational / industrial – specialised schools (2) and music schools (7) – (Appendix 7[20]).

Judging from the number of students, the majority of the provision in vocational education at the tertiary level is provided by higher education institutions (285 students) and to a lesser extent by vocational / industrial schools (55 students) and music schools (43 students) – (Appendix 7 – Institutions). The largest institution, Reykjavik University, had just over 167 students in 2010, but the smaller institutions had between 1–20 students in VET at the tertiary level.

Higher education institutions at the tertiary level have been subject to substantial changes in past decade. Several attempts have been made to bring them closer together in operational terms, with some success. In all, there are now 7 higher education institutions operating in Iceland. Four of those, The University of Iceland, The University of Akureyri, The Agricultural University of Iceland and Holar University College, are public institutions.

Reykjavik University, Bifrost Univeristy and Iceland Academy of the Arts are government dependent private institutions. Bifröst University and Iceland Academy of the Arts are currently not providing vocational courses, as all their courses are classified as academic education. All the music schools providing education at the tertiary level are classified as government dependent private institutions.

In 2010 a policy on the public higher education institutions was published by the Ministry of Education, Science and Culture announcing a formation of a cooperation network with the objective of uniting the four public universities

[20] Appendix 7: VET Institutions – Upper Secondary, Post-secondary and Tertiary Education.

(Mennta- og menningarmálaráðuneytið, 2010f). The intention was to strengthen university teaching, research and innovation and to rationalise their operations and improve their finance. The policy emphasised steps of merger in operations, shared quality assurance system and flexibility and easy access for students to courses between the institutions. With respect to provision and organisation the emphasis is on PhD studies. The policy does not comment on vocational education at the tertiary level, but refers to the report *Education, Research and Innovation Policy: A new direction for Iceland* (The Ministry of Education, 2009) which considers the role of vocational education in general, welcomes the variety and opportunities of lifelong learning, but warns of the low score in workplace learning. It recognised the importance of vocational training, as it can help to steer the development of skills towards future needs of industry but also points out that no systematic efforts or studies have been carried out to analyse the future labour force needs and their skills. It furthermore points out that one consequence of lack of planning with respect to vocational education is that short-term demand in the labour market is not easily addressed and vocational training is not directed towards the needs for skills. It furthermore concludes that the advanced vocational and technical skills required in the economy, probably referring to post-secondary and tertiary vocational education, are not well provided.

4.3.1 Types of Institutions

Higher Education Institutions (háskólar) which offer 1–2 year academic courses of study that are mainly theoretical and technical, some with practical training, in fields like mechanical, electronical and building technologies for tradesmen, in travel and tourism and fish farming.

Vocational / industrial – specialised schools (starfsmenntskólar, iðnskólar, sérskólar, símenntunarstöðvar) which offer variation of study opportunities, from short courses to up to 3 years theoretical, technical, artistic and practical programmes of study in the non-certified trades, like agricultural studies, transport, business and entrepreneurship, electrical technology and in the visual arts and performing arts. Some include practical professional training.

Music schools which offer theoretical, artistic and practical programmes, mainly in music theory, singing and musical instrument performance.

4.3.2 Institutions

The agricultural school Bændaskólinn á Hvanneyri, located in south-west Iceland, became a higher education institution in 1999 by law, and merged with 2 institutions, The Research Institute of Agriculture and The School of Horticulture to form *The Agricultural University of Iceland* in 2005 (Landbúnaðarháskóli Íslands, 2012). It provides vocational education at the upper secondary level in the

fields of agriculture, gardening, flower arrangement, horticulture and forestry, but all their programmes at the university level are classified as academic.

The historic agricultural school Hólaskóli, located in the north of Iceland, was upgraded from the upper secondary level to the tertiary level and authorised as *Holar University College* (Hólaskóli – Hólar University College, 2012) in 2003, confirmed by law in 2006. It provides programmes in aquaculture and fish biology, travel and tourism studies and vocational education in equine science.

The Icelandic University of Education merged with The *University of Iceland* in 2008, forming one of its schools, *The School of Education* (University of Iceland, 2010). The Icelandic University of Education provided vocational education in the field of teacher training in 2001–2007, but now all programmes of the University of Iceland are classified as academic. However, The Institute of Continuing Education – University of Iceland (Endurmenntun Háskóla Íslands, 2012) established in 1983, provides around 400 short courses and study programmes on an annual basis, some of which are vocational. As they fall within the area of continuing education they are excluded in the statistics. The Institute of Continuing Education engages various professional bodies in the planning of its activities.

The University of Akureyri, established in 1987, is one of four public higher education institutions, located in Akureyri in the north of Iceland. It has provided programmes in vocational education in 2001–2010 such as teacher certification and industrial operation, but these programmes now appear to be in remission.

The Technical University of Iceland, which merged with *Reykjavik University* (Háskólinn í Reykjavík, 2010) in 2005 was supported by private partnership/private limited company, owned by Iceland Chamber of Commerce (Viðskiparáð Íslands, 2012), The Federation of Icelandic Industries (Samtök iðnaðarins, 2012) and The Confederation of Icelandic Employers (Samtök Atvinnulífsins, 2012). Reykjavik University is Iceland's largest private higher education institution, focusing on research and excellence in teaching, entrepreneurship, technology development and cooperation with the business community. It provides vocational education at the tertiary level in the fields of industrial operation and computer science. The RU Open University (Open University – Reykjavik University, 2012) operates on six levels, providing practical courses to enhance professional knowledge and skills in *continuing education*, specialised courses to bridge the gap to university studies in *preliminary education*, business development workshops for entrepreneurs in *entrepreneur education* and *executive education*, selected courses in *distance education* and courses for precocious and studious children in *prime education*. The RU Open University also cooperates with strategic partners in provision of these courses.

5 Statistical Overview

Despite considerable variety of programmes on offer in vocational education in Iceland the majority of students does enrol in academic education at the beginning of their upper secondary education. This has been an ongoing trend for years and a constant issue of discussion in the educational debate (Jón Torfi Jónasson, 1995). When vocational education was merged with academic education with the formation of the comprehensive school system in the seventies (Appendix 8[21]), the impact of the general academic subjects increased (Gestur Guðmundsson, 1993). The purpose of bringing the vocational and academic education together within the same institutions was to ease adjustment to changing labour market demands, enable flexibility for students to move between study paths, especially from academic to vocational tracks, and to provide equal status for VET students with respect to university access. This merging of academic and vocational programmes has been a leading development since the 1970s (Jónasson, 1997). In practice, it transpired that the academically able vocational students, especially in the comprehensive school, switched to academic programmes (K. S. Blöndal & Jónasson, 2011b) and barriers for VET and art students to higher education were still in place until they were given the opportunity to add the necessary academic subjects to their vocational education and graduate with a (vocational) matriculation examination (viðbótarnám til stúdentsprófs). This flexibility came about in 2004 and was introduced in the main curriculum for the upper secondary level (Mennta- og menningarmálaráðuneytið, 2004).

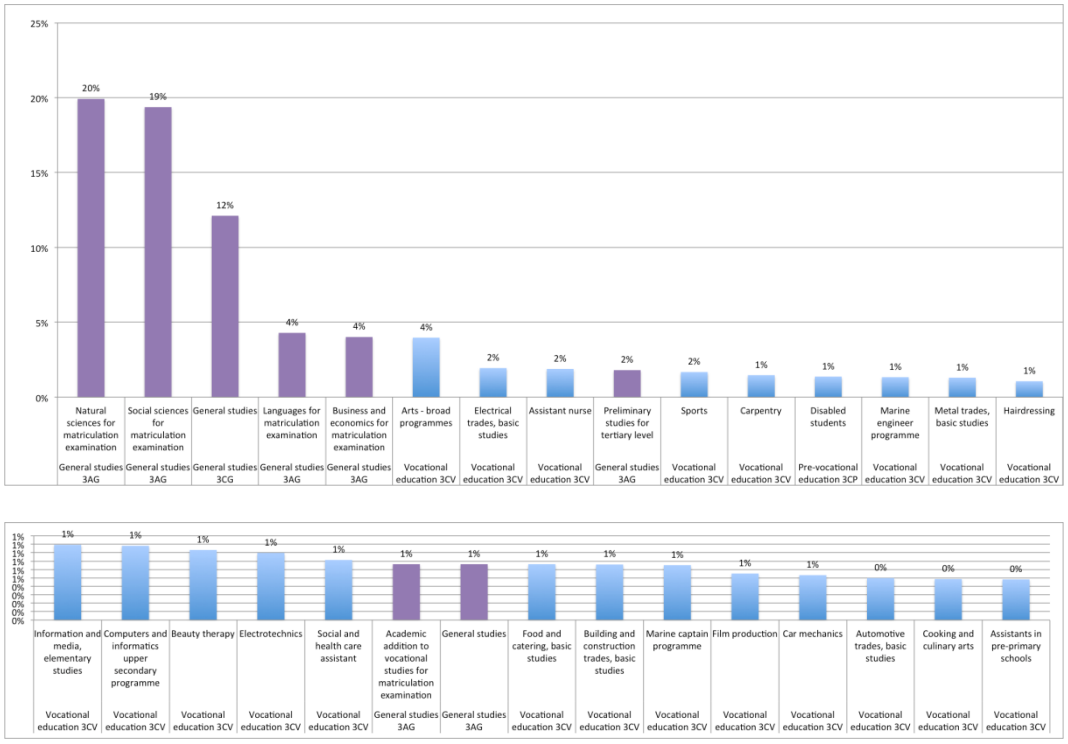
In 2010, 26.080 students were registered at the upper secondary and post-secondary level. Of these, **63,6%** were registered at the four academic fields of study (natural sciences – 19,9%, social sciences – 19,4%, languages – 4,3% and business and economics studies – 4%) and the other 8, shorter, general or academic paths (preliminary studies for tertiary level – 1,8%, academic addition to vocational studies for matriculation exam – 0,7%, general studies – 0,7%, international baccalaureate – 0,3%, humanities for matriculation examination – 0,2%, travel and tourism – 0,1%, security services – 0,1%). The remaining **36,4%** were registered in 135 fields of VET studies (Appendix 9[22]):

21 Appendix 8: Overview of national policy on VET and lifelong learning.
22 Appendix 9: Number of Students registered at Upper Secondary and Post-secondary Education in 2010 – Academic and general studies / VET studies.

Figure 5–1: Number of Students registered at Upper Secondary and Post-secondary Education in 2010 – Academic and general studies / VET studies – Fields of Studies ≥ 1%.

Academic or general studies – Upper Secondary Level

VET studies – Upper Secondary Level

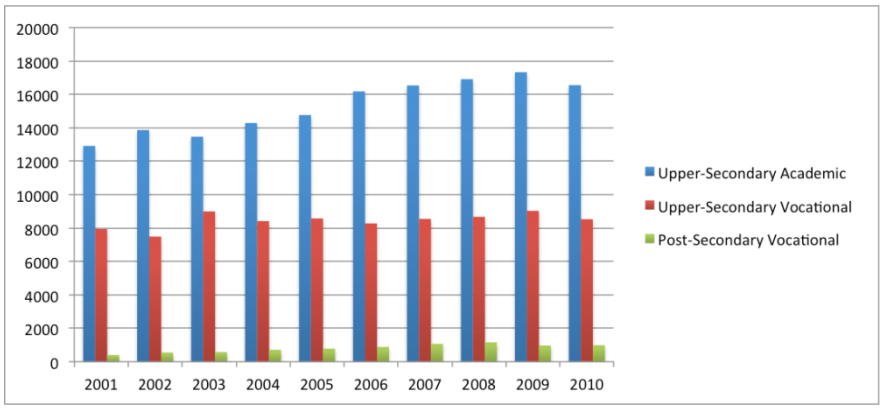


Source: Statistics Iceland, 2011.

As the charts indicate, the dominance of the academic and general studies is obvious, as the largest student groups are registered to those study fields. The largest vocational group is registered for arts – broad programmes, with 4%, but all other vocational groups are counting for 0–2% of the student group. It is interesting that 120 fields of study count for less than 1% of the cohort and nearly all of those are vocational.

An overview of all levels of education 2001–2010 shows a gradual increase in numbers of students in academic fields of study at the upper secondary level, as well as some increase in the VET student numbers at the post-secondary level. The number of VET students studying at the upper secondary level has remained stable throughout the period, but decreased proportionally during 2001–2010, as most of the increase in student numbers is in academic studies.

Figure 5–2: Number of Students registered in Upper Secondary (academic and vocational) and Post-secondary Education (vocational), 2001–2010.



Source: Statistics Iceland, 2011.

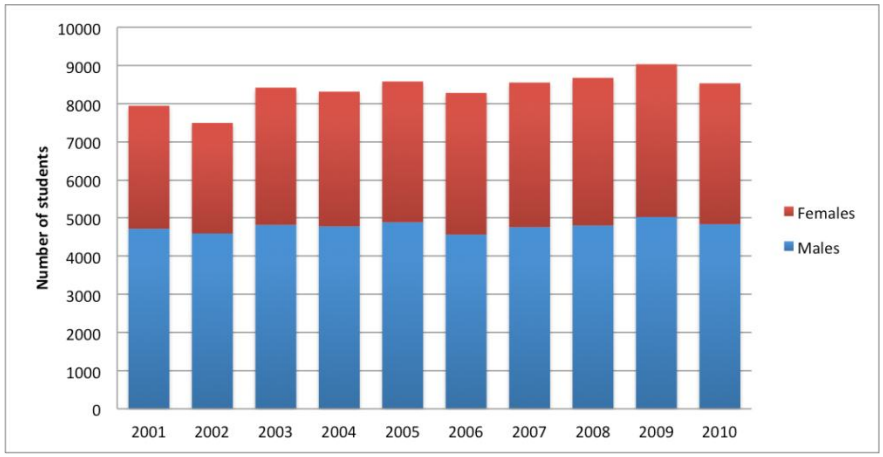
In 2001 the proportions at the upper secondary level were 62% academic and 38% vocational but in 2010 they were 66,5% academic to 33,5% vocational. In 2001 there were 399 students registered in vocational education at the post-secondary level, but in 2010 the number had grown to 990 students, which is an increase of 173%.

5.1 Student numbers in upper secondary education

5.1.1 Student numbers in upper secondary VET programmes

The number of students at the upper secondary level has remained fairly stable in the period 2001–2010. In 2001 there were 12.920, or 62% studying in academic programmes, 7.943 students, or 38%, studying in vocational programmes. In 2010, academic students were 17.938, or 67%, but VET students 8.532, or 34%.

Figure 5–3: Number of VET Students registered at Upper Secondary Level, 2001–2010, by gender.



Source: Statistics Iceland, 2011.

During 2010 there was a reduction in student numbers and this was mainly due to budget cuts and reduction of students in part-time and distance education. The 8.532 VET students were studying at 113 fields of study (Appendix 2 – Registered students in vocational education at the upper secondary level (ÍSNÁM 3CV).

5.1.2 Share of students enrolled in upper secondary VET programmes

Just under a third of the population in Iceland is registered in formal education institutions at any given time. The share of the student body divides between the different school levels as follows:

ISCED Level	2001	%	2010	%
Pre-primary level	15578	16,85%	18961	17,80%
Compulsory school	44103	47,72%	42539	39,94%
Upper secondary level - Academic	12247	13,25%	16747	15,72%
Upper secondary level - Vocational	8616	9,32%	8421	7,91%
Post-secondary non-tertiary education	399	0,43%	990	0,93%
First stage of tertiary education - Academic	11447	12,38%	18367	17,25%
First stage of tertiary education - Vocational	692	0,75%	383	0,36%
Second stage of tertiary education	38	0,04%	478	0,45%
Total	92428	100,00%	106503	100,00%

Table 5–1. Number of students registered at all school levels (ISCED 1–5 Levels), 2001 and 2010. *Source: Statistics Iceland, 2011.*

The share of students registered in upper secondary education has grown from 22,57% in 2001 to 23,63% in 2010. During this period the percentage of VET students registered in vocational education at the upper secondary level has gone down, from 9,32% in 2001 to 7,91% in 2010.

Each cohort for the past 50 years has numbered between 4.200–4.500 individuals. For the last couple of years around 95% of the cohort enters upper secondary school at the age of 16 and immediately after enrolment the numbers begin to taper off. There is, however, a considerable number of students in upper secondary schools in their twenties and thirties, and the number of students in their forties and fifties is not insignificant; 24,6% of students were older than 22 years of age. Enrolment in tertiary education is more evenly spread, with 38% of students older than 29 years (Minstry of Education Science and Culture, 2011).

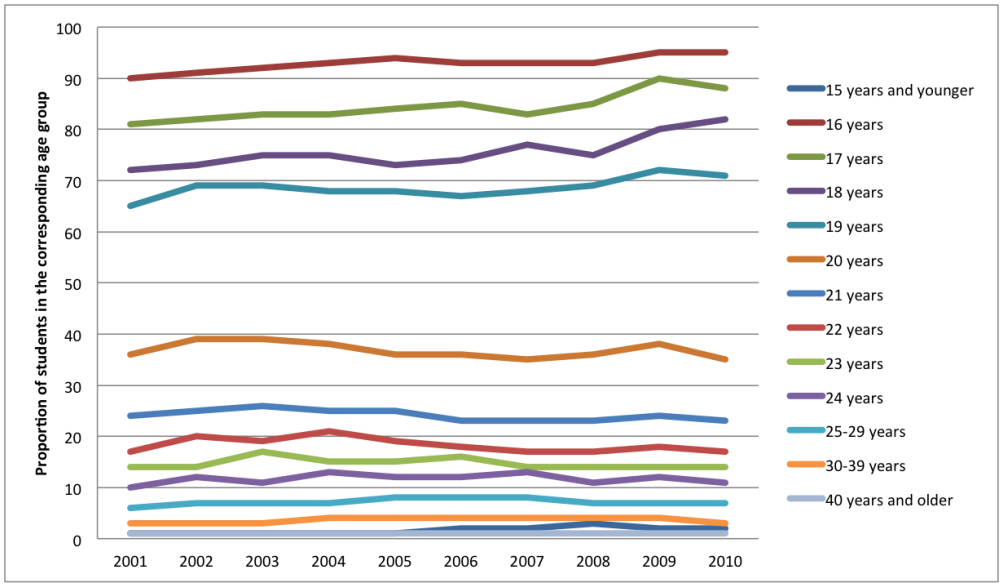
The share of students enrolling in upper secondary education in general increased steadily in the period 2001–2010. In 2001 88% of males at the age of 16 enrolled in upper secondary education, but in 2010 the figure had risen to 94%. The enrolment rate is higher for females – in 2001, 91% of females enrolled in upper secondary education, but the number went up to 96% in 2010. Enrolment rates by type of study, such as for VET students specifically, are not available at Statistics Iceland, except for total numbers of students, by age, gender and region.

Figure 5–4. Enrolment Rate of Students (16 years) at the Upper Secondary Level in 2001–2010, by gender.

Source: Statistics Iceland, 2011.

Between 10–25% of the age group 21–24 years are enrolling at the upper secondary level and these numbers have been constant during 2001–2010. In the age group 25–29 years, 6–8% enrol each year and in the age group 30–39 years, 3–4% enrol. In the age groups 40 + the enrolment rate is 1% on average.

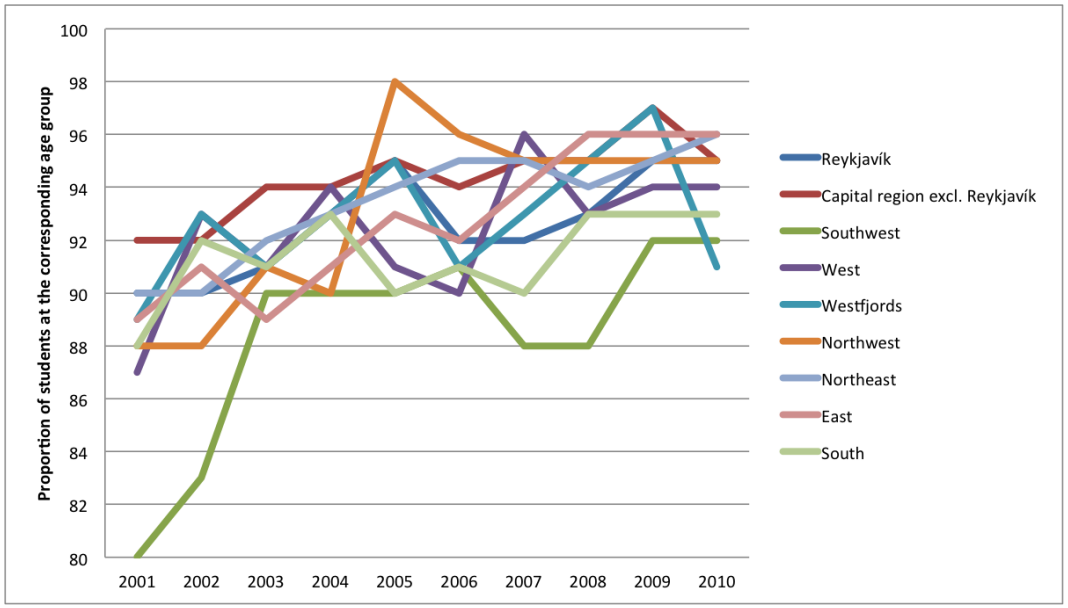
Figure 5–5. Enrolment Rate of Students at the Upper Secondary Level in 2001–2010, by age.



Source: Statistics Iceland, 2011.

The enrolment rate differs somewhat according to regions and seems to fluctuate considerably between years. On the whole the enrolment rate seems to be increasing. In Reykjavik and the capital region it has gone up from 90% in 2001 to 95% in 2010. The biggest increase in enrolment rate can be observed in the southwest (12%), northwest (7%) and west (7%) regions. The west region has the lowest enrolment rate increase (2%).

Figure 5–6. Enrolment Rate of Students (16 years) at the Upper Secondary Level in 2001–2010, by regions.

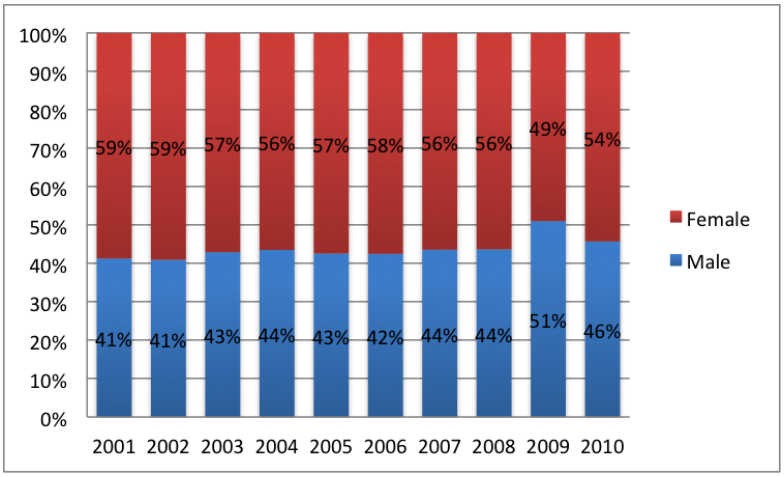


Source: Statistics Iceland, 2011.

5.1.3 The student population in upper secondary VET programmes in terms of age/gender, educational background and field of study, and social background

In academic education at the upper secondary level, females are most often in a majority, they account for 49–59% of academic students in 2001–2010.

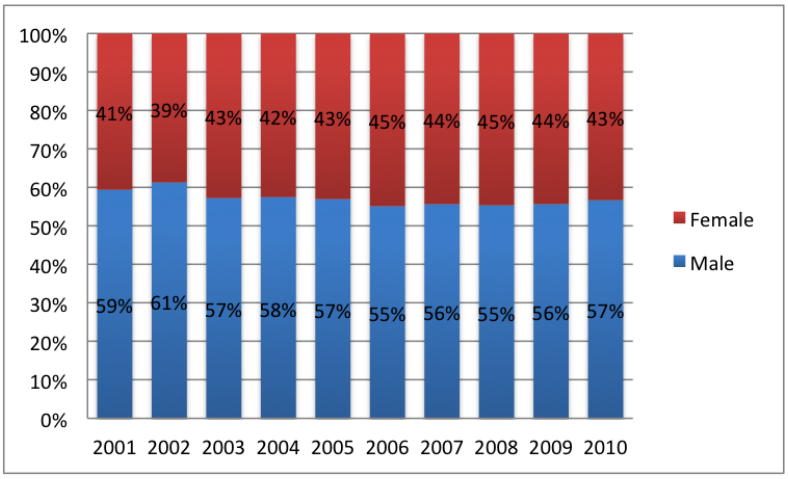
Figure 5–7: Proportion of male/female students registered in academic education at the Upper Secondary level in 2010.



Source: Statistics Iceland, 2011.

In vocational education at the upper secondary level, males are the majority of VET students, constituting 55–61% of the group. The proportion of females varies, and is between 38–43% of VET students in the period 2001–2010.

Figure 5–8: Proportion of male/female students registered in vocational education at the Upper Secondary level in 2010.



Source: Statistics Iceland, 2011.

The ratio of students of other nationalities to Icelandic students has changed gradually in the period 2001–2010.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	20863	21363	21890	22603	23345	24463	25090	25590	26364	25168
Icelandic	20620	21054	21565	22252	22974	24045	24585	25091	25769	24594
Other nationalities	243	309	325	351	371	418	505	499	595	574
% Other nationalities	**1,16%**	**1,45%**	**1,48%**	**1,55%**	**1,59%**	**1,71%**	**2,01%**	**1,95%**	**2,26%**	**2,28%**

Table 5–2. Percentage of students of Icelandic / other nationalities at the Upper Secondary Level, 2001–2010. *Source: Iceland Statistics, 2011.*

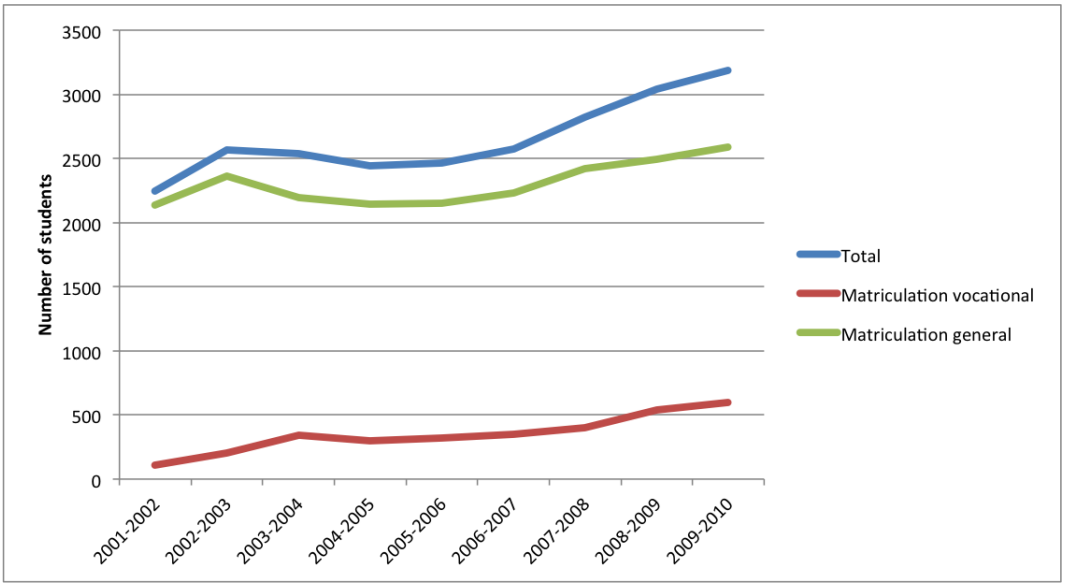
The percentage of students of other nationalities at the upper secondary school has gone up from 1,16% in 2001 to 2,28% in 2010.

5.1.4 Drop-out and completion rates in upper secondary VET programmes

The issue of early school leaving or drop-out has been high on the agenda in Iceland for several years and recent developments in the aftermath of the financial crisis have brought it to the forefront, as the country faces new problems of unemployment and needs to restructure its economy. The drop-out rate has been high in Iceland compared to other OECD countries and the rate of those who have not attained formal upper secondary qualifications is now around 30% among people aged 25–65. The recent OECD background report *Reducing dropout from upper secondary schools in Iceland* gives an overview of various aspects of the Icelandic educational system, research, policies and recent reforms, relating to drop-out (Minstry of Education Science and Culture, 2011). Drop-out, especially at the upper secondary level, has been identified as one of the main challenges of the educational system and a policy statement from the Prime Minister's Office sets out specific targets in Iceland's 2020 statement for the economy and community, aiming for a reduction in dropout from 30% to 10% (Prime Minister's Office, 2011b) (Prime Minister's Office, 2011c).

The development of graduation in the upper secondary education in Iceland during 2001–2010 reveals a steady increase of students completing the matriculation exam, which gives access to university studies. In this period the number of vocational students completing the matriculation exam following their vocational exam has risen considerably. In 2001 106 VET students graduated with matriculation exam, but in 2010 the numbers were 597, an increase of 463%. In the same period the number of academic students graduating with matriculation exam increased by 21%.

Figure 5–9: Graduations with matriculation examination at Upper Secondary Level by type of examination, 2001–2010.



Source: Statistics Iceland, 2011.

In the school year 2009/2010 the proportion of matriculation from academic tracks was 64%, but the graduation as a proportion to the population at 20 years was 123%. This high percentage is contributed in part to the large number of mature students graduating and VET students acquiring further qualifications (Minstry of Education Science and Culture, 2011).

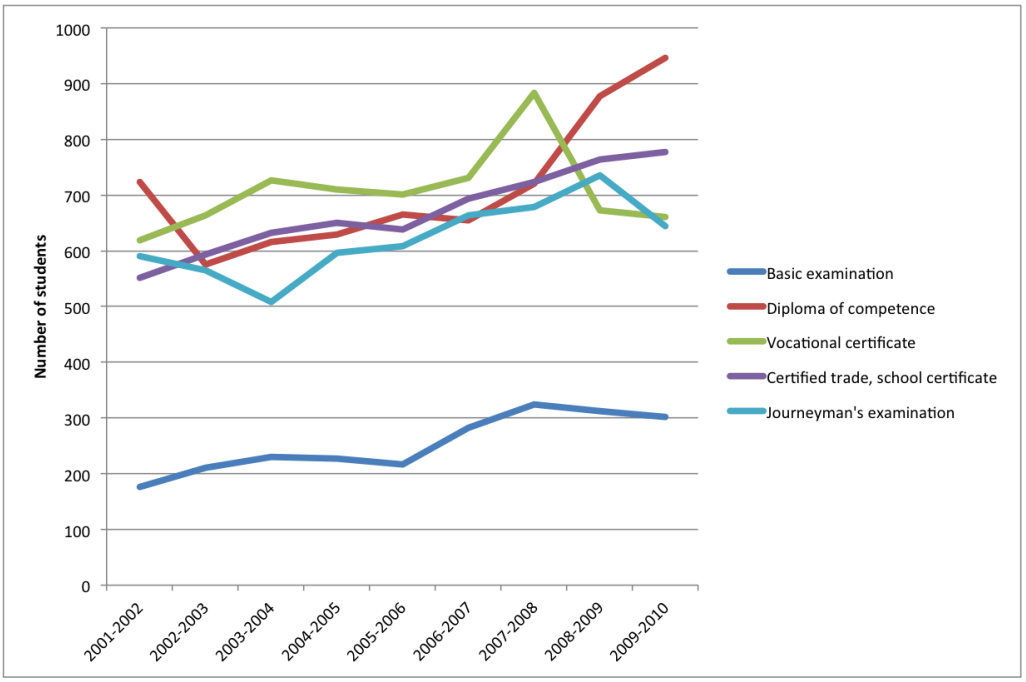
Students with vocational matriculation were 19% of graduates, and academic students 81%.

2009-2010	Total Number of Students	%	Males	%	Females	%
Matriculation vocational	597	19%	305	23%	292	16%
Matriculation general	2587	81%	1027	77%	1560	84%
Total	3184	100%	1332	100%	1852	100%

Table 5–3. Graduations with matriculation examination at Upper Secondary Level, by type of examination and gender, school year 2009/2010.
Source: Statistics Iceland, 2011.

VET students graduate with five main types of qualifications at the upper secondary level as follows:

Figure 5–10: Graduations from Vocational Programmes at Upper Secondary Level by diplomas, 2001–2010

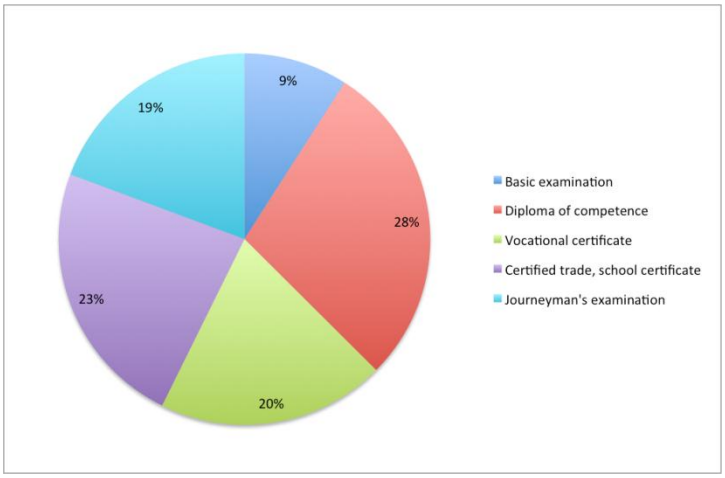


Source: Statistics Iceland, 2011.

An increase can be observed in graduations for all diplomas, but there is a noticeable drop in graduations for the certified trades and journeyman's examination from 2008 onwards. The noticeable steady increase of graduations with diplomas of competence could relate to an observed increase in art and design studies during the period.

In the school year 2009/2010 diplomas divided the graduations of VET students as follows:

Figure 5–11: Graduations from Vocational Programmes at Upper Secondary Level, proportions of diplomas, school year 2009/2010

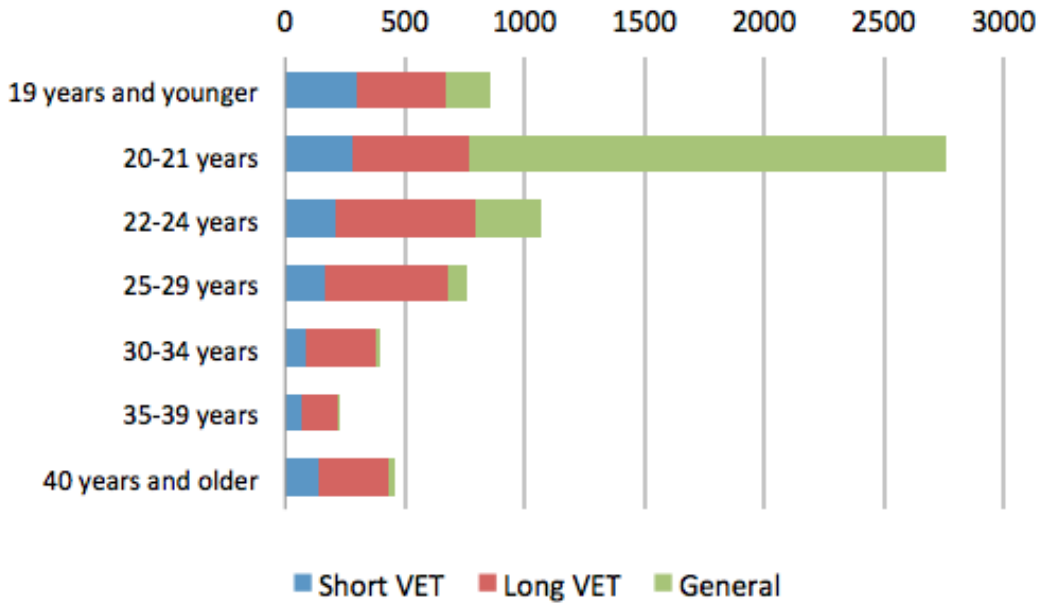


Source: Statistics Iceland, 2011.

The majority of graduates at the upper secondary level from general stream

matriculate younger than 22 years, or 84%, while the same applies to 32% of graduations from long VET programmes and 11% of graduations occur after 40 years of age (Minstry of Education Science and Culture, 2011).

Figure 5–12: Graduations at upper secondary level, by degree and age group, 2010



Source: Ministry of Education, Science and Culture, 2011.

This can indicate that VET students take longer to complete their studies, that adult students are more likely to seek further qualifications throughout their working career or that VET serves as an alternative for continuing education, later in life.

The statistics for registration, graduation and dropout are made available by Statistics Iceland, regularly and annually, except for drop-out statistics that are limited and dependent on special research actions or publications targeting drop-out. Drop-out rate is defined by Statistics Iceland as: "ratio of students who are counted in the Student Register in a given year and who do not show up in the register a year later without having graduated or passed away" (Statistics Iceland – Hagstofa Íslands, 2012).

Statistics Iceland collects data from schools on student registration and graduations, from which it estimates drop-out at the upper secondary and tertiary level. The drop-out statistics are not available for the post-secondary level, specifically. The estimation does not seem to have been done on a regular basis and there is only limited access to the drop-out data via the web-interface, through which Statistics Iceland makes its data publicly available. Two web publications on drop-out have been issued by Statistics Iceland, in 2004, one for the drop-out at the upper secondary level (Statistics Iceland – Hagstofa Íslands, 2004) and another for dropout at the tertiary level (Iceland Statistics – Hagstofa Íslands,

2004). A publication from 2008 – *Students and qualifications at the age of 24* also provides information on graduations and drop-out. Furthermore, there exists some more recent, but limited information on drop-out in news reports (Hagstofa Íslands – Iceland Statistics, 2011a). Drop-out statistics are limited to total numbers for academic and vocational students at the upper secondary level, but are not provided for the vocational education at the post-secondary and tertiary level, or for individual fields of study.

The most recent drop-out statistics are drawn from the cohort of students registering in the school year 2002/2003. For the upper secondary level the drop-out and completion rates are as follows:

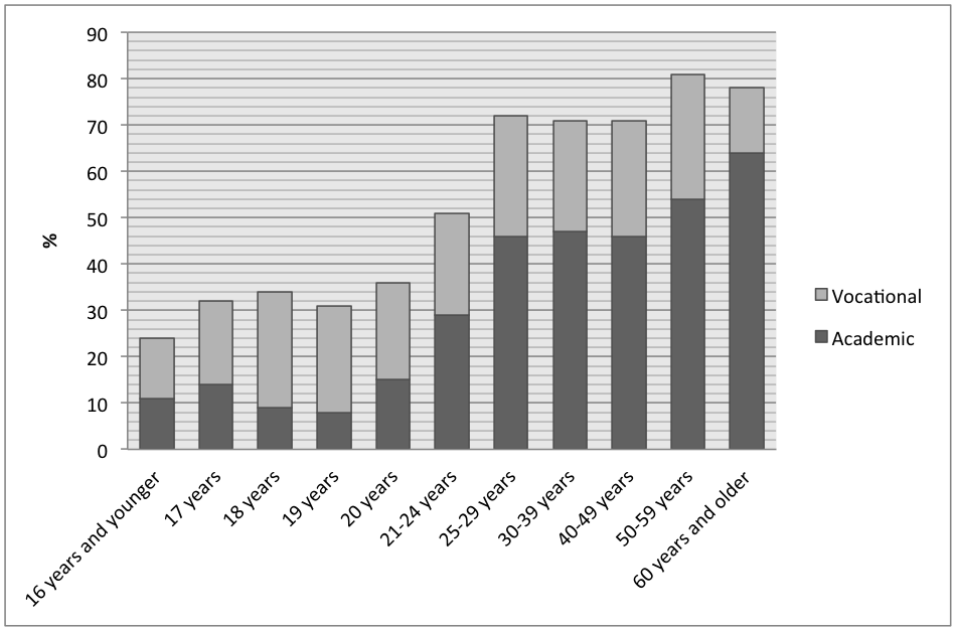
		Academic			Vocational		
		Total %	Males	Females	Total %	Males	Females
4 years from registration	Total graduates	43	36	49	49	42	60
	Dropouts	28	34	23	31	37	21
	Still studying	29	30	28	20	21	19
6 years from registration	Total graduates	43	36	49	49	42	60
	Dropouts	29	34	24	31	38	21
	Still studying	14	15	13	10	12	9
7 years from registration	Total graduates	61	56	66	61	54	73
	Dropouts	28	33	24	29	36	18
	Still studying	11	11	10	10	11	10

Table 5–4: Dropout and completion rates at upper secondary level, for academic and vocational students, 2002 student registration.
Source: Statistics Iceland, 2011.

After 4 years from registration 43% of academic students and 49% of vocational students had graduated. The drop-out at that point in time is slightly higher for vocational students, or 31%, compared to 28% drop-out of academic students. Seven years from registration, the percentage of graduates is the same for academic and vocational students, 61%, 10–11% of students are still registered at school and the drop-out percentage is 28% for academic students but 29% for vocational students.

Observing the drop-out rate at the upper secondary level by age of students one can note that the drop-out rate is quite high at the end of the first year, 24%, and higher for vocational students than for academic students. From the age of 21 this changes, and students in academic study paths become more likely to drop out of school.

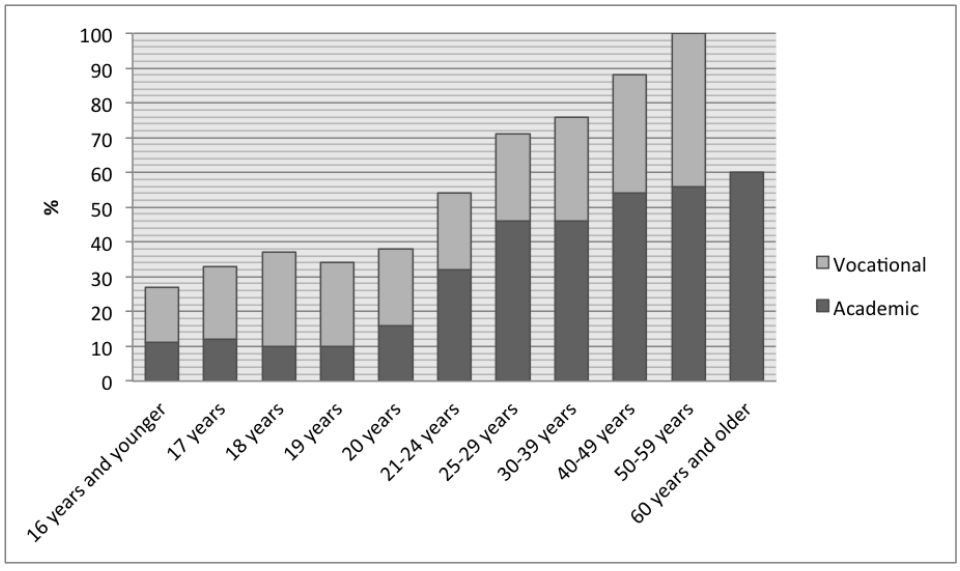
Figure 5–13: Drop-out and completion rates at upper secondary level, for academic and vocational students, 2002 student registration, by age



Source: Statistics Iceland, 2011.

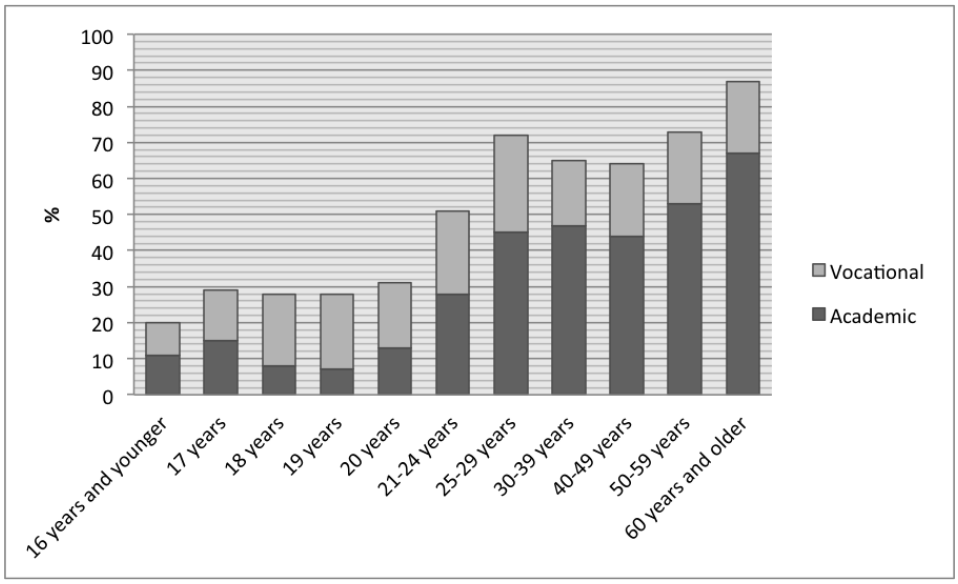
Male students are more likely to drop out than female students, especially at the beginning of their studies at upper secondary school. VET male students also seem to drop out of schools in far greater numbers than male academic students overall in the age group below 20 years.

Figure 5–14: Drop-out rates at upper secondary level, for academic and vocational students (males), for students registering in 2002, by age



Source: Statistics Iceland, 2011.

Figure 5–15: Drop-out rates at upper secondary level, for academic and vocational students (females), for students registering in 2002, by age



Source: Statistics Iceland, 2011.

Female VET students seem to do better than males in the first couple of years of school at upper secondary school, but then the drop-out increases considerably in the third and fourth year, in comparison with students on academic study paths. From 20 years onward the drop-out for female students is reduced and is proportionally lower than that of students on academic study paths. It is also noted that females seem to keep studying for longer than males, even into retirement age.

5.1.5 Trends in demand and supply for different skills and fields of study in upper secondary VET programmes

Demands for vocational education in Iceland are not systematically assessed and can have various sources. Demands partly originate from the labour market, by way of consultation, through bodies defined by law and regulations, but partly by ad hoc surveys by stakeholders or evaluations by governmental organisations. According to the Ministry of Education, Science and Culture demands for vocational education have also originated from informal or unstructured sources, for instance, individuals, companies, pressure groups or professional unions, indicating their specific needs and demands. In 2001–2010 there has been increased demand for health and therapy related courses, fashion and design, innovation and marketing and courses for immigrants, tourism courses and policing/salvaging courses, to mention some areas where new requests of courses have been suggested. Most of these bodies contact a school in their vicinity or put forward their own plan for a private school, with a course structure / curriculum and perhaps a business plan.

The Federation of Icelandic Industries (Samtök iðnaðarins) has twice carried out a survey on labour market needs, in 2004 (Gallup, 2004) and 2011 (Capacent Gallup, 2011). The objective of the 2004 survey was to evaluate the need for

vocational education in 400 companies within the federation (Samtök iðnaðarins, 2012). The response ratio was 71,2% and 45,9% of the companies estimated that they would need 3000 additional employees in the coming years, with either trade or vocational certification (2252) or tertiary education (1292). The requirement was for employees with a considerably higher education level than existed in the companies at the time or the certified trades (32,3% of the companies required employees with science, technical or engineering education, 33,9% with business, economy or operational education, 6,1% with undefined tertiary education, 72,3% of employers required staff with certified trades or other vocational education and 31,5% with education in the metal trades, 29,1% in the building trades, 15,4% in the electrical trades, 4,5% in the printing trades, 10,3% in the alimentary trades, 2,5% in the hair and cosmetic trades, 7,5% in design, photography, tailoring and related trades). 44,8% of the companies had students in workplace training, but only 22,7% of the companies considered taking students on for workplace training in the coming years. The results also contained a list of courses that the companies wished would be provided.

The objective of the 2011 survey was to explore the status of vocational education; future needs for educated employees and to compare the results with the results of the 2004 survey. The survey was sent to 300 large companies and 200 small companies. The response ratio was 40,6%, which might be indicative of a diminished interest or reduced capabilities to take part in educational initiatives. 39,2% of the companies indicated that there was a considerable or great shortage of educated or trained professionals at their workplace. 35,3% of the companies indicated a need for additional employees with compulsory education in the next three years, 72.3% indicated a need for additional employees with trade or vocational education, 32,3% indicated a need for additional employees with science, technical or engineering education at the tertiary level and 26,9% indicated a need for additional employees with technical or operation education at the tertiary level and 6,1% employees with other tertiary education. The survey indicated diminishing interest in companies in providing opportunities for workplace learning and training or courses for employees (change of – 4,5%). This survey did not indicate, like the one carried out 2004, which fields of study needed to be emphasised or which new courses should to be provided, which made it a less useful reference for educational institutions when planning new courses or educational initiatives.

The Directorate of Labour provided an estimation of labour force needed for the years 2005–2008, with respect to the main economic activities, such as large scale industry, aluminium and hydroelectric power industry, construction industry, transport industry and tourism (Friðriksson, 2006), suggesting the need for workforce, national and foreign. Since 2008, when unemployment set in, The Directorate of Labour stopped producing these reports (Vinnumálastofnun – Directorate of Labour, 2012), as it considered that there was less need for information of this kind.

Traditional professional committees and institutions, such as Iðnfræðsluráð, an educational council for the industries serving the certified trades, were consulted

by the educational institutions or the Ministry of Education, Science and Culture on needs of the labour market (I. Björnsdóttir, 2002), but recent developments, with more diversification of labour market, have expanded the scope of educational demands and the sources or bodies, from which consultation is needed. Vocational councils were introduced with the 1996 Upper Secondary School Act (Alþingi – Icelandic Parliament, 1996b) and they have partly served the purpose of evaluating labour market demands and advising the Ministry of Education, Science and Culture on those. The trends in demand, expressed by the vocational councils, is manifested in their annual reports to the Ministry of Education, Science and Culture (not published) and the publication of curricula (Mennta- og menningarmálaráðuneytið, 2010e) and reports with analysis on status of the trades and their work environment, demands for skills and suggestions for workplace learning and placements (Mennta- og menningarmálaráðuneytið, 2011g). The main trend in this work during 2001–2010 appears to be to:

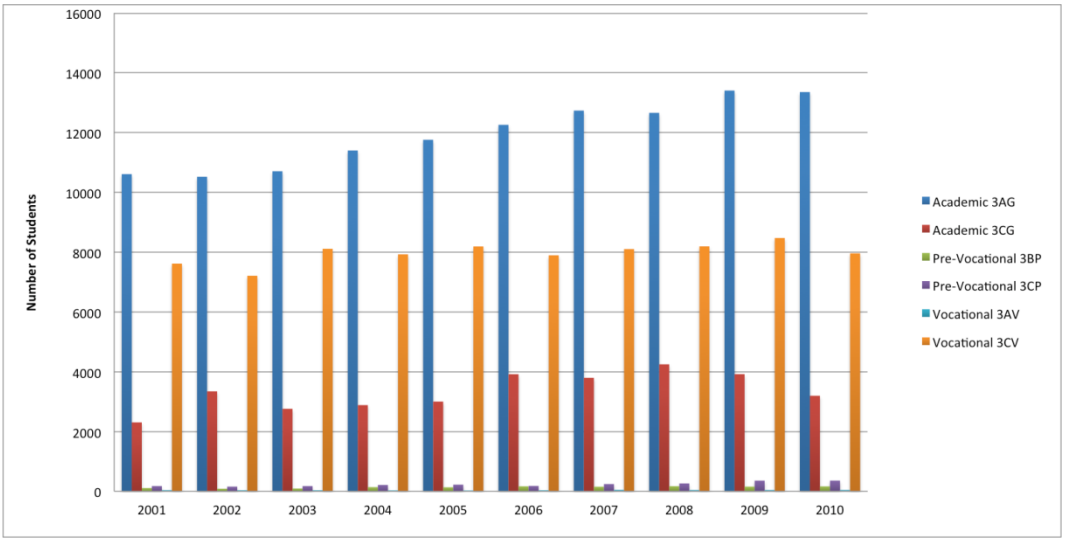
- To introduce new technologies and methods – establish new ICT and media courses or fields of study
- To introduce IT, ICT and technological/computations aspects to disciplines of existing fields of study
- To reform the status of the certified trades, consulting with the trades, analysing their demands and contracting writer for writing new curricula
- To strengthen art and design studies, by developing broad art programmes, with four areas of specialisation: dance, visual arts, music and design

The demands for new study paths or improved curricula for already established fields of study, traditionally have found their way to the Ministry of Education, Science and Culture that sets the agenda and administers a centralised curriculum structure on which the schools build their offer of study paths. The Occupational Councils have initiated reforms or creation of around 50 curricula since 2000. This arrangement was in function until the educational reforms of the 2008 Act of Upper Secondary Education, which paved the way for a new, decentralising way of channelling demands for educational needs, allowing schools, other educational institutions or companies to introduce their demands and to suggest new study paths or improvements to already established curricula to the Ministry of Education, Science and Culture.

Trends in supply from the upper secondary level can be examined through the student registration, by levels of education and participation rate in the various fields of study, and by graduation. The supply from VET pre-vocational studies, at levels 3BP and 3CP, appears to be limited, as well as for vocational level 3AV, the greatest supply from vocational education is to be found at level 3CV, where most VET students are registered. For further explanation of the level see description of ISCED education levels (Appendix 12[23]).

[23] Appendix 12: Levels of Education – Description of ISCED–97 levels, conditions for classification and variations.

Figure 5–16: Number of students at upper secondary level, at different ISCED levels, academic and vocational study levels, 2001–2010



Source: Statistics Iceland, 2011.

The numbers of students in vocational education remains steady for the period 2001–2010, with only a slight increase in students attending pre-vocational courses. On the other hand, the student numbers in academic education is increasing at the upper secondary level, with numbers of students going up on academic levels, 3AG and 3CG.

The overall numbers of students graduating from the upper secondary level with matriculation examination has increased somewhat from 2001, from 2127 (47,9%) graduating in 2001 to 3163 (63,6%) graduating in 2010. The percentage of 20 year olds that graduated with matriculation exam in 2001 was 47,9%, but in 2010 this percentage had risen to 63,6%. In 2010, 52,4% of males and 75,2% of females had graduated with the matriculation exam.

	Number of students	Males	Females	Percentage of 20 years old	Males as percentage of 20 years old	Females as percentage of 20 years old
2000-2001	2127	828	1299	47,9	36,5	59,8
2001-2002	2194	861	1333	49,3	37,4	61,9
2002-2003	2527	974	1553	58,3	45,3	71,1
2003-2004	2515	944	1571	60,3	44,5	76,7
2004-2005	2421	962	1459	60,5	49,2	71,4
2005-2006	2446	999	1447	61	49,1	73,2
2006-2007	2555	988	1567	59,4	43,5	77,2
2007-2008	2808	1133	1675	57,9	45,3	71,2
2008-2009	3012	1235	1777	63,6	51,7	75,7
2009-2010	3163	1325	1838	63,6	52,4	75,2

Table 5–5: Number of students at upper secondary level, at different ISCED

levels, academic and vocational study levels, 2001–2010.
Source: Statistics Iceland, 2011.

In the same period the number of vocational students graduating with a matriculation exam increased significantly, by 463%, while number of students graduating from academic tracks increased only by 21%.

2000-2001	Total Number of Students	%	Males	%	Females	%
Matriculation vocational	106	5%	70	66%	36	34%
Matriculation general	2137	95%	814	38%	1323	62%
Total:	2243	100%				

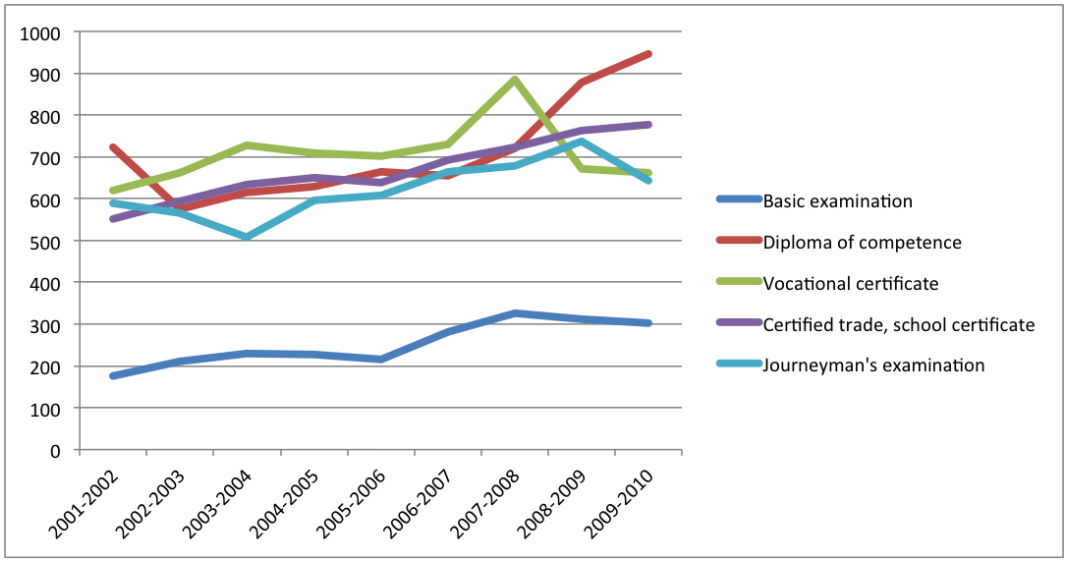
2009-2010	Total Number of Students	%	Males	%	Females	%
Matriculation vocational	597	19%	305	51%	292	49%
Matriculation general	2587	81%	1027	40%	1560	60%
Total:	3184	100%				

Table 5–6: Total number of students completing matriculation exams, by gender, 2001 and 2010. *Source: Statistics Iceland, 2011.*

In 2001, the share of vocational students graduating with a matriculation exam was 5%. In 2010, vocational students graduating with the matriculation exam were 19% of the total number of graduating students, of which males are 51% and females 49%.

The number of students graduating with various vocational qualifications also increased in the same period.

Figure 5–17: Graduation from vocational programmes at the upper secondary level, by diploma, 2001–2010

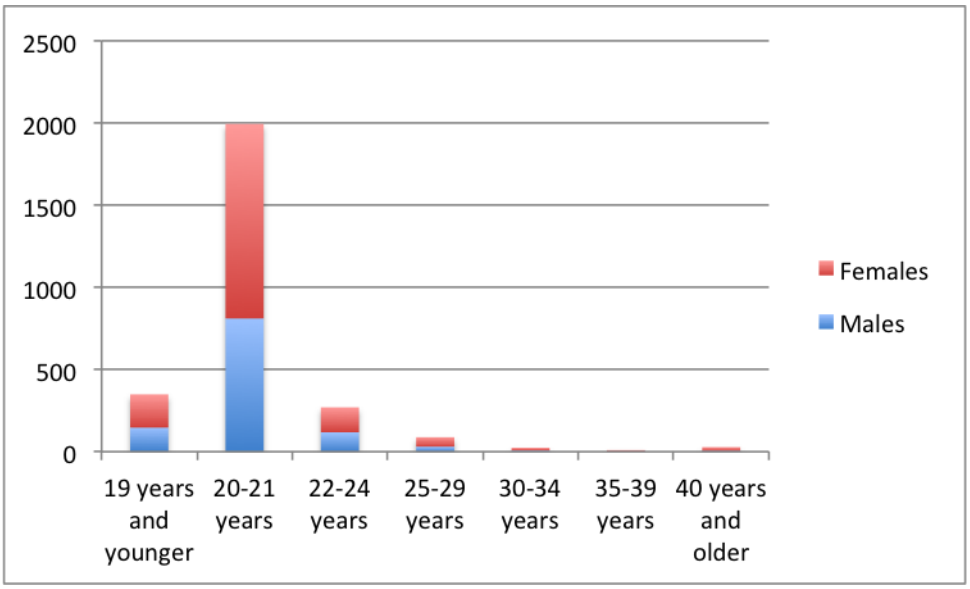


Source: Statistics Iceland, 2011.

There was a substantial increase in the number of students graduating with a basic examination, diploma of competence and with a school certificate for the certified trades, but only a modest increase in number of students graduating with a vocational certificate and with a journeyman's examination.

The trend is that vocational students are graduating at a much higher age than students on academic tracks, at the upper secondary level.

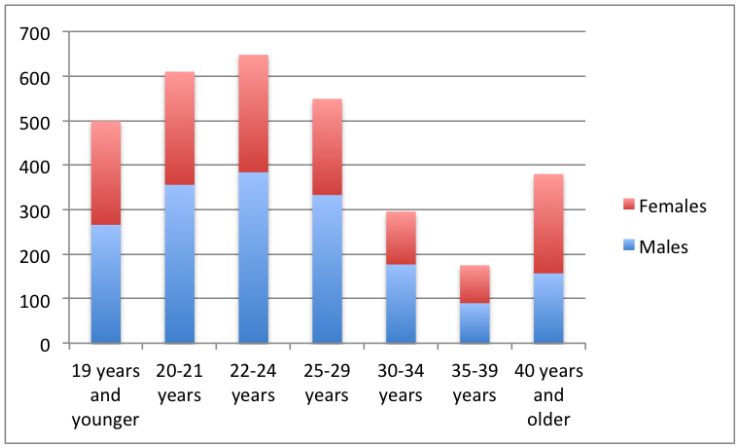
Figure 5–18: Graduation of academic students at upper secondary level, by age, 2009–2010



Source: Statistics Iceland, 2011.

Most of the students graduating with a matriculation exam in academic subjects graduate before 25 years of age, but students graduating from vocational tracks are graduating up to the age of 40, tapering off by 25 years, but there is also a rise in number of vocational students graduating in the group 40 years and older.

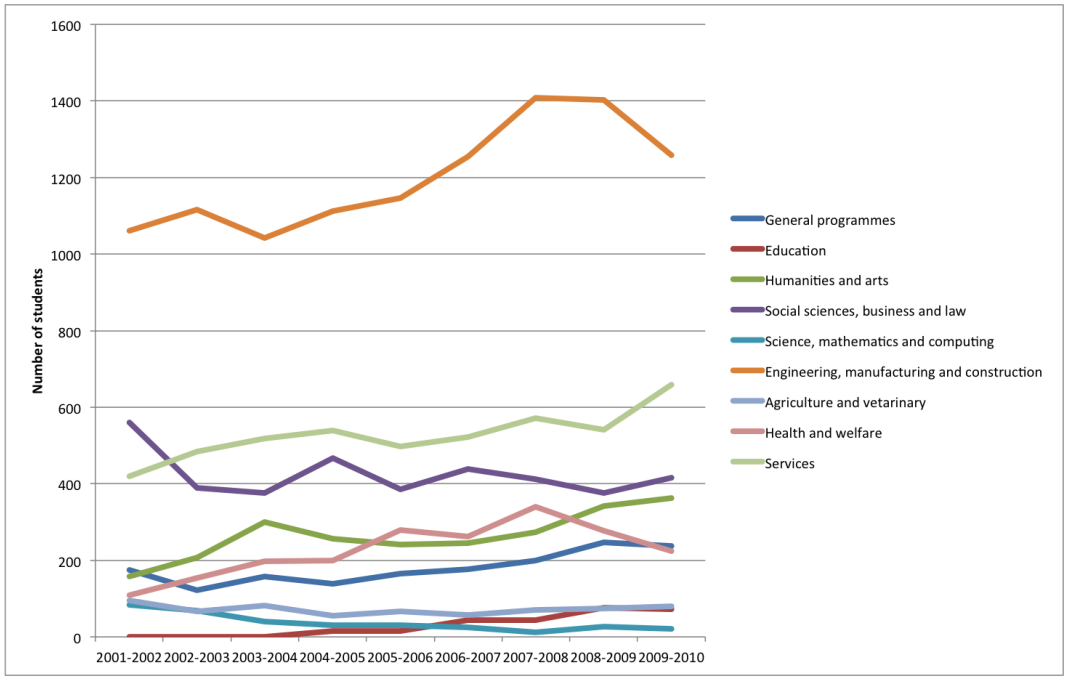
Figure 5–19: Graduation of vocational students at upper secondary level, by age, 2009–2010



Source: Statistics Iceland, 2011.

When observing the graduation of students from vocational programmes at the upper secondary level by fields of study, it is clear that a large majority of the students has been graduating from engineering, manufacturing and the constructions trades.

Figure 5–20: Graduation of vocational students at upper secondary level, by field of study, 2001–2010



Source: Statistics Iceland, 2011.

The engineering, manufacturing and construction field of study has taken a downturn since 2008, most likely because the construction industries suffered a near total collapse due to the recession. The health and welfare fields of study also seem to have been affected. Some other fields of study have only been slightly

affected or not at all and appear to be picking up and having an increase in the number of students being graduated.

Examining the detailed fields of study will reveal a more complex scenario, and provide information on trends in supply of programmes, termination of courses and establishment of new paths of study (Appendix 13[24]). On the whole, the provision of VET education at the upper secondary level remained rather stable during 2001–2010, 7 fields were discontinued, 8 were offered irregularly and 13 were offered as new fields of study. These were courses for assistants in pre-primary schools, school assistants, acoustics, film production, business and finance, commerce, company operation, nursing receptionist, naturopathic medicine, fish processing, garment technician, cabin crew training and security services (broad programmes).

5.1.6 Transition from upper secondary VET programmes into other educational programmes

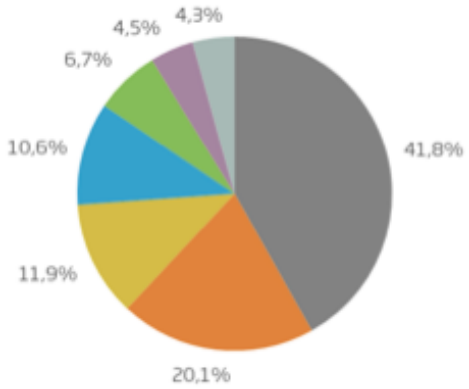
The possibilities of transition from upper secondary VET programmes are dependent on the qualifications students receive. The matriculation exam that a VET student can add to his/her vocational qualifications gives access to higher education, but with the current limitations on provisions of vocational study paths on offer in tertiary education, many students are probably tempted to look for further education abroad or sway their choice to a more academic option. Each higher education institution can define and restrict the access to their faculties, and in that way limit the choice for the VET student applying for further education. Lately, certain university faculties have put forward suggestions on entrance examination.

The Iðan Educational Centre organised a survey on work conditions in the trades in 2011 (Maskína, 2011) to which 2109 tradesmen and women in 17 trades responded (68,8%). Around 38% had finished the master of trade examination, 57% still work in their field and 80% said that their studies had prepared them well for their work in the trade. Nearly 75% were interested in learning about novelties in their trade, a third of the group had attended courses in continuing education during past two years, but only 31% were content with the provision of courses in continuing education in their field of work. The participants were asked about further education following their trade exam. Close to 60% of the participants had continued their education, 20,1% had finished the master of trade exam and 11,9% a university degree – or 32% in all in higher education.

Figure 5–21: Further Education of Tradesmen/Tradeswomen (other than their first Journeyman examination), 2011

[24] Appendix 13: Number of students in VET Education at the Upper Secondary Level, by detailed Fields of Study, 2001–2010.

	Fjöldi	%
No	879	41,8
Master of Trade Exam	422	20,1
University Degree	251	11,9
Vocational Certificate	223	10,6
2nd Journeyman Examina-	141	6,7
Matriculation Examination	95	4,5
Other	91	4,3
Valid Answers	2102	100,0



Source: (Maskína, 2011)

Some participants had added a second journeyman's examination (6,7%) or the matriculation exam (4,5%) and 4% had gone for other exams.

The survey inquired if there were students on a study contract in the workplace and this was the case with 34,4% of the participants and 86% stated that the students were well cared for in the workplace.

It may be worthwhile in this context to view the numbers of students that prefer to study abroad. The highest preference appears to be for humanities and arts, social sciences, business and law, engineering, manufacturing and construction and health and welfare.

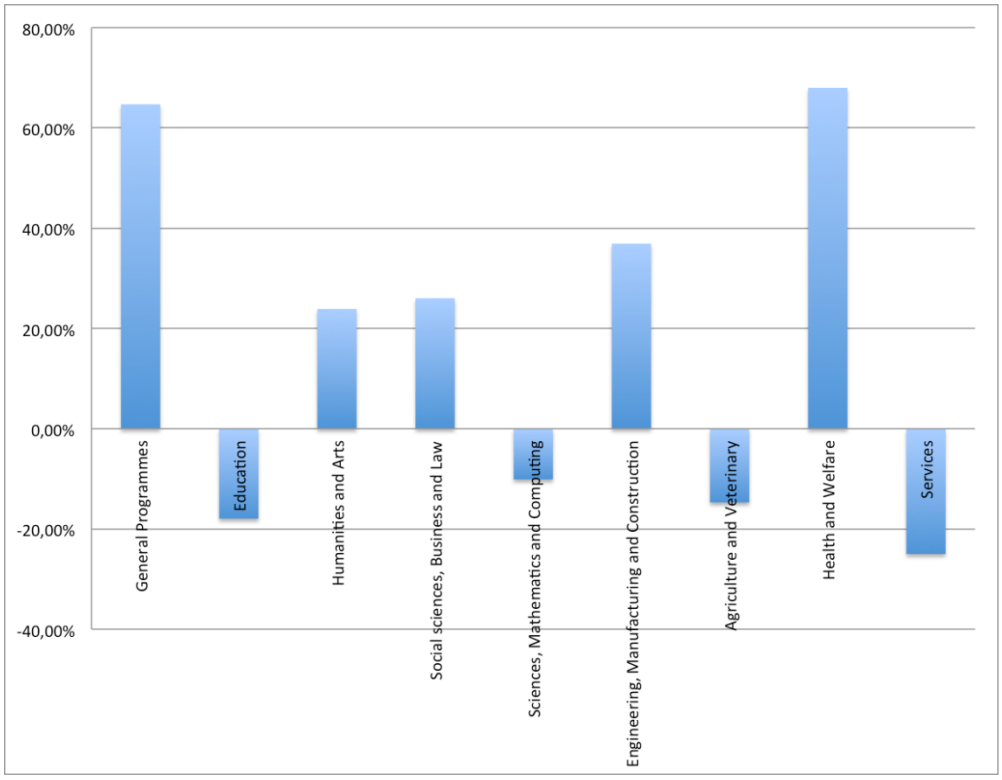
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Programmes	17	29	30	41	37	44	26	31	29	28
Education	39	35	36	40	42	38	40	36	33	32
Humanities and Arts	494	496	555	573	576	605	639	686	583	612
Social sciences, Business and Law	465	541	568	594	596	551	558	571	534	586
Sciences, Mathematics and Computing	168	154	165	165	141	126	115	127	129	151
Engineering, Manufacturing and Construction	401	382	448	473	516	581	602	618	524	549
Agriculture and Veterinary	34	34	38	33	29	31	26	28	34	29
Health and Welfare	125	143	185	186	223	252	260	232	214	210
Services	68	52	72	70	77	80	75	51	49	51

Table 5–7: Number of Icelandic students studying abroad, by broad fields of education, 2001–2010. *Source: Statistics Iceland, 2011.*

The statistics on students studying abroad do not distinguish between academic and vocational education or ISCED levels, but might still provide some indication of a shortage in provision of courses in education in higher education or change in provision on national level, as well as of students' preference for study.

When checking for trends or changes in numbers of students preferring to study abroad between the years 2001 and 2010, the most notable change is a 68% increase in numbers of students in health and welfare, 36,91% increase in engineering, manufacturing and construction, 26,02% increase in social sciences, business and law and 23,89% increase in Humanities and the arts. The increase in general studies is insignificant, as there were very few students in that field in 2001. Participation in other fields of education has gone down by 10–18%.

Figure 5–21: Change in numbers of students studying abroad, by broad fields of study, between 2001 and 2010



Source: Statistics Iceland, 2011.

Currently, there exists no national data on the transition of VET students into the various study paths at post-secondary and tertiary levels of education that would inform on the students' choice of higher education opportunities.

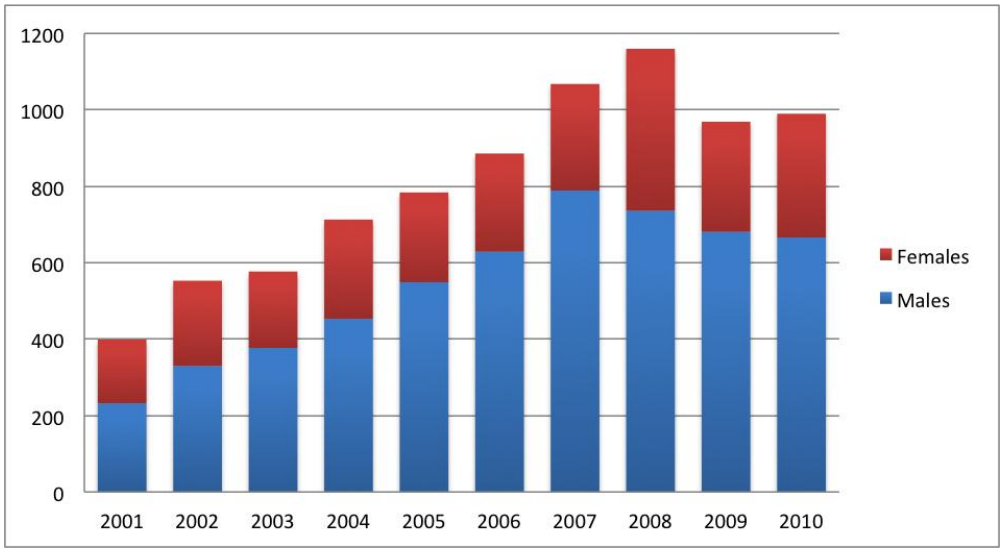
5.2 Student numbers in post-secondary VET

The number of students at the post-secondary level has increased considerably in the period 2001–2010, which can point to an increased demand for advanced vocational studies in higher education. All provision at this level is for vocational education.

5.2.1 Student numbers in post-secondary VET programmes

In 2001 there were 399 students studying at the post-secondary level, but in 2010 the numbers had increased to 990.

Figure 5–22: Numbers of students registered in post-secondary education, by gender, 2001–2010



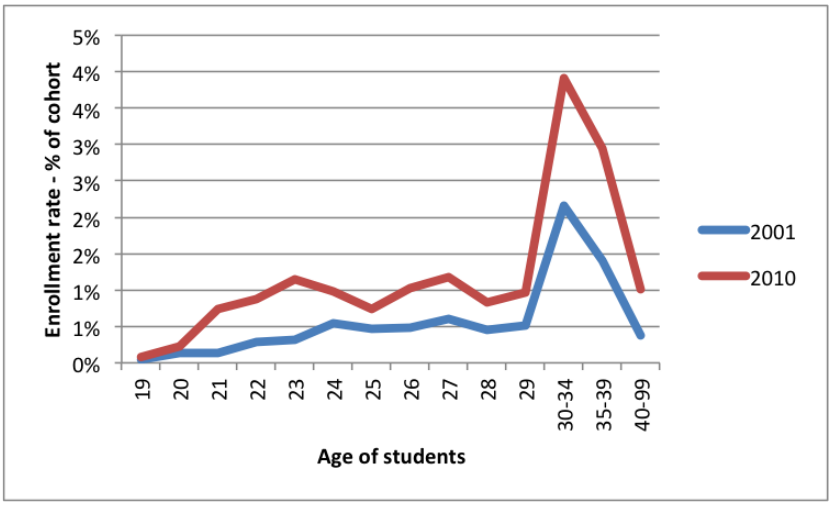
Source: Statistics Iceland, 2011.

From 2001 onwards there is a gradual increase in student numbers right up to year 2008 when student numbers reach 1160, but in 2009 student numbers fall at this level and have not recovered since. Student numbers in 2011 signal a continuous decline, with 965 students.

5.2.2 Share of students enrolled in post-secondary VET programmes

The share of student number enrolled in post-secondary VET programmes has more than doubled between the years 2001 and 2010.

Figure 5–23: Numbers of students enrolled in post-secondary non-tertiary education, by age, in 2001 and 2010



Source: Statistics Iceland, 2011.

From 20 years of age the enrolment starts and between 0,2 –1,4% of each cohort enrols in vocational education at the post-secondary level, up to the age of 29. In the age group 30–34 and 35–39, between 1–4% of each cohort is enrolling and enrolment continues at the rate of 1% for 40+ age group. This is with reference to 2010 statistics.

5.2.3 The student population in post-secondary VET programmes in terms of age/gender, educational background and field of study, and social background

Students entering post-secondary education will have completed qualifications in the certified trades or other professional qualifications at the upper secondary level (Appendix6 – Types of Qualifications – Programmes leading to them and the Awarding Organisation). There are 6 different qualifications, excluding the matriculation examination following vocational exams that can lead to study tracks at the post-secondary non-tertiary level. There are no statistics available on the educational or social background of VET students at this level. Information on development of student numbers in the various fields of study are presented in an overview, Appendix3 – Registered students in vocational education at the post-secondary non tertiary level (ISCED4CV) and more graphically, by narrow fields of study, in Appendix14 – Number of students in VET Education at the Post-secondary level, by narrow Fields of Study, 2001–2010.

Women are in a minority in post-secondary education, in 2001 they were 42% of students at this level, but have come down to 33% in 2010. In study fields pertaining to the certified trades, student numbers are usually low, in some fields coming down to single individuals per year, but the larger groups are usually in technology fields, building trades, health studies, education, transport or tourism.

The proportion of students of other nationalities to Icelandic students has remained unchanged 2001–1010, and stays at 2%, despite increase in the number of immigrants.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	399	553	577	713	784	886	1068	1160	969	990
Icelandic	391	550	569	698	764	864	1046	1148	957	971
Other nationalities	8	3	8	15	20	22	22	12	12	19
% Other nationalities	**2%**	**1%**	**1%**	**2%**	**3%**	**2%**	**2%**	**1%**	**1%**	**2%**

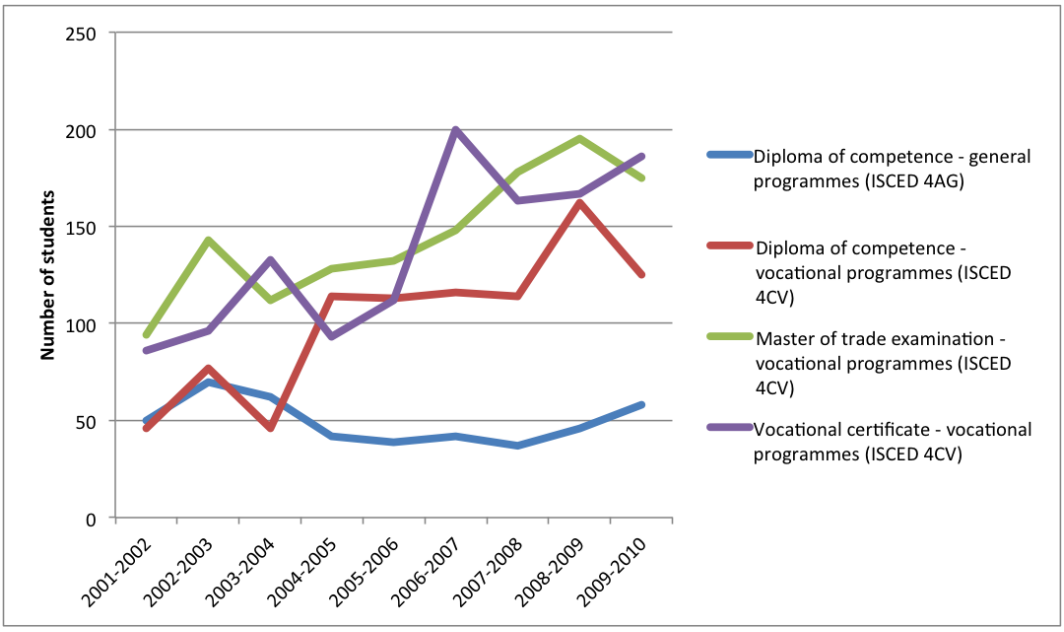
Table 5–8. Percentage of students of Icelandic / other nationalities at the Post-secondary Level, 2001–2010. *Source: Statistics Iceland, 2011.*

5.2.4 Drop-out and completion rates in post-secondary VET programmes

Currently no statistics are available for drop-out rates for the post-secondary VET programmes in Iceland.

Completion or graduation rates at the post-secondary level show an increase in graduation with diplomas of competence from vocational programmes, with vocational certificates and by the master of trade examination.

Figure 5–24: Numbers of students graduating at the post-secondary non-tertiary level, by degree, 2001–2010



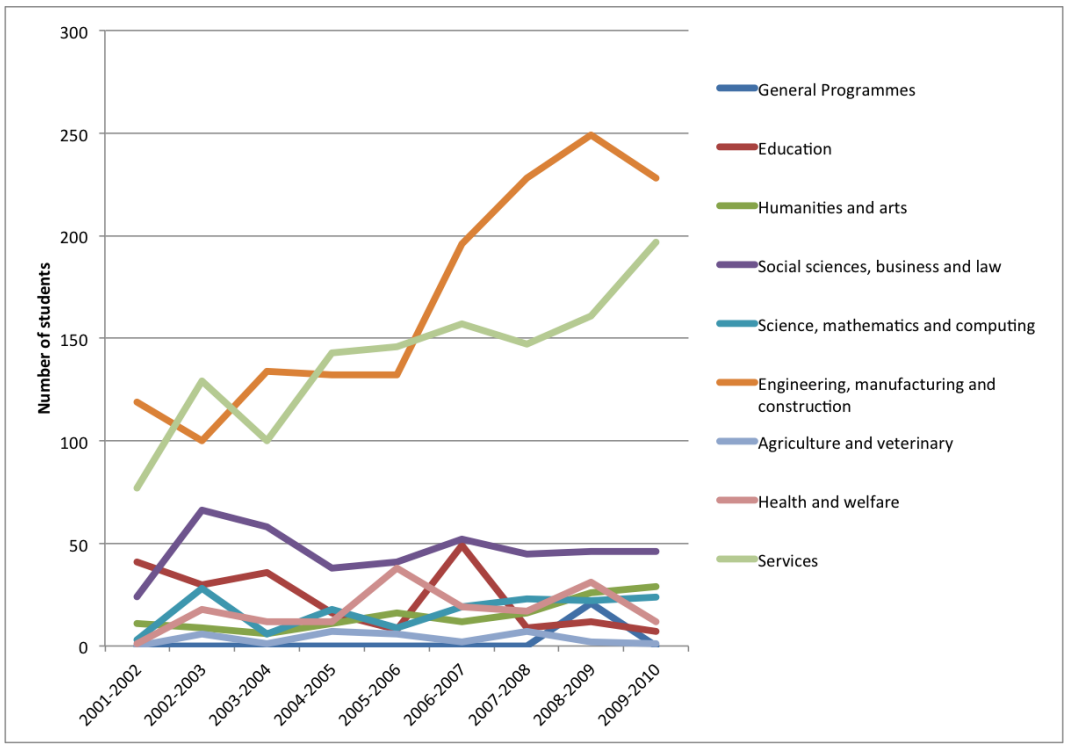
Source: Statistics Iceland, 2011.

In 2009/2010, 58 students, or 11%, graduated with diploma of competence from general programmes, 125 students, or 23%, 175 graduated with diploma of competence from vocational programmes, or 32%, 175 graduated with master of

trade examination, or 32%, and 186 graduated with a vocational certificate, or 34%.

The majority of students graduating at this level graduate in engineering, manufacturing or construction fields of study or in various fields of services. The numbers of students' graduation from engineering, manufacturing and construction fields have gone down since 2008, but numbers of students in the service fields continues to rise.

Figure 5–25: Numbers of students graduating at the post-secondary non-tertiary level, by fields of study, 2001–2010



Source: Statistics Iceland, 2011.

In most other fields there is a modest increase in graduations, but a decrease in fields like agriculture and education.

5.2.5 Trends in demand and supply for different skills and fields of study in post-secondary VET programmes

During the past decade, repeated demands have been put forward by labour market stakeholders, for improved vocational education for employees without upper secondary qualifications and, especially, for advanced industrial and

technical education, both at the post-secondary (non-tertiary) and at the tertiary level. These demands are voiced by individual professional organisations of the trades (Rafiðnaðarskólinn, 2010) as suggestions of continuing education, by companies in evaluation reports (Nýsir – Ráðgjafarþjónusta, 2006), umbrella organisations of employees and employers, for instance in the form of surveys (Gallup, 2004) (Ingi Bogi Bogason, Davíð Lúðvíksson, & Vilborg Helga Harðardóttir, 2011), by vocational councils in their reports (Jóelsdóttir, 2001), by government committees on development of VET education (Starfsnámsnefnd, 2006) and by VET educational institutions, such as The Technical College of Reykjavík (Fjöltækniskóli Íslands – Iðnskólinn í Reykjavík, 2008) and the University of Reykjavik, in reports and efforts to establish new or modified courses in VET fields of study. The education authorities have, to some extent, acknowledged these requests and the provision at the post-secondary non-tertiary level slowly increased (Appendix3 – Registered students in vocational education at the post-secondary non tertiary level (ISCED4CV)). The provision is, however limited, usually located at upper secondary schools and does not have a legal status. A working group on the variety and flexibility in the organisation of learning and provision of programmes handed in a report in 2007, suggesting a new legislation for learning at the post-secondary non-tertiary level, with an emphasis on a vocational and practical form of higher education, for a direct continuation of VET students graduating from the upper secondary school (Menntamálaráðuneytið, 2007).

As schools have been given more autonomy in development of programmes, spurred by changes in the act on upper secondary schools (Althing – Icelandic Parliament, 2008e), the labour market, with participation in school committees and vocational councils, is gradually having more influence on provision at the upper secondary and post-secondary levels. School initiatives for new or improved courses of study are only limited by the acknowledgement of the Ministry of Education, Science and Culture school contracts, the school budgets and their resources.

The curriculum development for programmes at the post-secondary level are now marked by school initiatives, regulation of national or international bodies and by curriculum framework for master-tradesmen, set by the Ministry of Education, Science and Culture in 2010. The programmes at the post-secondary non-tertiary level are therefore aligned to different conditions. The programmes for master-tradesmen, which on average are only one semester in duration, have three main content areas:

- The establishment and development of businesses
- Operations and financing
- Management
- Education and guidance

The curriculum of master trade programmes (Mennta- og menningarmála-ráðuneytið, 2010a) does not seem to emphasise professional development within the field of the trades. This is in contrast with some other programmes at the post-

secondary level, where professional development, balancing of theory and practice of the trade, encouraging professional knowledge flow between schools and labour market, seems to be the main theme. Some critiques have questioned the value of the master trades programmes, claiming that they have considerable shortcomings, that they do not seem to attract students and that the master tradesman system itself is limiting the access of new entrants to the trade (Olgeirsson, 2008).

The issue of access to study and practice and legitimisation of the trades has been a topic of public discourse and recently a committee set up by the Ministry of Industries published its findings (Iðnaðar- og viðskiptaráðuneyti, 2012) on this issue. It suggests a revision of which trades require legitimisation and that parliament should in the future decide on legitimisation of trades, instead of it being announced with a regulation by the ministry. The committee suggests that only those trades that require legitimisation because of crucial public interests should be endorsed as such and that holding onto current status would maintain a restriction to freedom of work and go against a rule of equal standing.

5.2.6 Transition from post-secondary VET programmes into other educational programmes

No statistics are currently available on transition from post-secondary VET programmes into other educational programmes.

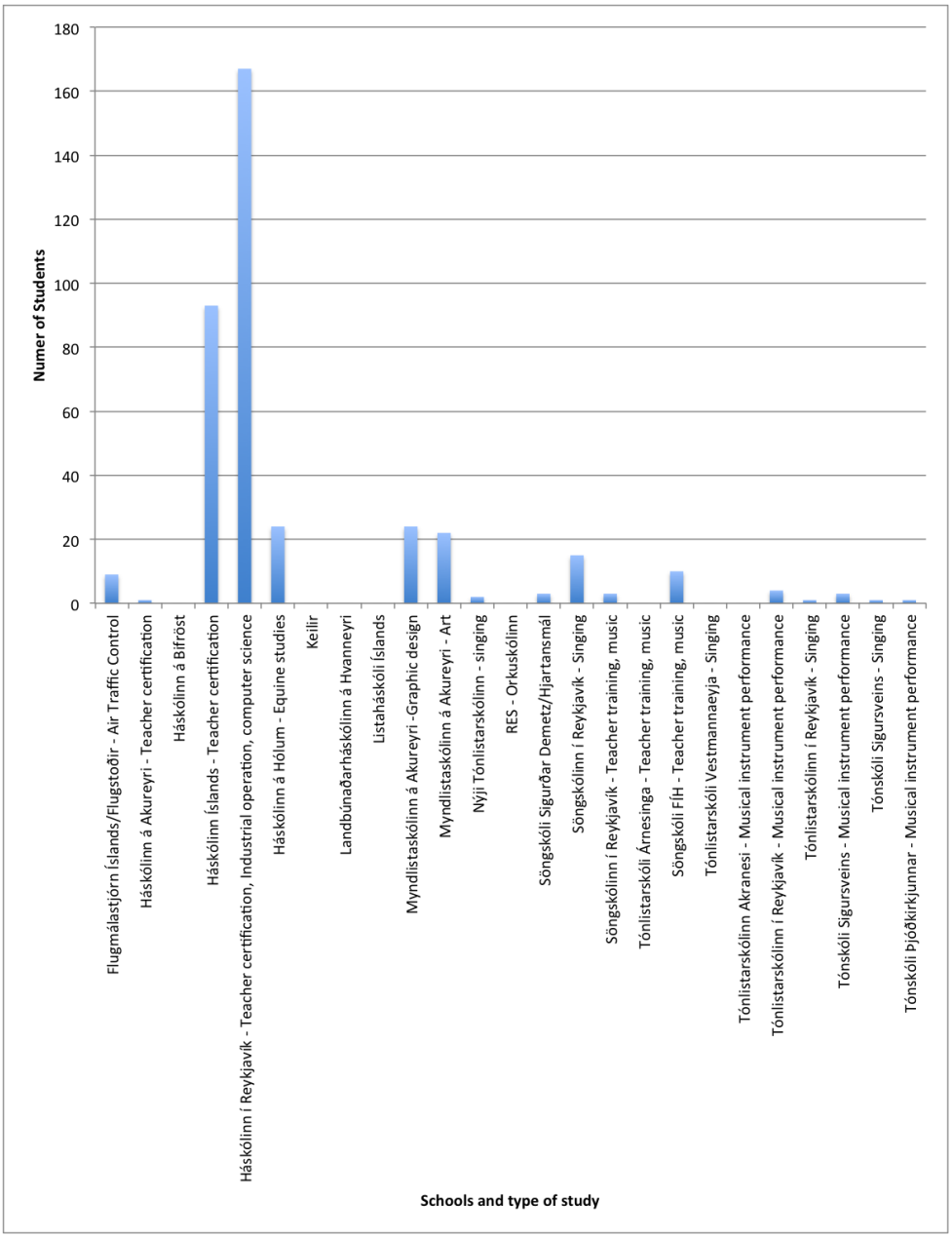
5.3 Student numbers in tertiary VET

VET education at the tertiary level is very limited and only available at the first stage of tertiary education. In 2001, there were 11.447 students attending academic studies at the first stage of tertiary education, but only 692 students were registered as attending VET education. In 2010 the number of academic students had reached 18.367, but the number of VET students was down to 383 students. Of those registered as students in the educational system that year, VET students at the tertiary level amount to 0,36% of the total number of students in the system (Table 5–1. Number of students registered at all school levels (ISCED 1–5 Levels), 2001 and 2010), coming down from 0,75% in 2001. This appears to be an issue of classification, as many programmes that do provide education for professionals, like teachers, doctors and lawyers have a vocational element, but are classified as academic education.

5.3.1 Student numbers in tertiary VET programmes

In total, 4.892 students have been registered in vocational education at the tertiary level, during the period 2001–2010, in 13 fields of study. The largest groups of VET students studied for a teacher certificate (34%), computer science (27%), business and administration (24%), arts (14%), agriculture, forestry and fishery (1%) and transport (1%).

Figure 5–26: Numbers of students registered in VET education at the tertiary level, by schools and type of study, 2010



Source: Iceland StatisticsStatistics Iceland, 2011.

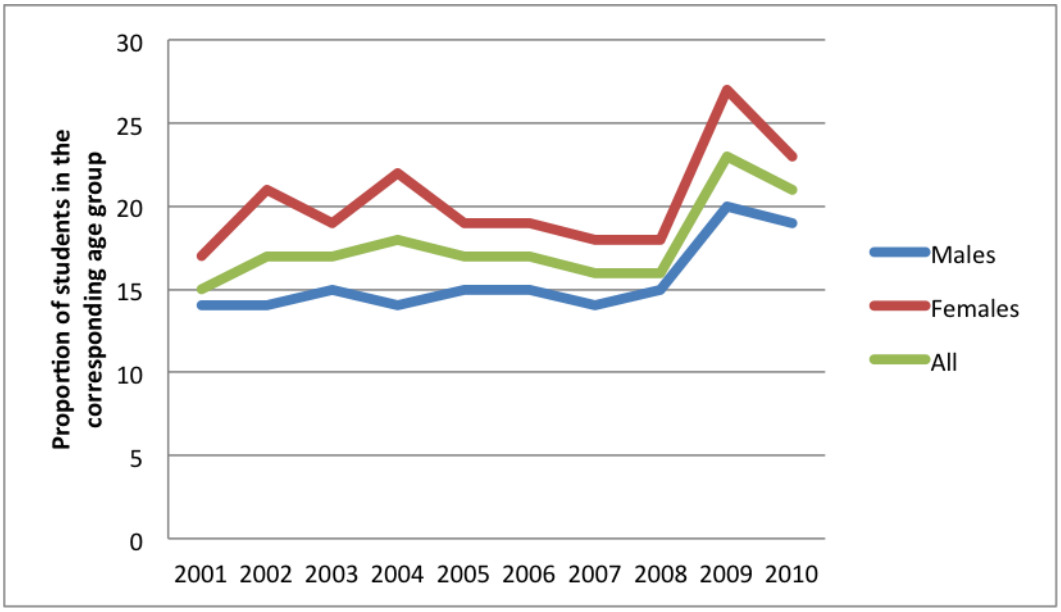
In 2010, the largest groups of VET students was studying at Reykjavík University (industrial operation, teachers certificate and computer science) and at The University of Iceland (for teacher certification). All other groups, studying at

various other higher education institutions, private schools or art institutions, have around 20 students, some only five students or less (art and design, music, equine studies).

5.3.2 Share of students enrolled in tertiary VET programmes

Enrolment rates, by type of study, such as for VET students enrolled in tertiary programmes, are not available from Statistics Iceland, only for total numbers of students, by age, gender and region. During the period 2001–2010 the enrolment rate for males has gone up from 14% to 19% of the corresponding age group and for females the rate has also gone up from 15% to 23%.

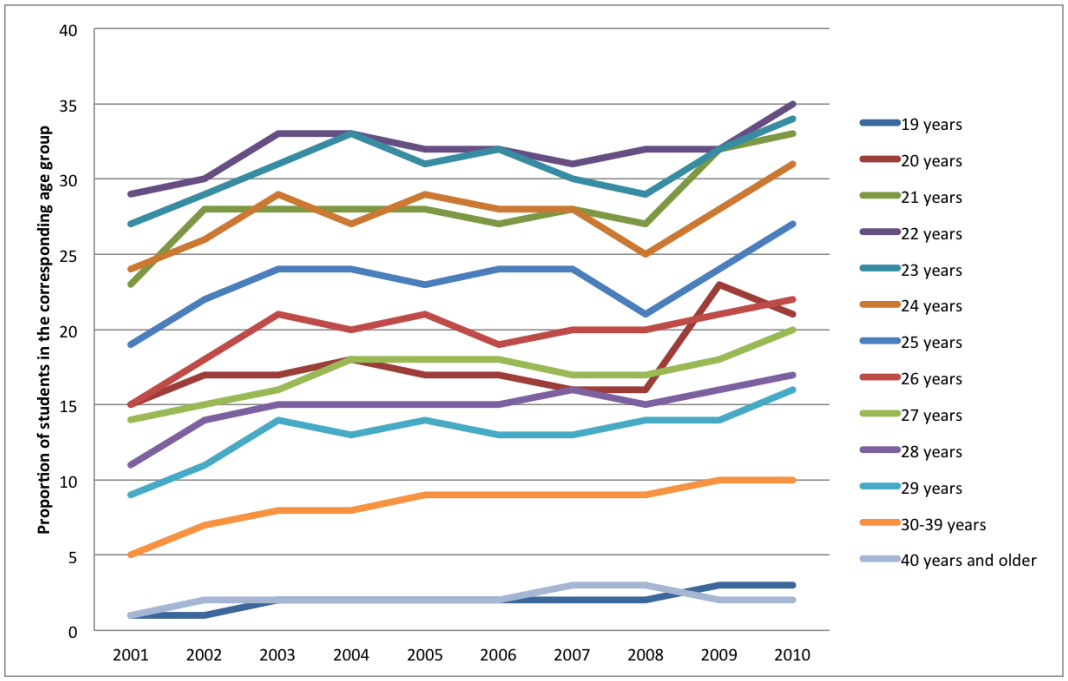
Figure 5–27: Enrolment at the tertiary level, by gender – proportion of the corresponding age group, 2001–2010



Source: Statistics Iceland, 2011.

When observing the enrolment of different age groups a general increase in enrolment is evident in all groups up to the age of 40, when it drops in numbers, but has still doubled for this age group, between the years 2001 and 2010.

Figure 5–28: Enrolment at the tertiary level, by age – proportion of the corresponding age group, 2001–2010



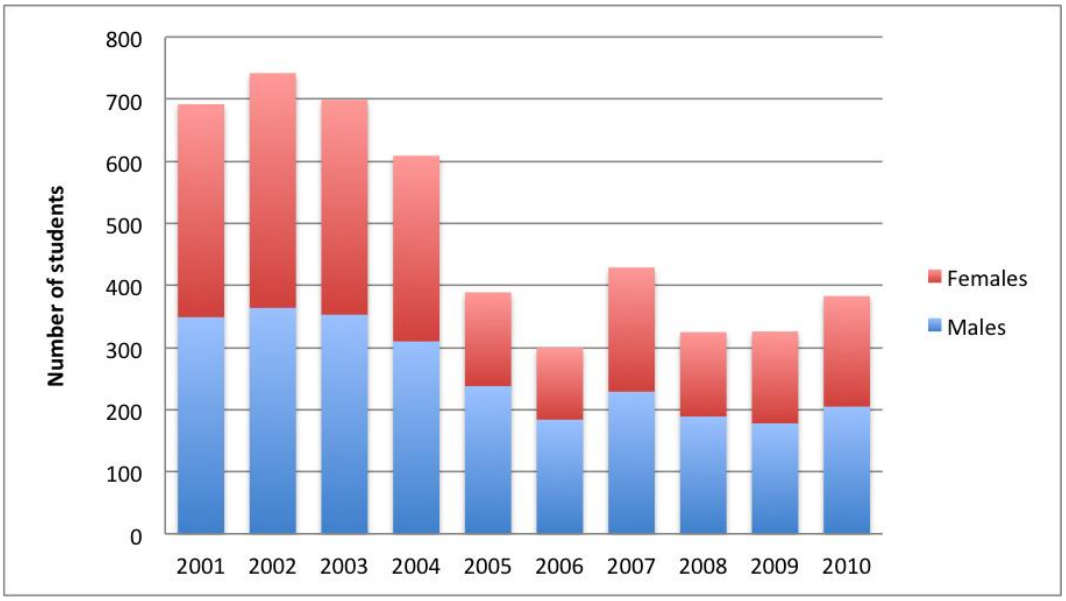
Source: Statistics Iceland, 2011.

The enrolment rate for different regions varies considerably. It is highest for Reykjavik, has gone up from 18% in 2001 to 25% in 2010, and for the capital region, 19% to 25% for the same years. The highest increase in enrolment can be observed in the west fjords of Iceland from 8% to 20%, and in the northwest, from 10% to 20%. Other regions have had an increase in enrolment during the period 2001–2010 but suffered a slight downturn from 2009 onwards.

5.3.3 The student population in tertiary VET programmes in terms of age/gender, educational background and field of study, and social background

In 2001 the proportion of males/females was equal in vocational education at the tertiary level, but this has changed over the period of the next ten years.

Figure 5–29: Numbers of students registered in VET education at the tertiary level, by gender, 2001–2010



Source: Statistics Iceland, 2011.

Student numbers went down from 692 in 2001 to 300 in 2006, with only 32% female students, proportionally. The number of students rises slightly in 2007, but drops again for the two following years, rising to 383 students in 2010. The share of females in 2010 was 46%.

The percentage of students of other nationalities to Icelandic students has increased in 2001–2010.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	11447	13302	14849	15245	15686	15647	16394	16662	17738	18367
Icelandic	10977	12726	14183	14568	14951	14866	15598	15772	16723	17240
Other nationalities	470	576	666	677	735	781	796	890	1015	1127
% Other nationalities	**4%**	**4%**	**4%**	**4%**	**5%**	**5%**	**5%**	**5%**	**6%**	**6%**

In the first stage of tertiary education, the percentage of students of other nationalities has increased by 2%, from 4% in 2001 to 6% in 2010.

Table 5–9. Percentage of students of Icelandic / other nationalities at the Upper Secondary Level, 2001 – 2010. *Source: Statistics Iceland, 2011.*

The biggest increase of students of other nationalities in the educational system is in the second stage of tertiary education. The increase is 18%, rising from 5% in 2001 to 23% in 2010.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	38	45	51	134	156	201	264	282	313	478
Icelandic	36	41	44	117	137	172	218	217	248	366
Other nationalities	2	4	7	17	19	29	46	65	65	112
% Other nationalities	**5%**	**9%**	**14%**	**13%**	**12%**	**14%**	**17%**	**23%**	**21%**	**23%**

Table 5–10. Percentage of students of Icelandic / other nationalities at the second stage of the tertiary level, 2001 – 2010. *Source: Statistics Iceland, 2011.*

No statistics are currently available on the social background of students at tertiary level from Statistics Iceland.

5.3.4 Drop-out and completion rates in tertiary VET programmes

Statistics for dropout of VET students at the tertiary level are not available, only for the entire student group at this level, by qualifications, degrees or diplomas.

		All levels of study	Diploma	1st degree	Diploma after 1st degree	MA-degree	Ph.D.
Numbers of dropouts	Total	2037	287	1398	53	275	24
	Males	853	176	569	7	94	7
	Females	1184	111	829	46	181	17
% dropout	Total	14,7	17,6	13,3	16	20,1	53,3
	Males	16,5	22,3	14,7	13,2	21,4	33,3
	Females	13,6	13,2	12,5	16,5	19,5	70,8

Table 5–6: Dropout of students registered at the tertiary level, 2002/2003 cohorts. *Source: Statistics Iceland, 2011.* **Note: the figures for drop-out in Ph.D. studies may not be reliable, as data from the universities at this point in time was not always up to date or valid.**

The total drop-out for all levels of study measures 14,5%. The drop-out rate for males is higher, or 16,5%, than for females, which is 13,6%. The drop-out rate is lowest for 1st degree students, but increases for students graduating with a diploma, masters degree and PhD degree, in that order.

Statistics on completion for students at the tertiary level are available, by ISCED level and student age. In the year 2001, 320 students graduated from tertiary level, ISCED 5B, in vocational subjects. These students were 15,5% of all students completing their studies at the tertiary level that year.

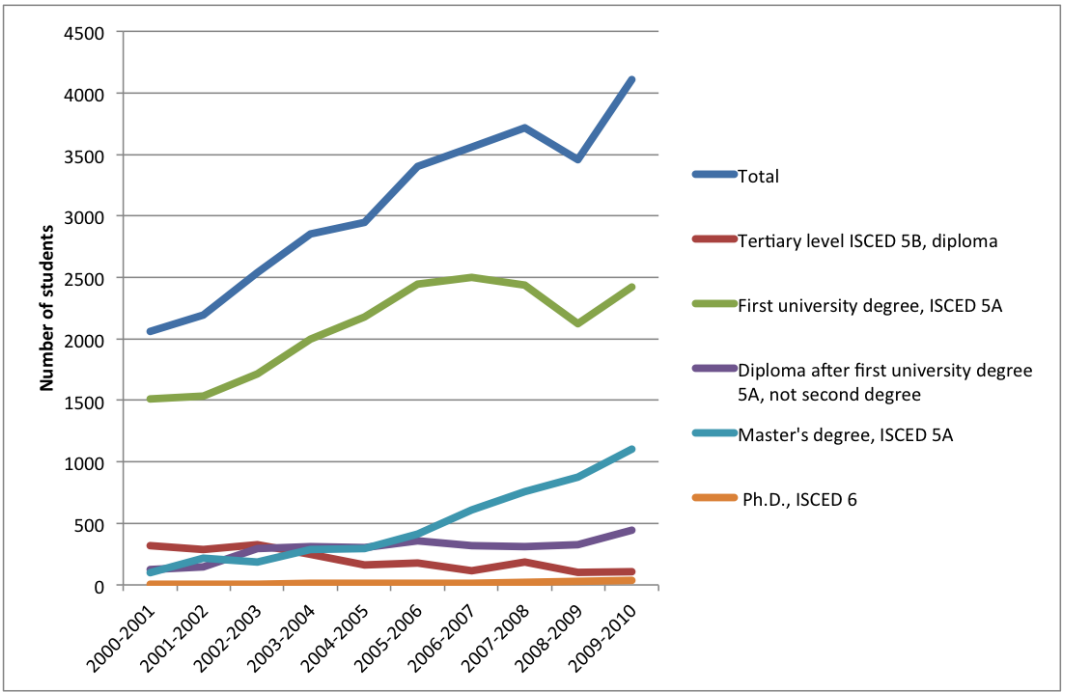
	2000-2001	%	2009-2010	%
Total	2061	100,0%	4107	100,0%
Tertiary level ISCED 5B, diploma	320	15,5%	106	2,6%
First university degree, ISCED 5A	1512	73,4%	2422	59,0%
Diploma after first university degree 5A, not second degree	125	6,1%	444	10,8%
Master's degree, ISCED 5A	99	4,8%	1102	26,8%
Ph.D., ISCED 6	5	0,2%	33	0,8%

Table 5–7: Graduations at the tertiary and doctorate level, by diploma and degree (ISCED levels), 2000 and 2010. *Source: Statistics Iceland, 2011.*

In 2010 the number of VET students graduation at the tertiary level had come down to 106 students, which counted for 2,6% of the total number of students graduation that year.

In the 2001–2010 period the number of students completing tertiary education rose steadily at most ISCED levels, but VET education at the tertiary ISCED 5B level was the only exception.

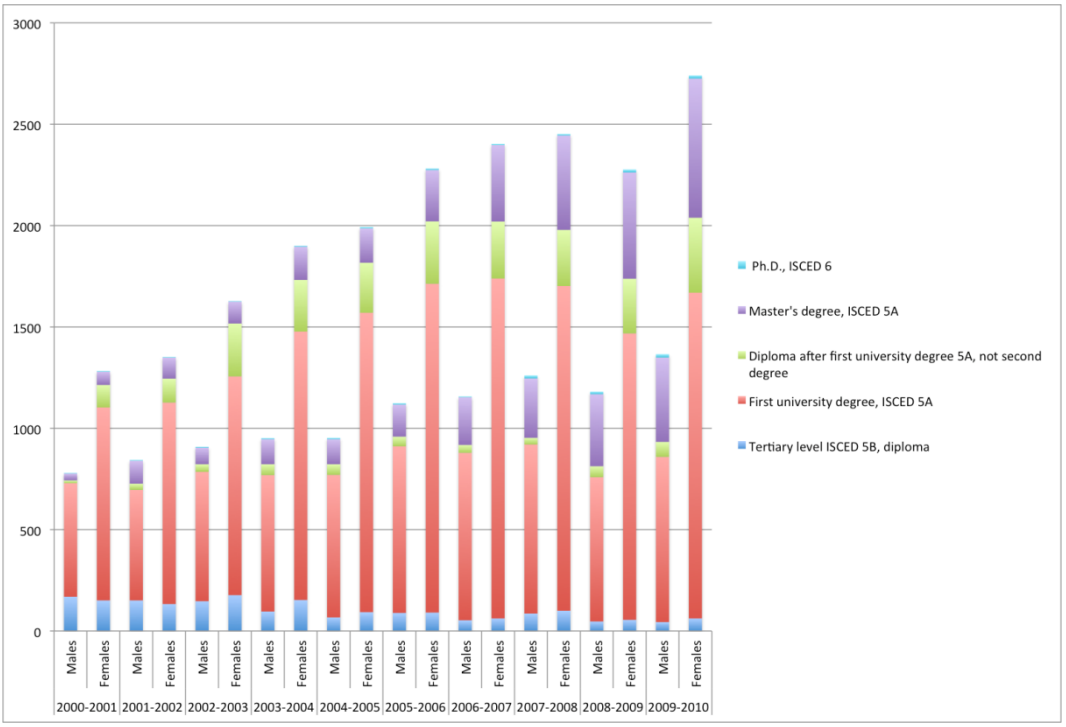
Figure 5–30: Graduations at the tertiary and doctorate level, by diploma and degree (ISCED levels), 2000–2010



Source: Statistics Iceland, 2011.

During the period there has been a gradual increase in number of students graduating with diplomas after first university degrees (not a second degree) and a Master's degree (ISCED 5A).

Figure 5–31: Graduations at the tertiary and doctorate level (ISCED levels), by gender, 2000 – 2010



Source: Statistics Iceland, 2011.

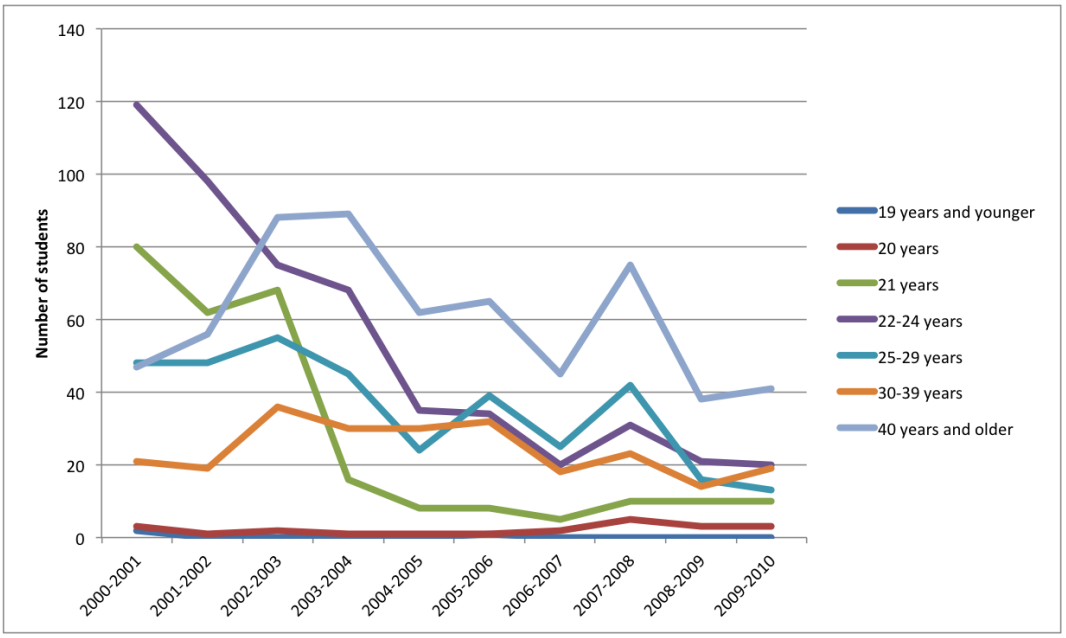
Males have been graduating in a minority at most ISCED levels since the year 2000. Vocational studies at the ISCED 5B level used to be the exception, in 2001 males were 53% of students graduating at this level, but in 2010 they were just 42% of graduating students.

	2000-2001					2009-2010				
	Total	Males	%	Females	%	Total	Males	%	Females	%
Total	2061	778	38%	1283	62%	4107	1366	33%	2741	67%
Tertiary level ISCED 5B, diploma	320	169	53%	151	47%	106	44	42%	62	58%
First university degree, ISCED 5A	1512	560	37%	952	63%	2422	815	34%	1607	66%
Diploma after first university degree 5A, not second degree	125	14	11%	111	89%	444	74	17%	370	83%
Master's degree, ISCED 5A	99	34	34%	65	66%	1102	416	38%	686	62%
Ph.D., ISCED 6	5	1	20%	4	80%	33	17	52%	16	48%

Table 5–8: Graduations at the tertiary and doctorate level, by gender (ISCED levels), 2000 and 2010. *Source: Statistics Iceland, 2011.*

Most students graduating with a vocational education at the tertiary level are mature students. The largest single age group in 2010 is 40 years and older, and the age group 30–39 years has remained stable in student number during the period.

Figure 5–32: Graduations at the tertiary and doctorate level (ISCED levels), by age, 2000 and 2010



Source: Statistics Iceland, 2011.

5.3.5 Trends in demand and supply for different skills and fields of study in tertiary VET programmes

The labour market supply from tertiary VET programmes (ISCED 5B) is rather limited and has less impact now than around the year 2001. The largest group of VET students, 34%, has graduated from teacher training and education science, 27% from computing, 24% from business and administration and 14% from the arts. Group of 1% or less have studied agriculture, forestry, fishery and transport.

5.3.6 Transition from tertiary VET programmes into other educational programmes

VET students at ISCED 5B tertiary level complete their programmes with a diploma at the tertiary level, not a university degree. Their programmes prepare for generally more practical, technical or vocational, rather than leading to further education or other academic programmes.

5.4 Labour market outcomes of VET

In 2009, the expected duration of education was highest in Belgium, Finland,

Sweden and Iceland, with students spending around 20 years in education (Eurydice – Eurostat, 2012). In two-thirds of the OECD countries, women can expect to stay on average more than half a year longer in education than men. In Iceland, New Zealand, Sweden and the United Kingdom, the difference exceeds two years (U.-U. OECD, 2005). This long expected duration of education can affect the amount of life income.

The educational attainment data of the population is collected regularly by Statistics Iceland in the Labour Force Survey. This data is available since 2003.

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Basic education - ISCED 1, 2	41,3	40,9	39,6	39,1	38,5	39,4	38,8	38,4	38,3
Upper secondary education - ISCED 3, 4	36,5	37,1	37,3	36,7	37	35,7	35,5	36,2	35,5
Tertiary education - ISCED 5, 6	21,4	21,4	22,6	23,6	24	24,7	25,5	25,1	25,9
Information not available	0,8	0,6	0,5	0,6	0,5	0,2	0,1	0,3	0,3

Table 5–9: Educational Attainment of the Population 2003–2011, percentage distribution. *Source: Statistics Iceland, 2011.*

5.4.1 Educational Attainment of Upper Secondary Education

The laws on the Icelandic education system, for compulsory and grammar school education, which were passed in 1946, made a turning point in educational affairs with respect to accessibility and availability of education for the general public. These and laws passed in 1973 on upper secondary education and a Compulsory School Act in 1974 created the conditions that stimulated a steady development of increasing educational attainment.

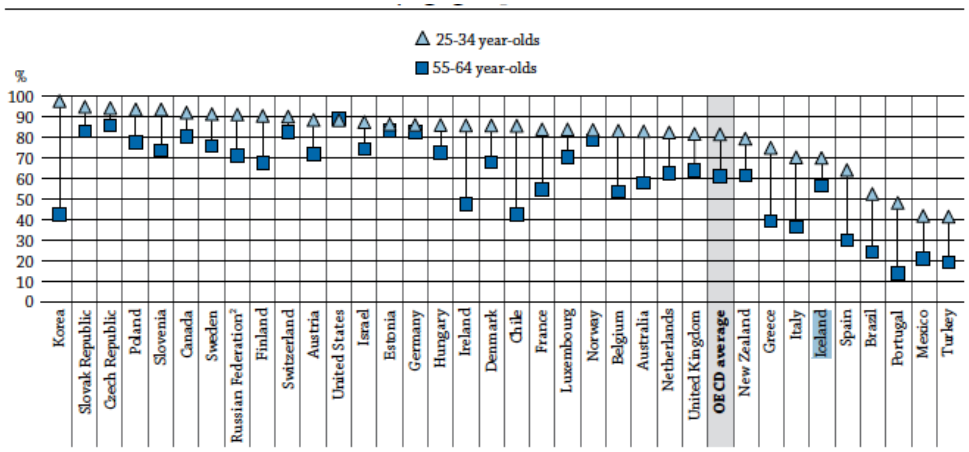
In OECD's 2011 Education at a glance one can find an overview of the influence that tertiary education among 25–34 year-olds will have on overall tertiary attainment (25–64 year–olds) if current levels among young people are maintained (OECD, 2011).

Figure 5–33: Progress in attainment of upper secondary education over half a century, by country

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2011*).
StatLink http://dx.doi.org/10.1787/888932478983

In comparison with other OECD countries Iceland's historical progress in attainment in upper secondary education measures at the lower medium level. Comparing two age groups, aged 55–64 in 1997 and aged 25–34 in 2009, the attainment is raised from 40% to 70%, but is still at the lower end in this group and below the OECD average:

Figure 5–34: Percentage of population that has attained at least upper secondary education by age group (2009)



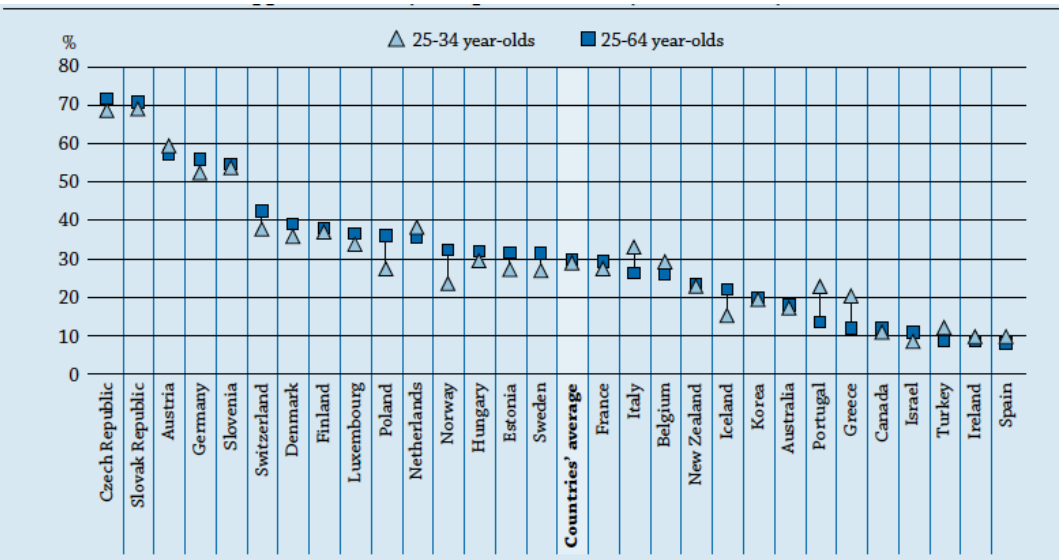
1. Excluding ISCED 3C short programmes.
2. Year of reference 2002.
Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained at least upper secondary education.
Source: OECD. Table A1.2a. See Annex 3 for notes (*www.oecd.org/edu/eag2011*).
StatLink http://dx.doi.org/10.1787/888932459850

In countries where the adult population generally has a high level of educational attainment, differences among age groups are less pronounced (OECD, 2011). For countries where a smaller percentage of the population has attained upper secondary education, the average gain in attainment between age groups is

typically large, but differs widely. In Iceland, the difference between 25–34 year-olds and 55–64 year-olds is 13 percentage points.

In comparison between countries vocational education appears to be particularly important where a large proportion of the population has an upper secondary education (ISCED 3/4). The following chart shows the proportion of 25–64 year-olds and 24–35 year-olds with an upper secondary education as their highest level of education.

Figure 5–35: Percentage of 25–64 year-olds and 25–34 year-olds whose highest level of education is vocational upper secondary and post-secondary non-tertiary, ISCED 3/4 (2009



Countries are ranked in descending order of the percentage of 25-64 year-olds whose highest level of education is vocational upper secondary and post-secondary non-tertiary, ISCED 3/4.

Source: OECD, LSO network special data collection on vocational education, Learnings and Labour Transitions Working Group, Table A7.6. See Annex 3 for notes (*www.oecd.org/edu/eag2011*).

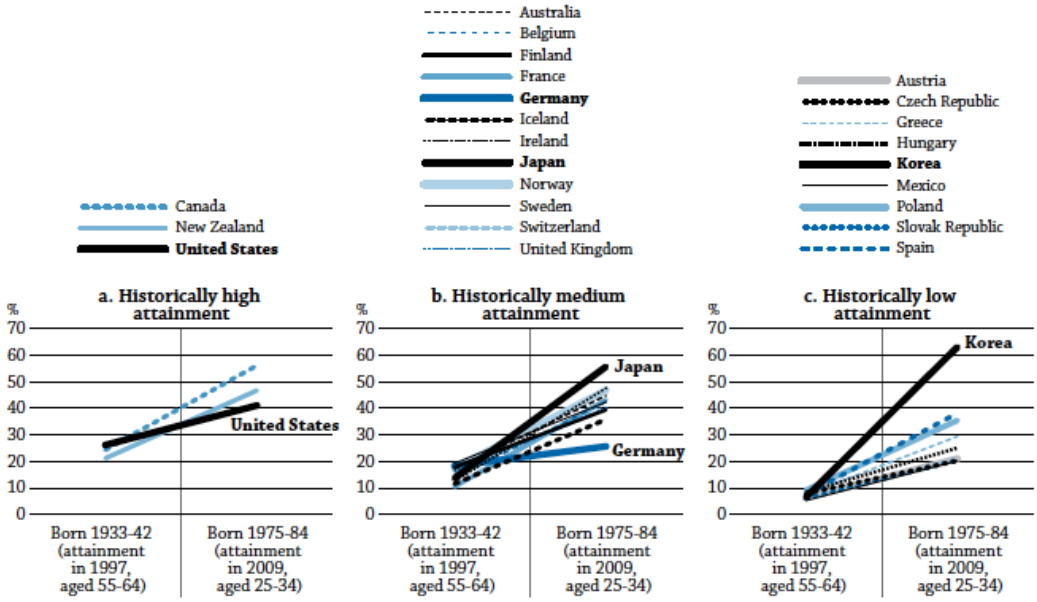
StatLink http://dx.doi.org/10.1787/888932459907

Vocational education has increased in importance among 25–34 year-olds in countries such as Greece, Italy and Portugal, while fewer young people in Iceland have chosen a vocational upper secondary education as compared to the population as a whole (the difference exceeds 5% points) (OECD, 2011).

5.4.2 Educational attainment of tertiary education

Iceland's progress on educational attainment at the tertiary level also measures at a medium level, from around 11% attaining tertiary education of the 55–64 age group in 1997 to an increased attainment of the 24–34 age group at around 36% in 2009.

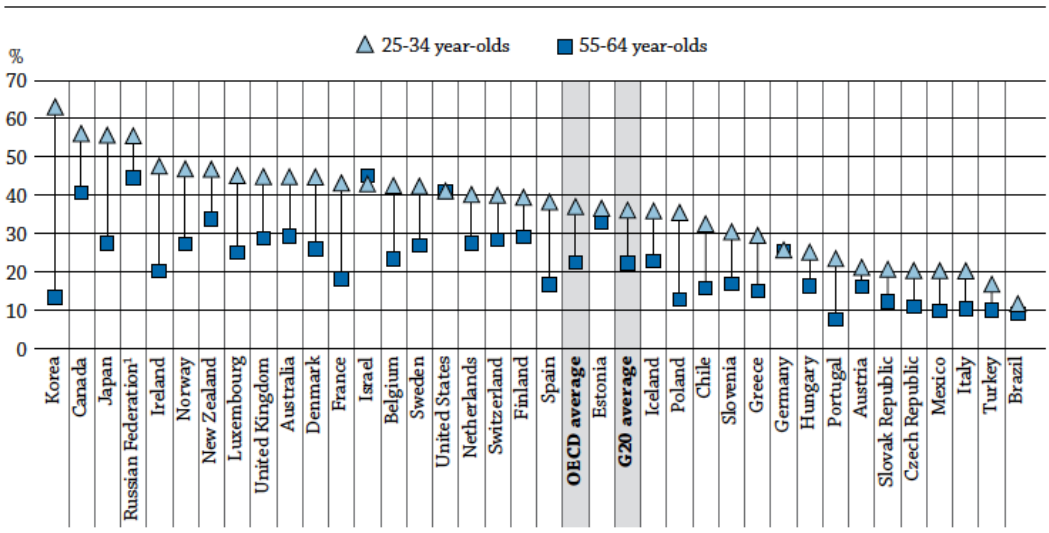
Figure 5–36: Progress in attainment of tertiary education over half a century, by country



Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2011*).
StatLink http://dx.doi.org/10.1787/888932479002

The numbers of students at the tertiary level have increased significantly in the last decade, especially at the MA and PhD level, but the educational attainment is still below the OECD and G20 average, at around 35% for 25–34 year-olds. The European 2020 target is 40% (Euroean Commission, 2012).

Figure 5–37: Percentage of population that has attained at least tertiary education by age group (2009)



1. Year of reference 2002.
Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained tertiary education.
Source: OECD. Table A1.3a. See Annex 3 for notes (*www.oecd.org/edu/eag2011*).
StatLink http://dx.doi.org/10.1787/888932459831

In a recent overview. Rannís – The Icelandic Centre for Research presents information on the percentage of the population that has attained tertiary-type B education (Rannís, 2011):

	Tertiary-type B education*					Tertiary-type A and advanced research programmes					Total tertiary					25-64 in thousands
Age	25-64	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64
Belgium	16	20	17	15	12	16	23	18	14	10	32	42	35	29	22	1.866
Denmark	7	8	8	7	5	27	35	29	25	21	34	43	37	32	26	998
Finland	15	5	20	19	15	22	33	24	17	14	37	38	44	37	29	1.052
Netherlands	2	2	3	2	2	30	38	30	28	24	32	40	33	31	26	2.871
Ireland	12	14	13	10	7	22	31	23	17	12	34	45	37	27	19	792
Iceland	**3**	**2**	**4**	**4**	**3**	**28**	**31**	**32**	**26**	**21**	**31**	**33**	**36**	**30**	**24**	**51**
OECD avera.	9	10	10	9	7	21	27	22	18	15	28	35	29	25	20	-
Norway	2	2	2	3	3	34	44	36	29	25	36	46	38	32	28	894
Switzerland	10	10	11	11	9	23	29	25	21	18	34	38	36	31	27	1.433
Sweden	9	8	8	9	9	23	32	24	19	18	32	41	33	28	26	1.541
Germany	9	6	9	10	9	16	17	17	16	15	25	24	27	26	24	11.315

Table 5–10: Percentage of the population that has attained tertiary-type B education or tertiary-type A and advanced research programmes, by age group (Type A – academic, Type B – vocational)

This reveals an imbalance in comparison to most of the other countries portrayed, as Iceland and Norway stand out with much lower percentages with tertiary-type B education.

Although level of education that an adult has completed may contribute to economic success, the measurement is imperfect, as different conditions in each country, with respect to knowledge and skills, standards for accreditation and access to lifelong learning, can affect the learning outcomes. Nevertheless, common indicators, like those developed by OECD within the INES project since 1988, have produced internationally comparable measures of educational performance, for instance on participation, resources and organisation in education, that are central to a process of improved understanding about outcomes of education and the skill analysis that many countries have entered into in their efforts of educational reforms.

6 Mix of Provisions

The mix of provision is determined differently at the upper secondary and post-secondary non-tertiary level, than in higher education at the tertiary level. Partly these are prescribed in relevant acts for the different education levels, and elaborated on in the main upper secondary curriculum guide, but other arrangements are decided on by the institution themselves in keeping with their working rules or school policy.

6.1 Mix of provision

6.1.1 Mix of provisions at the upper secondary and post-secondary level

The Upper Secondary School Act, No. 92, June 2008 (Alþingi – Icelandic Parliament, 2008) covers school activities at the **upper secondary and post-secondary level**. The act stipulates the appointment of *Occupational Councils* (Starfsgreinaráð) that advice the Ministry of Education, Science and Culture on labour market needs and the provision of courses in VET. They are appointed for four years at a time, for occupational groups or individual occupations. According to Regulation No. 711/2009 on the appointment and role of occupational councils, an individual council shall be appointed for each of the following occupational fields:

1. Building and construction
2. Transportation, vehicle and logistics
3. Health and welfare, pedagogical- and leisure services
4. Crafts and design
5. Culinary, hospitality and tourism
6. Metal, engineering and manufacturing
7. Electrical technology, electromechanical and electrical trades
8. Fisheries and navigation
9. Business and commerce
10. Beauty therapy and hairdressing
11. Environment and agriculture
12. Graphic media

Each Occupational Council is comprised of five to nine representatives out of which two to four shall be nominated by federations of employers, two to four by federations of employees from the relevant occupations and one representative jointly nominated by the Association of Icelandic Upper Secondary Schools and the Icelandic Teachers' Union. The role of the Occupational Councils is as follows:

a. To 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.
b. To devise criteria for division of study between school-based and workplace learning.
c. To make proposals regarding structure and content of examinations for individual occupations.
d. To keep a record of companies and workplaces that fulfil the requirements for providing workplace learning.
e. To make proposals for study programme descriptions for individual study programmes which upper secondary schools can use as guidelines, and
f. To provide the Minister of Education, Science and Culture with reference on study programme descriptions for vocational education and training whenever individual schools apply for confirmation from the Minister.

Occupational Councils can establish *Professional Councils* for each occupation or occupational groups, with representatives from individual occupations and vocational teachers and/or other specialists. The Professional Councils provide advice on innovation and development within the relevant occupational fields and put forward proposals on particular pilot projects and development projects. Occupational Councils shall formulate additional rules on activities of Professional Councils. Some Occupational Councils have already established these Professional Councils, which, among other tasks are assisting with definitions of competence requirements. Currently there are 14 Professional Councils in operation (Cooking and culinary arts, Waiting and bar services, Baking, Meat processing, Carpentry, Cabinetmaking, Furniture upholstering, Masonry, Wall and floor covering, House painting, Plumbing, Graphic design, Printing, Bookbinding) and three in preparation (Auto body building, Car spray painting, Car mechanics), according to Iðan fræðslusetur (Gray, 2012). The Occupational Councils should also seek opinion from occupational groups and professional associations, that do not directly participate in the work of the council, when their educational needs are being evaluated (Mennta- og menningarmálaráðuneytið, 2009c).

The Occupational Councils were first introduced with the 1996 Upper Secondary School Act, with the intention to enable labour market participation in policymaking and advice on development of vocational education (Appendix 8). They have been instrumental since 1998 in organising research on competency requirements, have contracted around 50 curriculum project, and in formulation of quality assurance measures, such as improvements of the work of journeymen's examination committees, apprenticeship committees, by developing handbooks and students' logbooks for workplace training.

The 2008 Upper Secondary School Act established an *Occupational Committee* (Starfsgreinanefnd), appointed by the chairs of the Occupational Councils, taking over the role of another coordinating committee The Vocational Learning Committee (Starfsnámsnefnd). The Occupational Committee has the role to act as an advising body to the Minister of Education, Science and Culture regarding

policy making and implementation of vocational education, to serve as platform for collaboration and coordination for the Occupational Councils and to provide opinion of categorisation and division of occupations between the Occupational Councils.

The Minister of Education, Science and Culture is responsible for the National Curriculum Guide and validation of school curriculum guide and study. The Minister is also responsible for providing support for developmental work in upper secondary schools and for development of instructional material.

The Icelandic Curriculum Guide for Upper Secondary Schools – General Section was published in 2011 (Mennta- og menningarmálaráðuneytið, 2011c). It contains the frame and conditions for learning and teaching and within this frame six fundamental pillars have been developed which form the essence of the educational policy. They include the working methods, content and the learning environment at every school level and form an important continuity in the Icelandic educational system. These pillars are literacy, sustainability, health, and welfare, democracy and human rights, equality and creativity. These are starting to affect the current provision through the approximately 35 curriculum proposals that have been sent to the Ministry of Education, Science and Culture, since the effectuation of the 2008 Upper Secondary School Act started.

Public upper secondary schools do not need special accreditation. The Ministry can provide schools, other than public schools, with accreditation to carry out instruction at upper secondary level. Such schools can be run as non-profit organisations, limited public companies or as other types of accepted legal entities. The condition for accreditation concern the following:

a. Role and objectives of the school
b. Administration and organisation
c. School curriculum guide and study programme descriptions
d. Organisation of teaching and learning
e. Personnel qualifications requirements
f. Admission requirements for pupils
g. Pupils' rights and duties
h. Working conditions for teachers and pupils as well as their support structures
i. Internal quality management system
j. Finances and insurances

The Minister of Education, Science and Culture can seek the opinion of Occupational Council regarding certification requests from upper secondary schools.

A school that has received accreditation is autonomous as far as regards school operations and activities, but accreditation does neither incur a commitment on behalf of the authorities for financial contribution out of the State Budget to the corresponding upper secondary school, nor any responsibilities for the school's commitments, which has to be approved by the school board. The upper

secondary schools enter into a three-year contract with the Ministry of Education, Science and Culture, which is revised once per year. This contract stipulates the number of students the school can accept and in that way conditions its budget and resources. Any changes, reductions or increase in student numbers have to be negotiated with Ministry officials.

Schools can create *proposals for new programmes* at the upper secondary level (even jointly with other schools) and a plan for their implementation, but are dependent on accreditation from the Ministry to run them. Study programme descriptions shall be organised according to provisions in the general section of the National Curriculum Guide and the school curriculum guide of the relevant school. *Study programme descriptions* shall stipulate the content and relevancy of course units within individual subjects, study coherency, relevancy of study programme components and learning outcomes. They shall determine minimum number of course units and credit units in individual subjects, as well as the main content of the study. The upper secondary schools may offer study programmes organized in continuation of defined study completion at upper secondary level (post-secondary education). The Minister of Education, Science and Culture needs to confirm study programme descriptions for such studies and the title of the study degree in question. Upon confirmation from the Minister, the description of the upper secondary school study programmes becomes part of the upper secondary school National Curriculum Guide. The Minister may issue study programme descriptions that can serve as guidelines for individual upper secondary schools in their work. Such study programme guidelines are then part of the upper secondary school curriculum guide and may cover the following study programmes:

a. *Vocational study programmes* leading to professional rights including the Journeyman's certificate.
b. Study programmes leading to matriculation examination.
c. Other study programmes leading to defined final examinations according to Minister decision.

The Minister of Education, Science and Culture may designate an upper secondary school as a *core school* in a particular field for a certain period of time. A core school shall take the initiative in developing instructional material, study structure and instructional methods and shall assist other upper secondary schools and companies in improving instruction and training in the relevant field.

The National Curriculum Guide for Upper Secondary Schools is divided into two parts, general part and descriptions of study programmes. Each school, furthermore, issues a school curriculum guide, of the same structure, which has to be confirmed by the school board. In addition, many upper secondary schools operate *professional councils* in various fields of study, which act as an advisory body, contacts with the labour market and an extra quality assurance effort in the relevant disciplines.

The Occupational Councils did *review learning outcomes* in 2011 for

approximately 60 fields of study, with reference to competencies, and argued for their positioning at levels within the IS-NQF (National Qualification Framework). The main tasks for the occupational councils in 2012 is to define the competence requirements for the occupations in their fields clear enough to guide the schools in their work on development and descriptions of individual VET programmes (Mennta- og menningarmálaráðuneytið, 2011f).

6.1.2 Mix of provisions at the tertiary level

Two acts cover *higher education*, The Higher Education Act, No. 63, from 2006 (Althing – Icelandic Parliament, 2006) and The Act on Public Higher Education Institutions, No. 85, from 2008 (Althing – Icelandic Parliament, 2008a). The former applies to private higher education institutions (Reykjavik University, the Icelandic Academy of the Arts and Bifrost University), but the latter to the public higher education institutions (the University of Iceland, the University of Akureyri, the Agricultural University of Iceland and Holar University College). Universities are independent higher education institutions under the auspices of the minister and have autonomy regarding to its activities, apart from provisions otherwise stipulated in Acts, regulations or other official edicts on the operations of higher institutions.

The seven higher education institutions all receive accreditation acknowledging that their teaching and research activities are in keeping with the law and in accordance with international standards. The accreditation is limited to certain fields of study and sub-fields, for which the institutions can offer study programmes (Mennta- og menningarmálaráðuneytið, 2006). The higher education institutions have to apply to the Minister of Education, Science and Culture for accreditation of new fields of study and report if they wish to discontinue particular fields of study. The Minister appoints three independent individuals to a committee, which provides review for accreditation regarding particular fields of study (Althing – Icelandic Parliament, 2006).

The *provision of courses* has to be in keeping with the National Qualification Framework which is a systematic description of degrees and diplomas, with emphasis on general description of learning outcomes and competences, which students shall have acquired at each level of study. The criteria shall include the requirements, which higher education institutions are obliged to fulfil for every education level. Higher education institutions are required to issue comparable learning outcomes descriptions, for every study programme, both in Icelandic and English. A full study programme normally consists of 60 credits per study year and concludes with a degree or other final diploma.

The *number of students per courses* in general is decided on by the higher institution itself, but must be in keeping with a contract that the institution enters into with the Ministry of Education, Science and Culture. This contract is revised every year. The institution's finances are regulated by number of students of the

last three years, and revision of the student numbers covered by the contract gets modified on the basis of the numbers of new entrants and particular circumstances relating to each institution.

The exception to provision of courses are *preliminary study programmes* for individuals that do not meet with admission requirements (Frumgreinanám), which the higher education institutions can offer, with the consent of the Ministry of Education, Science and Culture. The courses of these programmes are really closer related to upper secondary level, than higher education level on which it is offered. This option was originally perceived as a particular measure for a few VET students that planned further studies at tertiary level, but has become more popular in recent years and student numbers attending these programmes have risen considerably. It does, however, not really count as vocational education, as its contents are more of a general education, in preparation for university entrance.

6.2 Stakeholders

The 2009 Regulation on the work of Occupational Councils outlines the nomination of representatives, their role and categorisation of occupations (Mennta- og menningarmálaráðuneytið, 2009c). The guiding rule of nomination is equal numbers of employees and employers. The nominees and stakeholders are, apart from different ministries: The Icelandic Confederation of Labour, The Confederation of Icelandic Employers, The Federation of Icelandic Industries, The Association of Icelandic Upper Secondary Schools, The Icelandic Teachers' Union, Federation of State and Municipal Employees, The Association of Local Authorities in Iceland, The Farmers Association of Iceland and societies and unions, such as Bílgreinasambandið – Association of Car Suppliers, Félag skipstjórnarmanna – The Union of Marine Captains, Félag íslenskra snyrtifræðinga – The Union of Icelandic Beauticians and Blaðamannafélag Íslands – The Icelandic Journalist Association.

A recent report on the policy and practice of Occupational Councils (Thorarensen & Gylfadóttir, 2011) suggests that additional stakeholders should take part in the discourse on vocational learning at the upper secondary level, such as companies and master tradesmen, service institutions in vocational education (Iðan – Educational Centre and FRAE – Education and Training Service Centre), as well as the students themselves, that were not counted as stakeholders in the 2008 act. The upper secondary level student organisations is SÍF – Samband íslenskra framhaldsskólanema, The Association of Icelandic Students at the Upper Secondary Level and at the tertiary level various student organisation are in operation, such as The Association of Students at the University of Iceland and The Association of Students at Reykjavík University.

Most of the stakeholders at the upper secondary level can also be considered to have interests at the higher education level. Apart from the stakeholder accounted for in the acts on higher education, numerous companies, professional unions and

associations can become stakeholders in higher education and take part in its activities, as advisors in programme development and programme evaluation, either formally, as participants in professional councils at institutions or universities, or informally by suggesting and temporarily advising on education in their field or discipline.

7 Workplace Training

Vocational education (starfsnám) and workplace learning (vinnustaðanám) are based on general provisions on work based training (starfsþjálfun) in the National Curriculum Guide (Alþingi – Icelandic Parliament, 2008).
Much of vocational education in Iceland takes place both at school and in the workplace and a considerable part of the learning consists of students' practical training, practicing methods and work procedures. The training will occur partly at school during practical, specialised learning, under the guidance of a teacher, and partly in workplace learning and training in the workplace. Training contracts shall clarify the objectives and quality requirements of the workplace learning and training in question and stipulate the rights and duties of the employer, school and apprentice/trainee.

7.1 Workplace learning and workplace training

The curriculum guide defines the concepts workplace learning (vinnustaðanám) and workplace training (starfsþjálfun á vinnustað), stating that in workplace learning, in general, more demands are made on purposeful, organised instruction and supervision than in training (Mennta- og menningarmálaráðuneytið, 2011c). During workplace training the emphasis is on the opportunities for students to get further training of work procedures and work processes for which they have already had some instruction. It is presumed that students are able to act in a more responsible and independent way during workplace training than during workplace learning.

7.1.1 Development in workplace training 2001–2010

Workplace training has been subject to changes in the last decade. Increasingly, students in various programmes have had difficulties finding a company to complete their workplace training part of their VET programmes. The numbers of students in workplace training have come down from 843 places to 355 places on a yearly basis during the period 2001–2010:

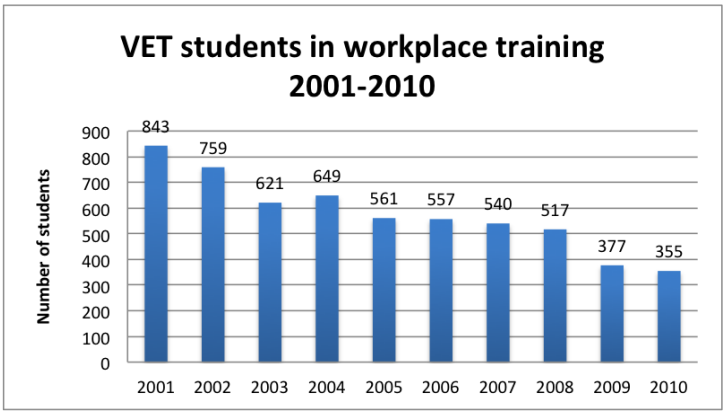


Table 7–1 : VET students in workplace training 2001–2010
Source: Statistics Iceland, 2011.

This development has been counteracted with government financial initiatives, starting in 2011, offering companies financial support to offer workplace training to students in their field. Applications were received from 65 companies and around 170 students were offered a place. The act announced the launch of a fund to assist companies and institutions in this way (Mennta- og menningarmálaráðuneytið, 2012b) and the government committed to a provision of 450 million ISK towards this end during the years 2012–2014.

Simultaneously, discussions have been opening up on the role and organisation of workplace training, its duration and whether training time could be spent with more than one company. Actions have been taken to introduce logbooks for the apprentices and handbooks for the apprenticeship committees, which should further strengthen workplace learning. A regulation was set in 2011 to further stipulate the arrangement and organisation of workplace learning and training (Mennta- og menningarmálaráðuneytið, 2011e). Initiatives by individual employers and companies have also indicated that more could be done to develop learning in the workplace and find alternative routes that could be aligned with school studies.

7.2 Quality Assurance in Workplace Training

Traditionally journeyman's examination committees, appointed by the Minister of Education, Science and Culture, have arranged for examinations and final testing of students' knowledge, skills and competences towards the end of their study period. The arrangements for the examination are set by the Ministry on recommendation from the Occupational Councils as stipulated in the regulation on journeyman's examination (Mennta- og menningarmálaráðuneytið, 2009d). The journeyman's examination committee conducts the examination, usually held once a year if participation is sufficient, and returns a report to the Ministry of Education, Science and Culture.

Recently, measures have been taken to improve various aspects of workplace learning. Since 2009, the Occupational Councils received an introduction on making of *journeyman's examination handbooks* at the Iðan – Educational Centre, which operates as a service centre for almost half of the councils. The journeyman's examination handbook states the role and obligations of the members of journeyman's examination committee and the preparation, organisation and execution of the journeyman's examination. It also contains a description of examination subjects and assessment methods of the committee. Iðan follows a quality plan based on EQM (European Quality Mark) in this work. To date, 28 trades have completed work on the journeyman's examination handbooks that will be tested and amended during the next examination phase.

Other quality assurance practices are the introduction of *Apprenticeship Committees* and *student logbooks* that record the student's progress during workplace training.

The apprenticeship committees are nominated at the request of the Occupational Councils and appointed by the minister of education for four years (Menntamálaráðuneytið, 2002a). The apprenticeship committees, that now number 21, handle applications from companies or individual master tradesmen, which apply for a permission to offer workplace training to students in the certified trades. The Ministry issues the permissions on the basis of the decisions of the committees. The apprenticeship committee makes sure that the company or master tradesman meets the conditions required (Mennta- og menningarmálaráðuneytið, 2011e). Handbooks for apprenticeship committees are available or in preparation (Appendix 17[25]). These handbooks define the role companies and institutions play in education of vocational students, such as the conditions that have been met for workshops, equipment, projects and workforce, especially demands/requirements that are made upon trade masters or personnel in charge of guidance or training of students in the workplace (Gray, 2011). Student logbooks describe the purpose, objectives and learning tasks of workplace learning, and they define roles and obligation of VET students, master of the trade or the company.

Various other activities support quality improvements in workplace learning, like participation in international projects such as GEMS (Guidance for educators, Mentors and Students) and student exchanges.

[25] Appendix 17: Workplace Learning: handbooks – status of execution, March 2012.

8 Access Routes, Second Chance Opportunities and Equity

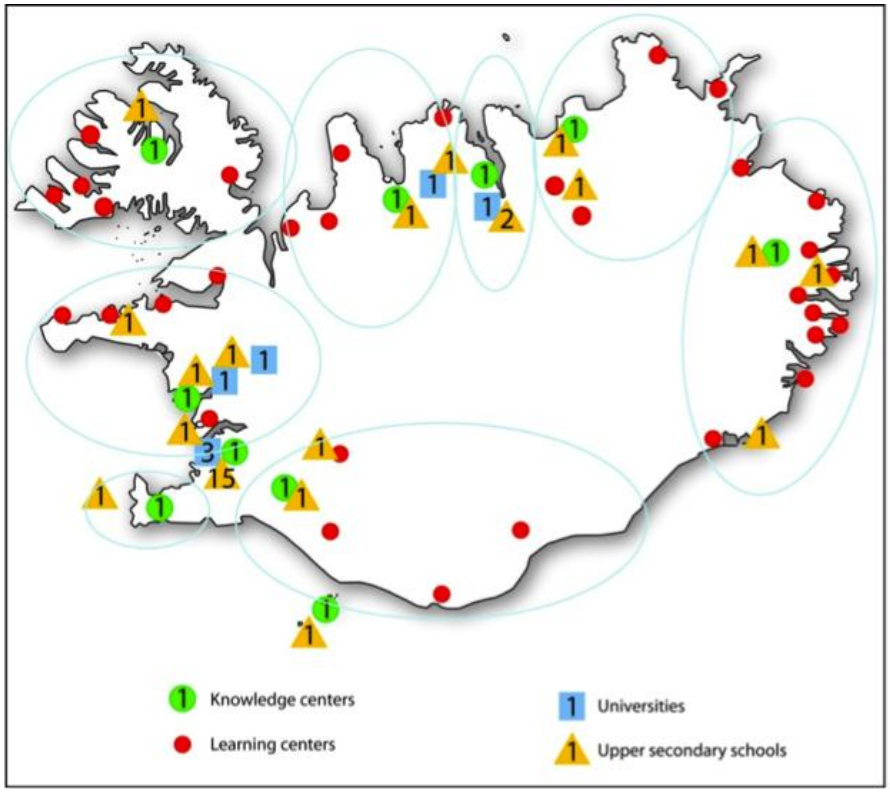
In the period 2001–2010 access to education has steadily become more open, second chance opportunities have become more varied and equity increased. Since 2005 the Ministry of Education, Science and Culture has rarely restricted access to education, except on grounds of limited resources and finance – although there are individual examples of restrictions of student numbers in certified trades and numerus clausus being employed, mainly in certain programmes in higher education. A steady increase in the percentage of students enrolling at the upper secondary level, testifies to this openness. In 2001 around 92% enrolled at the upper secondary level, but in 2010 around 97% of the cohort did enrol at this level. The policy of inclusive education for students with disabilities or special needs, which was manifested in the 2008 Compulsory School Act, has had the impact to increase services for these students groups, not only in the compulsory school, but also at the upper secondary level and in higher education.

8.1 Access routes in education

8.1.1 Access at Upper Secondary Level

Anyone who has completed compulsory or equivalent education, or has reached the age of 16, is entitled to enrol for *upper secondary education*, in an upper secondary school and has the right to study until the age of 18 (Alþingi – Icelandic Parliament, 2008). Each upper secondary school is responsible for admission of students. The upper secondary schools can place specific demands for enrolment in individual study programmes regarding preparation and study results. The Ministry of Education, Science and Culture issues a regulation, stating the priority that should be given to students on enrolment, mostly determined by students' age and circumstances (Ministry of Education, 2012).

Figure 8–1. Distribution of universities, upper secondary schools, knowledge centres and learning centres in Iceland, 2011.



Source: The Ministry of Education, Science and Culture, 2010. Note : knowledge centres =lifelong learning centres. Learning centres = Annexes for lifelong learning centres in the respective regions.

The distribution of upper secondary schools around the country ensures accessibility, to a great extent, to general education at the upper secondary level, but access to specific studies, such as to several vocational study programmes, often requires students to move to a more densely populated area, at the age of 18 or earlier, if he/she wants to enrol in a programme of choice or to continue studying.

The upper secondary schools can participate, and organise courses for adults, in an operation of a lifelong learning centre in partnership with local authorities, professional associations, trade unions, employers' associations or interest groups (Alþingi – Icelandic Parliament, 2008).

8.1.2 Access at the post-secondary non tertiary level

Access routes to *post-secondary non tertiary education* differ somewhat, according to fields of study. In some cases, only a qualification from the ISCED 3 level (upper secondary school level) is required, but in others, such as access to the master of trade programmes, students will need an additional year of work experience after completion of the journeyman's exam. The same applies to marine engineers and marine captains. An additional sea time is required to

proceed with their further education at the post-secondary level (Stefánsdóttir, 2008). The framework of the law is somewhat unclear, both on access routes and qualifications and the continuation of studies in higher education. This creates uncertainty of the status of the education provided at the post-secondary level and of possibilities for further higher education.

8.1.3 Access at the tertiary level

The students enrolling in higher education institutions must have completed matriculation examination from an upper secondary school or equivalent final examination. The law stipulates that a higher education institution can accept students that possess equivalent level of maturity and knowledge as assessed by the higher education institution (Althing – Icelandic Parliament, 2008a). Also, it must be ensured that the higher education institution admission requirements and study standards correspond to those demanded in accredited higher education institution within similar fields in other countries. The higher education institution may set specific admission requirements, like requiring student to pass an entrance examination or an assessment examination. Higher education institutes can also, with the consent of the Ministry of Education, Science and Culture, offer preliminary study programme for individuals that do not meet with admission requirements.

The number of students attending each course is decided on by the higher institution itself, but must be in keeping with a contract that the institution enters into with the Ministry of Education, Science and Culture. This contract gets revised every year. The institute's finances are regulated by number of students of the last three years, and revision of the student numbers covered by the contract gets modified on the basis of the numbers of new entrants and particular circumstances relating to each institution.

8.2 Second chance opportunities

Second chance opportunities in education are mainly offered by four types of providers: 1) adult education centres, 2) traditional providers of continuing education and various labour market bodies, 3) upper secondary schools 4) vocational rehabilitation programme providers, supported by local authorities, welfare institutions and the Directorate of Labour. There is a considerable variety of programmes on offer for people that did not continue their education after compulsory schooling or for those that have dropped out of the upper secondary school system.

8.2.1 Second chance opportunities – Upper secondary education

Adult education has increasingly offered more second chance opportunities during 2001–2010, as a result of initiative from labour market stakeholders, which culminated in a new legal framework in 2010 and a service agreement with the Ministry of Education, Science and Culture. *The Education and Training Service Centre* and 14 *learning/training centres* (Fræðslumiðstöð Atvinnulífsins, 2012a)

around the country provide career and advisory services to their clients (those who have not completed the upper secondary level of education), courses in general and vocational education and real competence evaluation. Various course providers, such as municipalities, companies, unions and private short course providers add to the variety of courses and second chance opportunities.

People wanting to re-enter upper secondary education have several options. Traditionally, all, from the age of 18, have been able to enter *adult classes* (öldungadeild) at upper secondary schools that offered such classes. *Distance education or distributed learning* have been attracting more students lately and provide an important opportunity for many mature students to gradually add to their knowledge and skills at the upper secondary level, while working. Other students prefer to attend daytime courses, part-time, or to take up formal studies again at this level. The upper secondary schools have operated on the principle of giving priority for places to students under the age of 25, but adult learners are welcome, provided they satisfy conditions for entry and enjoy, increasingly, more flexibility to start and continue their studies.

In the wake of the recession, various actions were introduced to combat its effects. The measures included opening up the upper secondary schools, offering re-education opportunities to the unemployed, creating a development fund to improve vocational education, increasing cooperation of schools and businesses of the labour market on vocational education, revising law on the student loan fund, increasing flexibility between upper secondary schools and adult education and giving extra support to career-education and creating a fund for workplace learning.

In the early months of 2011, a new *project for the young unemployed* – "Education is a work process" (Nám er vinnandi vegur) was launched, in cooperation of stakeholders in the labour market with government. The main objective of the project is to open access to upper secondary schools for the unemployed and students under the age of 25, to strengthen vocational education and to increase co-operation between schools and industry. The boundaries between the formal upper secondary school system and adult education system were made more flexible and school guidance more accessible with increased funding from the government.

Just below 1500 students registered in 19 schools for this scheme in autumn 2011 (Kristjánsdóttir, 2012). The drop-out in the first term was 21,37% and 15,21% discontinued their studies, a third of the original group. The most common reasons were mental illnesses, with emphasis on depression and anxiety. Many students reported financial problems and were working alongside their studies, which impacted their learning and contributed to drop-out.

8.2.2 Second chance opportunities – Post-secondary non-tertiary education

Post-secondary education offers mostly further education for students that have graduated from vocational programmes at the third level. For students that have been active on the labour market this level may offer second chance opportunities, as the programmes at this level are relatively open and work experience is valued on entrance to the programmes. They are, however, not offered in all upper secondary schools or higher education institutions and this limits the accessibility.

8.2.3 Second chance opportunities – Tertiary education

In practice the universities exercise different policies regarding access and enrolment. Some offer students with vocational qualification place at the university without requiring the additional student examination. Others require students to satisfy entrance requirements by taking entrance exams and even evaluate their former studies at the upper secondary level, combined with work experience that is relevant for their future studies. Others, like Reykjavík University, Bifröst University and Keilir, offer a university preparation programme (frumgreinanám), which content is really at the upper secondary level and prepares the students for further education at a university. This programme is somewhat at odds in the educational system, because it does not fall under the 2008 Upper Secondary School Act or the Main Curriculum Guide, and does not conclude with a formal vocational, upper secondary level qualification or matriculation exam. This form of university bridge has a history of 50 years and in autumn 2011 around 640 students were registered at such departments in RU, Bifrost University and Keilir (Ríkisendurskoðun, 2012).

8.3 Equity

The 2009 Upper Secondary School Act states that the objective of the upper secondary schools is to encourage the overall development of all pupils and encourage their active participation in democratic society by offering studies suitable to the needs of each pupil. It also puts emphasis on skills in the Icelandic language, development of moral values, sense of responsibility, broadmindedness, initiative, self-confidence and tolerance, critical thought and appreciation of cultural values. The main curriculum guide puts an emphasis on integral educational policy and that schools should make an effort to operate according to the status and individual needs of children and youth. The fundamental pillars of the educational policy, introduced in the main curriculum, put special emphasis on *multimodal literacy*, *sustainability*, *health and welfare*, *democracy and human rights*, *equality* and creativity, most of which contribute to increased equity in education.

The fundamental pillars have references to other Icelandic laws, such as the Act on Equal Status and Equal Rights of Women and Men and take consideration to international conventions to which Iceland is a party, for example the UN

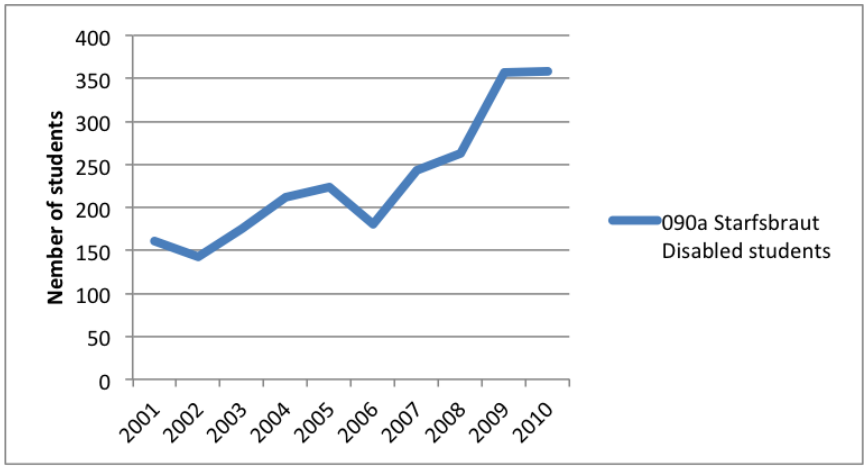
Convention on the Rights of the Child, and the policy of international institutions, such as the UNESCO policy on general education and sustainable development and the Council of Europe's policy on democracy and human rights.

8.3.1 Disabled students and students with special needs

Disabled students in upper secondary schools are entitled to teaching, special service and support in learning (Mennta- og menningarmálaráðuneytið, 2012g). It is the responsibility of each headteacher to evaluate the needs of disabled students and to organise the support in cooperation with teachers and school staff. The 1996 Upper Secondary School Act first granted the Minister of Education permission to establish programmes for disabled students at the upper secondary level. In many upper secondary schools, special programmes (starfsbraut) have now been established that provide education to disabled students, according to a categorisation of special needs for teaching (Mennta- og menningarmálaráðuneytið, 2012a) and a special curriculum for disabled students. These programmes are subject to an agreement and a contract with the Ministry of Education, Science and Culture. Special needs education programmes are classified as vocational education at the upper secondary level of education.

A curriculum for special needs education (starfsbraut) was published in 2000 (Menntamálaráðuneytið, 2000). It stipulated two years of teaching and three paths in special programmes at the upper secondary level, where art, practical subjects, vocational subjects and workplace training, were substantial part of learning. A reformed curriculum was published in 2005 (Mennta- og menningarmálaráðuneytið, 2005), that informed of the availability of a four year programme in special education. The students can graduate after a two years study programme and then progress to a two-year work related programme, where it is on offer.

Figure 8–2. Number of disabled Students registered at the Upper Secondary Level, 2001–2010.



Source: Statistics Iceland, 2011.

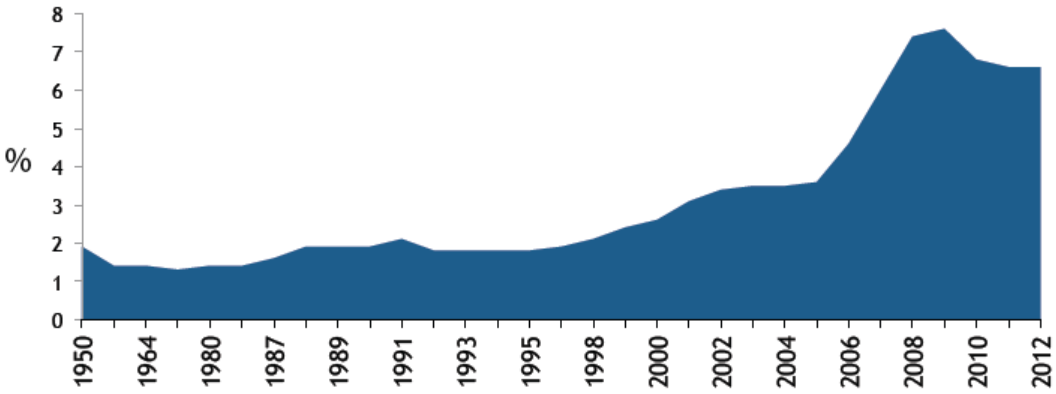
It appears that the effect of the new arrangement, introduced by the 2005 curriculum, had immediate impact to increase the availability of places and service to disabled students, as the their numbers at the upper secondary level have risen steadily since 2006.

A pilot programme to provide extended support for 24 disabled students when they graduated from upper secondary school started in 2004 (Björnsson, 2007). The project partners were a support group, *Atvinna með stuðningi*, from the regional office for the disabled in Reykjavik, and the upper secondary schools, Borgarholtsskóli (comprehensive) and Iðnskólinn í Reykjavík (vocational). The project involved instruction, while still in school, workplace training in 2–3 places and a job search, when graduating. The pilot project greatly increased the possibilities of these students in finding work, improved their quality of life and fostered independence. Although the outcome was positive, no further developments have been planned to make use of the findings. It could be argued that financing a support action like this could make the individuals more able to support themselves, instead of them receiving financial support from the community.

8.3.2 Immigration and students of foreign origin

Although the number of non-citizens and persons of immigrant origin residing in Iceland is relatively small by European standards, there has in recent years been a significant increase in foreigners moving to the country. In the beginning of 2012 there were 20.957 foreign citizens resident in Iceland, that is 6,6% of the total population (A. K. Jónsson & Arnardóttir, 2012).

Figure 8–3. Percentage – foreign citizens of the total population in Iceland, 1950–2012.



Source: (A. K. Jónsson & Arnardóttir, 2012)

The percentage of students of foreign origin in the educational system has risen accordingly. In pre-compulsory education 9.6% of children had a foreign language background in 2010. In 2011, 7,6% of children in the compulsory school had a foreign language as a mother tongue. Proportion of students of other nationalities studying at the upper secondary level has doubled (2010 – 2,28%), has remained constant at the post-secondary level (2%), but increased considerably at the tertiary level, to 6% at the first stage and especially at the second stage of tertiary education, where 23% of students are of foreign origin in 2010.

Students by Nationality, 2001-2010 - Upper Secondary Education

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	20863	21363	21890	22603	23345	24463	25090	25590	26364	25168
Icelandic	20620	21054	21565	22252	22974	24045	24585	25091	25769	24594
Other nationalities	243	309	325	351	371	418	505	499	595	574
% Other nationalities	**1,16%**	**1,45%**	**1,48%**	**1,55%**	**1,59%**	**1,71%**	**2,01%**	**1,95%**	**2,26%**	**2,28%**

Students by Nationality, 2001-2010 - Post Secondary Education

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	399	553	577	713	784	886	1068	1160	969	990
Icelandic	391	550	569	698	764	864	1046	1148	957	971
Other nationalities	8	3	8	15	20	22	22	12	12	19
% Other nationalities	**2%**	**1%**	**1%**	**2%**	**3%**	**2%**	**2%**	**1%**	**1%**	**2%**

Students by nationality, 2001-2010 - First Stage of Tertiary Education

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	11447	13302	14849	15245	15686	15647	16394	16662	17738	18367
Icelandic	10977	12726	14183	14568	14951	14866	15598	15772	16723	17240
Other nationalities	470	576	666	677	735	781	796	890	1015	1127
% Other nationalities	**4%**	**4%**	**4%**	**4%**	**5%**	**5%**	**5%**	**5%**	**6%**	**6%**

Students by Nationality, 2001-2010 - Second Stage of Tertiary Education

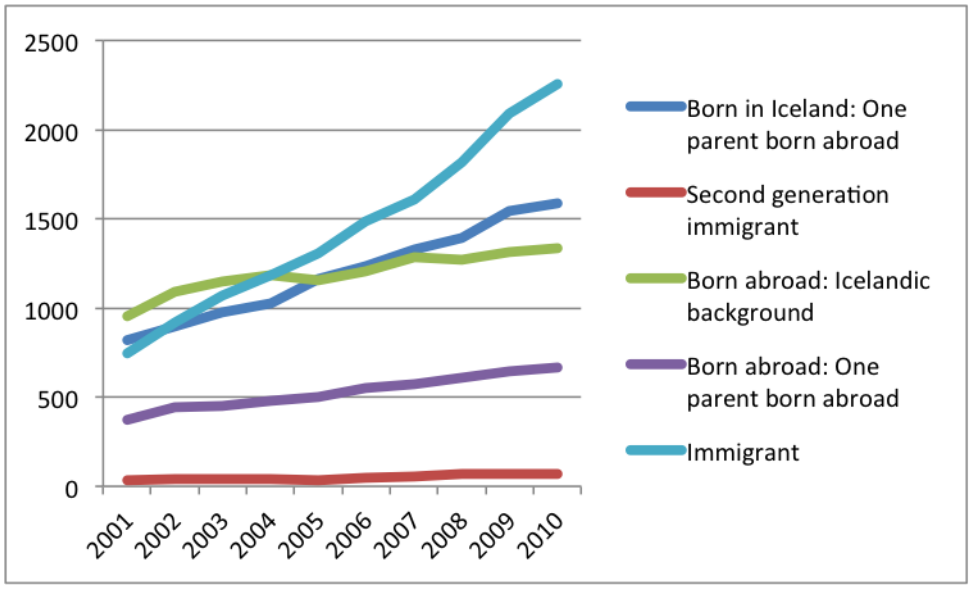
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	38	45	51	134	156	201	264	282	313	478
Icelandic	36	41	44	117	137	172	218	217	248	366
Other nationalities	2	4	7	17	19	29	46	65	65	112
% Other nationalities	**5%**	**9%**	**14%**	**13%**	**12%**	**14%**	**17%**	**23%**	**21%**	**23%**

Table 8–1. Percentage of Students of other Nationalities at the Upper Secondary, Post-secondary and Tertiary Levels, 2001–2010.

Source: Statistics Iceland, 2011

The number of students of foreign origin at the upper secondary, post-secondary and tertiary levels has increased markedly in 2001–2010, the greatest increase is in the immigrant group, but considerable increase can also be observed in numbers of students born in Iceland with one parent born abroad and in the group of students which are born abroad, but with an Icelandic background.

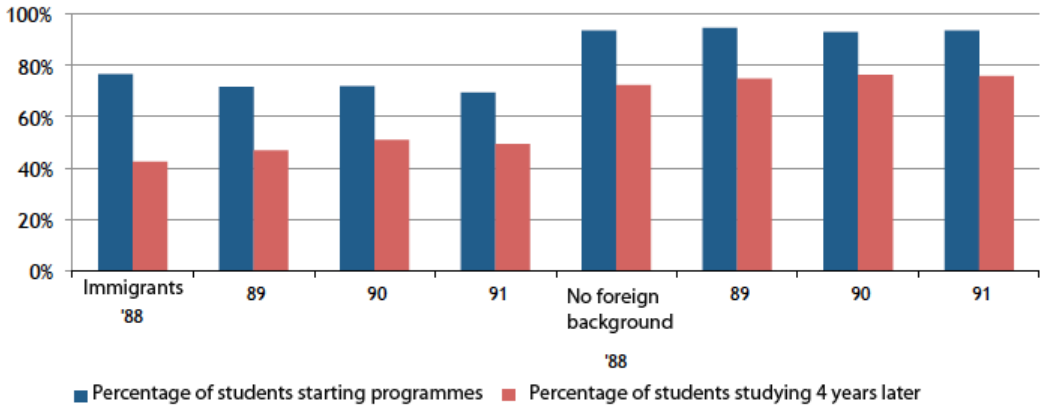
Figure 8–4. Number of Students of Foreign Origin at the Upper Secondary, Post-secondary and Tertiary Levels, 2001–2010.



Source: Statistics Iceland, 2011

School enrolment of students with an immigrant background in the upper secondary school is 80%, compared to 96% of students with a non-foreign background. Students with a foreign background are at greater risk of dropping out of the upper secondary school and need support.

Figure 8–5. Drop-out – Students born '88–91, Immigrants and students with no foreign background



Source: (A. K. Jónsson & Arnardóttir, 2012)

Since 1999 students with other mother tongue than Icelandic or have been resident abroad for a considerable time, have been able to apply for studying Icelandic according to a special curriculum (Menntamálaráðuneytið, 1999c). In 2007, the Government adopted its first ever Policy on the Integration of immigrants (Ministry of Social Affairs, 2007) and in 2008 developed an Action Plan on immigrant issues (ECRI, 2012). A general anti-discrimination bill is being

prepared, which will prohibit, among other grounds, discrimination based on "race".

A regulation from 2009 on student's right to get education in Icelandic at the upper secondary school level (Mennta- og menningarmálaráðuneytið, 2009b) stipulates that upper secondary schools shall create a reception plan (móttökuáætlun) for students with other mother tongue than Icelandic. This is being implemented in some larger upper secondary schools in the Reykjavik area, such as the Technical College Reykjavík (Tækniskólinn), the Comprehensive Upper Secondary School at Armuli, Breidholt College and Borgarholtsskóli operate a special programme for students of foreign origin. A curriculum guide: Icelandic for students of foreign origin, for adult education, was issued in 2008 (Menntamálaráðuneytið, 2008). Considerable funds have been provided on annual basis to adult education and training providers to give courses according to this curriculum guide (247 million ISK in 2008 and around 100 million each year for 2009–2012). A more detailed information on provisions in Icelandic schools for immigrant families and students are reported in a project report on Iceland – Immigrant Pupils with Special Educational Needs: Cultural Diversity and Special Needs Education (Daníelsdóttir, 2008).

9 Transition to the Labour Market

Returns to different types of education are not well documented in Iceland, data is not easily accessible or available, such as on the return of various qualifications of education. Much of the return of education research focuses on the private returns of education in the form of wages, but some attention has also been given to the social return on education, such as lower criminal activity, increased social cohesion, better health, informed citizens, provision of public goods (S. Blöndal, 2002) or increased social equality, which can impact economic growth in a positive way (Gylfason, 2001).

The 'value' of education is not only reflected in the income of individuals but also in the probability of finding employment. It is therefore useful to observe data on employment and unemployment to find out about other aspects of return of education, such as employment and unemployment of occupational groups, early school leaving and education of the unemployed.

9.1 Return on education

A few Icelandic research reports on return of education are available. The Institute of Economic Studies at the University of Iceland (Hagfræðistofnun, 2012) conducted a research in 1992 on the national return of university education, commissioned by The Icelandic Student Loan fund (Hagfræðistofnun, 1992). A report, *Menntun, mannauður og framleiðni* (Education, human capital and productivity), was written for the Minister of Education in 1997 (Herbertsson, 1997).

A more recent research is *Arðsemi menntunar á Íslandi* (*Returns on education in Iceland)* which was carried out in 2004 at the Institute of Economic Studies (Bentsson & Ásbjörnsson, 2004). At the University of Akureyri a student research project *What is the impact of education on people's salaries?* was carried out in 2006 *(E. D. Björnsdóttir, 2006)*. Finally, the Association of Academics (Bandalag háskólamanna, 2012) commissioned the research *Ævitekjur og arðsemi menntunar* (Life earnings and return on education) in 2010 (Eyjólfur Sigurðsson, 2011).

The research *Arðsemi menntunar á Íslandi* (Bentsson & Ásbjörnsson, 2004), published in 2004, evaluated the return of upper secondary education and tertiary education of men and women in Iceland. It calculated the private (the financial gain minus costs of learning to the individual, as well as the social returns of learning. The results were compared to an OECD evaluation of return on education and former research results. The main finding was that university

education of women gave the highest return, nearly 11%. Next in return was the upper secondary education of men, which returned 7% on average. The university qualification of men returned on average 5,5% and upper secondary education of women returned just over 4%. Risk of unemployment and changes in taxation were mentioned as the strongest influence. Decreasing probability of unemployment combined with increase in education added to return of education, but higher taxation with increase in salaries reduced the return on education. The report also discusses the returns of individual occupational groups. A comparison between private return and social return indicated that there was no great difference between the two categories, social return was slightly lower, but not significantly, so as to recommend that government would increase or reduce its support of education.

In comparison with data from 10 OECD countries the return on upper secondary education in Iceland is low, especially for women. The difference in unemployment risk and taxation between Iceland and the OECD group is a determining factor for the difference. The authors state that Iceland was the only country where social return on education was higher than the private return. In all the OECD countries this was in the reverse, and these findings reflect the fact that public costs of education is higher than the costs of the individuals. They claim that the state took such a big share of the increased earnings which secondary education brought, that the individuals that attended upper secondary education did not enjoy the profits equally with the society as a whole.

Ævitekjur og arðsemi menntunar (Life earnings and return on education) by Eyjólfur Sigurðsson, the most recent research on returns of education, was conducted in 2010. The research was based on longitudinal data of income for all Icelanders from 1998 to 2008 and estimated the effects of education on earnings. Its findings indicated that every additional year an individual completes in further education returns, on average, 8,3% raise to his/her salary. When the various levels of education are separated, so that return can be non-linear, findings suggest that an individual with an upper secondary education will obtain 28% higher life income than a person with only compulsory education and a 88% higher income, if he/she had completed a university education.

Eyjólfson argues that the decision to educate oneself has a permanent impact on the individual's life. Education almost invariably leads to higher life income, but that precious time is spent on activities that are not rewarded through salaries. A necessary stimulation for an individual to go for further education is that the present worth of the expected net profit of education is positive. The evaluation method in Eyjólfsson's research takes individual's effect into account and therefore, he can assert that it is the educational attainment that is related or responsible for the increased income.

Salaries were highest in fishing, financial services, and pension funds and insurance, but lowest in hotel- and restaurant businesses, social services and cultural industries. The return by occupational groups and educational attainment can be observed in the following table:

		Returns on Education		
Occupational Group (ISAT95)		Compulsory	Upper Secondary	Tertiary
A	Agriculture, hunting and forestry	9,06	34,64	97,38
B	Fisheries	7,99	28,71	77,65
C	Mining and extraction of raw materials	11,5	47,48	124,77
D	Industry	8,34	29,08	90,61
E	Electricity / Water Supply	8,27	29,89	88,88
F	Contstruction	8,25	26,19	99,3
G	Commerce and various Services	9,03	31,72	103,31
H	Hotels and Restaurants	8,36	31,22	85,11
I	Communications and Transport	8,53	30,84	91,89
J	Finance, Pension Funds and Insurance	10,46	27,16	111,25
K	Retail Estate, Renting and Specialised Services	9,36	29,35	102,36
L	Public Administration	8,96	32,5	97,8
M	Education	8,2	26,7	88,77
N	Health and Social Work	8,55	30,16	91,85
O	Other social services, associations and culture	8,73	24,67	88,53
Q	Activities oflinternational Organisations	6,21	9,68	73,22

Table 9–1. Return on education for schooling and educational attainment, by occupational groups, 1998–2008. *Source: Eyjólfur Sigurðsson. (2011).*

The European Commission published in 2011 information on the annual median net income of workers, by educational attainment. The annual income of Icelandic workers is well above the EU27 average:

	Below upper secondary education	Upper secondary education	Tertiary education
EU 27	12.7	14.7	21.7
Belgium	16.7	20.2	25.4
Bulgaria	2.1	3.2	4.4
Czech Republic	6.2	7.8	10.3
Denmark	23.2	26.3	30.8
Germany	15.7	19.0	24.7
Estonia	5.3	6.3	8.8
Ireland	18.7	23.8	32.1
Greece	9.7	11.8	17.6
Spain	11.9	14.7	19.6
France	17.6	19.9	25.3
Italy	14.1	18.0	23.9
Cyprus	14.8	17.8	23.6
Latvia	4.3	5.8	8.7
Lithuania	3.5	4.9	7.7
Luxembourg	25.6	32.8	46.4
Hungary	3.8	4.9	6.8
Malta	9.4	12.4	15.9
Netherlands	18.3	20.7	26.0
Austria	16.6	21.3	25.7
Poland	3.9	5.1	8.2
Portugal	7.9	10.5	17.3
Romania	1.6	2.5	4.4
Slovenia	10.4	12.1	16.5
Slovakia	4.6	5.9	7.7
Finland	19.7	21.3	27.3
Sweden	20.4	22.2	25.3
United Kingdom	13.4	16.8	23.4
Iceland	21.5	22.6	26.7
Norway	31.3	35.5	40.7
Switzerland	25.0	31.6	41.2

Table 9–2. Annual median net income of workers in Euros, by educational attainment (x 1000). *Source: Eurostat SILC, 2007.*

9.2 Employment / Unemployment status of Occupational Groups

In December 2011 there were a total of 167.400 individuals employed in the various sectors of the economy. The unemployment rate was at 7,04 %. Comparing the unemployment in various occupational groups reveals that professionals suffer the least unemployment, or 1,84%, but individuals in elementary occupations suffer the greatest unemployment, or 26,42%:

	Total in Employment	Unemployed	%
Total	*167400*	*12673*	*7,04%*
Legislators and managers	15000	739	*4,70%*
Professionals	35700	670	*1,84%*
Associate professionals	26200	1325	*4,81%*
Clerks	7900	1125	*12,47%*
Service and sales workers	36800	3073	*7,71%*
Agricultural and fishery workers	7900	328	*3,99%*
Craft and related trades workers	20500	1451	*6,61%*
Plant and machine operators	8100	622	*7,13%*
Elementary occupations	9300	3340	*26,42%*

Table 9–3. Percentage of unemployed individuals, by occupational groups, December 2011. *Source: Statistics Iceland, 2012.*

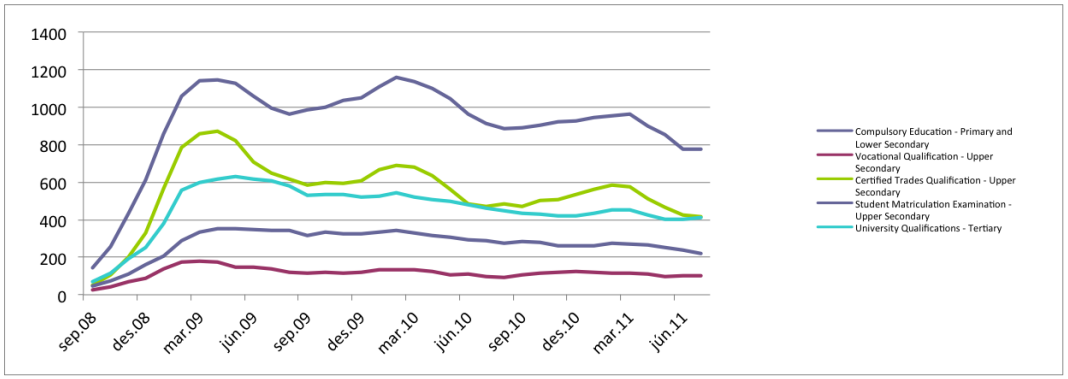
Relatively low or middle skilled occupations, such as clerks, also suffer considerable unemployment, or 12,47%. This was followed by other similar occupational groups, like sales and office workers (7,71%), plant and machine operators (7,13) and craft or related trades workers (6,61%). Groups with relatively low unemployment are associate professionals (4,81%) and agricultural and fishery workers (3,99%).

9.2.1 Unemployment of Males – Educational Attainment

It is also interesting to review the status of unemployment by educational attainment, and in particular, for males and females separately.

A mass unemployment set in, by Icelandic standards, in autumn 2008 and peaked in March 2009. The highest unemployment numbers were to be found among males that only had compulsory education, but the lowest among those that had vocational qualifications.

Figure 9–1. Number of unemployed males, 30–49 years, living in the capital area, by educational attainment/qualifications, December 2008 – June 2011.



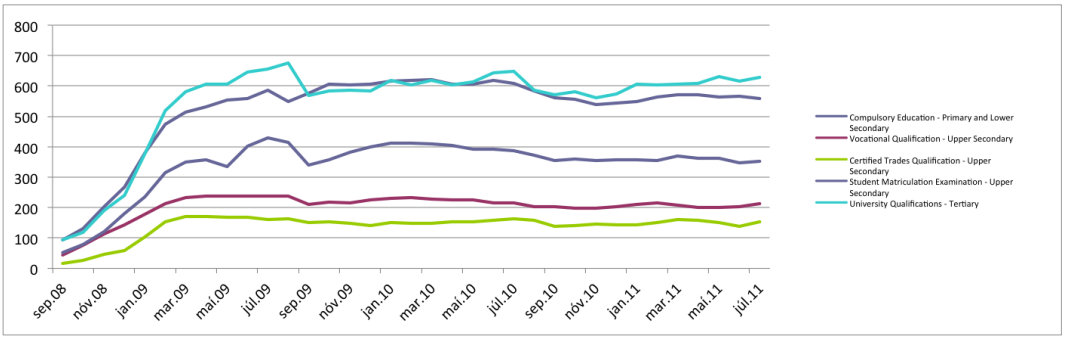
Source: Directorate of Labour, 2012.

The males that had graduated from the certified trades met with considerable unemployment in the beginning of the recession, but their situation has bettered somewhat at the end of the period shown here. The males that had graduated with a matriculation exam only suffered a slight unemployment and their situation has bettered somewhat. On the other hand, those males that had university qualifications suffered half the degree of unemployment of those with compulsory education and their situation has only recovered somewhat.

9.2.2 Unemployment of females – Educational Attainment

The unemployment pattern for females is very different. Female university graduates suffer that greatest unemployment and those with qualifications in the certified trades the least unemployment.

Figure 9–2. Number of unemployed females, 30–49 years, living in the capital area, by educational attainment/qualifications, December 2008 – June 2011.



Source: Directorate of Labour, 2012.

Females with compulsory education do also suffer much unemployment and, like females with university education, have not bettered their status significantly. Those females with the matriculation exam suffer medium unemployment and females with vocational qualifications seem to be on par with females with a certified trades qualifications, only slightly higher in the unemployment rate.

9.3 Early School Leavers

On average, young people in Iceland can expect to leave education at the age of 22. The average time between leaving formal education and starting the first job is 3,3 months, which is the shortest time of any country recorded by Eurostat in 2009 (Eurostat, 2012). Employment rates for individuals from 15 years to 34 years in Iceland were at 75,9% in 2009. This rate is on par with some other

Scandinavian countries, like Finland and Sweden, but below that of Denmark and Norway:

GEO/TIME	2009
European Union (27 countries)	72,9
Iceland	75,9
Denmark	81,3
Finland	74,8
Norway	87,5
Sweden	75,8

Table 9–4. Employment rates by age group (15–34 years), 2009. *Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.*

The average employment rate for 27 European Union countries is 72,9%, and the rate for Icelandic youth is 3% higher.

The employment rates of persons not in education and training (15–34 years) in Iceland has gone down by 8,6% since 2001:

GEO/TIME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	:	:	71,6	:	:	73,6	75,6	76,5	72,5	71,6	71,6
Iceland	92,7	90,6	90,3	89,2	90,7	88,3	91,5	86,7	81,8	81,0	84,1
Denmark	88,1	88,5	83,4	82,3	84,4	86,5	88,3	86,8	84,3	78,7	78,7
Finland	75,7	77,1	73,6	72,4	76,3	76,8	80,4	78,2	73,9	76,1	75,4
Sweden	85,1	84,3	79,6	76,0	71,9	78,8	82,4	81,9	76,8	78,7	80,8

Table 9–5. Employment rates of persons, not in education and training (15–34 years), 2001–2011. *Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.*

Data on the unemployment ratio of individuals (15–34 years) not in education and training has only been collected for 2009 and 2010. In Iceland it went up from 10,6% in 2009 to 11,1% in 2010.

Leaving early from formal education has been common in Iceland prior to the recession, mainly because it was easy for young people to get a job without having qualifications. This has now changed and many young persons chose to stay in school and go into further education. The early leavers, however, are still many.

Data on early leavers from formal education indicate that 5,3% fewer leave formal education in 2011 than in 2004:

All - Population

GEO/TIME	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	17,0	16,9	16,7	16,3	16,0	15,5	15,1	14,4
Iceland	27,6	28,0	28,7	26,2	26,7	23,8	26,0	22,3
Denmark	10,5	10,7	12,0	16,9	16,8	15,6	15,2	13,3
Finland	11,0	11,1	10,5	9,9	10,7	10,8	11,3	10,6
Norway	4,9	4,9	20,4	20,8	19,3	19,6	19,6	19,1
Sweden	11,3	12,7	15,4	14,5	14,6	13,3	12,6	8,2

Males - Population

GEO/TIME	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	19,4	19,1	19,0	18,5	18,2	17,5	17,2	16,4
Iceland	30,9	32,7	32,3	30,5	28,7	27,9	29,3	24,8

Females - Population

GEO/TIME	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	14,6	14,7	14,5	14,0	13,8	13,4	12,9	12,3
Iceland	24,3	23,1	24,8	21,4	24,5	19,4	22,5	19,7

Table 9–6. Early Leavers from formal Education, by gender [edat_lfse_15], 2004–2011. *Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.*

More males leave school early, or 24,8% in 2011, than females, but 19,7% of the females left in that same year.

According to Eurostat data the percentage of early leavers from education and training in Iceland has gone down from 30,9% in 2001 to 19,7% in 2011:

% of Population

GEO/TIME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	17,2	17,0	16,5	16,0	15,8	15,5	15,1	14,9	14,4	14,1	13,5
Iceland	30,9	28,8	20,3	24,9	24,9	25,6	23,2	24,4	21,3	22,6	19,7
Denmark	9,2	9,0	10,4	8,8	8,7	9,1	12,9	12,5	11,3	11,0	9,6
Finland	9,5	9,7	10,1	10,0	10,3	9,7	9,1	9,8	9,9	10,3	9,8
Norway	8,9	13,5	6,3	4,7	4,6	17,8	18,4	17,0	17,6	17,4	16,6
Sweden	10,2	10,0	9,2	9,2	10,8	13,0	12,2	12,2	10,7	9,7	6,6

% of Employed persons

GEO/TIME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	:	:	:	:	8,5	8,6	8,4	8,1	6,9	6,6	6,1
Iceland	:	:	:	:	20,8	21,8	19,6	20,7	14,9	16,5	14,2

% of not employed persons

GEO/TIME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	:	:	:	:	7,3	7,0	6,6	6,8	7,5	7,5	7,4
Iceland	:	:	:	:	4,2	:	3,5	3,7	6,4	6,1	5,5

% persons would like to work (seeking employment or not)

GEO/TIME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	:	:	:	:	4,8	4,6	4,3	4,5	5,2	5,2	5,2
Iceland	:	:	:	:	:	:	:	:	4,9	4,3	4,0

Table 9–7. Early Leavers from Education and Training, by employment status [edat_lfse_14], 2001–2011. *Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.*

In 2011 early school leavers in Iceland were 14,2% of employed persons in the country and 5,5% of not employed persons. Of this latter group 4,0% is reported to want to work. Activity rates (proportion of the population that is in the labour force (OECD, 2013)) of persons (15 – 34 years) not in education and training remains quite high in Iceland, above EU average, and in comparison with the other Scandinavian countries:

GEO/TIME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
European Union (27 countries)	:	:	88,5	:	:	88,3	88,3	88,9	88,7	87,8	88,0
Iceland	97,9	96,1	95,2	93,3	94,2	93,7	93,6	91,5	91,4	91,1	92,4
Denmark	92,9	93,6	92,1	91,1	91,4	93,0	93,1	93,2	93,2	91,4	90,0
Finland	87,5	89,1	85,8	84,0	89,1	88,4	89,3	87,1	86,2	88,6	87,6
Sweden	90,4	90,8	88,5	87,5	84,8	90,5	92,0	91,9	91,0	90,9	92,2

Table 9–8. Activity rates of persons not in education and training [edat_lfse_26], 2001–2011. *Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.*

10 Steering and Governance

One of the main changes made recently to steering and governance of education in Iceland was a legislation change in 1995 that led to the municipalities taking over the financial and administrative responsibilities of the primary and lower secondary schools in 1996. The legislation requested the schools to compose a school-based curriculum and develop methods of self-evaluation. This trend also filtered through to pre-primary education (Mýrdal, 1999) and was manifested in later legislation at the upper secondary, post-secondary and tertiary level.

This created a two-tiered education system where responsibility is divided between local councils or municipalities and central government. The municipalities run the pre-primary, compulsory schools and music schools. The central government holds financial and administrative responsibility for the upper secondary schools (grammar school, vocational industrial schools and comprehensive schools), schools operating at the post-secondary non-tertiary level and universities, or higher education institutions. In a recent agreement, the state accepted responsibility for financing of music education for students that have reached the third level of music studies (Samband íslenskra sveitarfélaga, 2011), where students are generally at the same age as students at the upper secondary school. As no formal vocational education is allocated to the primary and lower secondary level, all formal VET education is the responsibility of the central government. Central government is also financing adult education to a large extent.

Laws governing the educational system in Iceland currently, are: The Pre-Primary School Act from 2008, the Compulsory School Act from 2008, the Upper Secondary Schools Act from 2008, the Higher Education Institution Act from 2006 and the Adult Education Act from 2010. Each act details the educational reforms, the forms of governance and structural changes, at the respective level of the educational system.

10.1 Governance at the Upper Secondary and Post-Secondary Non-Tertiary Level

The 2008 Upper Secondary School Act (Alþingi – Icelandic Parliament, 2008) laid the foundations of school improvements at the upper secondary and post-secondary non tertiary level. The new law introduced an increased flexibility for learners and granted vocational education an equal standing with academic education. The law advocates decentralisation and responsibility, encourages school initiative and defines further the role of actors of the school system and social partners in education.

10.1.1 Decentralisation and Curriculum Design

The Upper Secondary School Act (Alþingi – Icelandic Parliament, 2008), introduced changes to the structures of the upper secondary qualification framework that will be in force by 2015, when all upper secondary schools are supposed to have the descriptions of their study programmes validated (Minstry of Education Science and Culture, 2011). Study programmes at the upper secondary level will now be developed by the schools themselves. Some schools have already started introducing the process and the new curricula they write are sent to the Ministry of Education, Science and Culture for certification and registration in a central database. They are expected to write them with an outcomes based approach, where learning outcomes are presented in terms of a new credit system, which measures the workload of the learner. The emphasis is on the competences that the learner has to acquire at each level of education. The Icelandic National Curriculum Guide for Upper Secondary Schools is the basis for school curricula creation (Minstry of Education Science and Culture, 2012).

10.1.2 National Qualification Framework and Certification of Programmes

In the context of the 2008 Upper Secondary School Act the Ministry of Education, Science and Culture is creating a national qualification framework (ISQF) which is intended to encompass all education and training offered in the country, general education, academic studies, VET, art studies, special education and adult education. All qualifications will be assigned levels through a certification process by the Ministry of Education, Science and Culture, which will assure the quality of the system. The certification will apply to all education at the upper secondary level, post-secondary non-tertiary level and tertiary level, and to art schools and adult education in the future.

10.1.3 The Role of the Minister of Education / the Ministry of Education, Science and Culture

According to the 2008 Upper Secondary School Act the *Minister of Education,* Science and Culture is responsible for the following:

- General policy making regarding upper secondary school matters
- National Curriculum Guide and validation of school curriculum guide and study programme descriptions
- Supervision of school administration and school activities
- Providing support for developmental work in upper secondary schools and for development of instructional material
- Gathering, processing and disseminating information on school activities

The Minister of Education, Science and Culture appoints a *school board* for each upper secondary school for a four-year period. A school board is comprised of five members. Two of them are to be appointed by nomination of the local authorities and three others without nomination. The school board operates mainly as an advisory body to the head teacher and exercises no real power on the operation of the upper secondary schools.

10.1.4 The Roles at School Level

The public upper secondary school is a state institution under the auspices of the minister of education, science and culture.
The *Minister of Education, Science and Culture appoints the head teacher* for a period of five years. An extension of appointment is usually automatic and most head teachers serve for a long time.
School council, comprised of teacher and pupil representatives, parent councils and student associations operate in all upper secondary schools.

The *head teacher* is the director of the school and he manages daily administration and school activities and ensures that school operations comply with all Acts, Regulations, the National Curriculum Guide and other provisions currently in force. The head teacher is responsible for devising a financial plan and ensuring that the school budget is followed, and shall take initiative in formulating the school curriculum guide and organise developmental work within the school. The resources available to the school are determined by service agreement, between the minister of education and the school, and annually revised school contracts. The agreement includes provisions for the enrolment of students, study offer and other arrangements that determine the resources available to the school.

The head teacher hires teachers in accordance with the Act on the Education and Recruitment of Teachers and Head Teachers in Pre-School, Compulsory School and Upper Secondary School (Althing – Icelandic Parliament, 2008b) as well as other schools staff.

Upper secondary school *teachers* exercise significant influence on the governance of schools by a *collective bargaining agreement* with the government. The agreement specifies that the unit credit system should be tied to the teaching hours of teachers. Thus the numbers of hours taught by the teacher determines the credits the student receives. Also, the agreement specifies the working duties of each teacher; how many hours of his work time the head teacher can allocate for curricular development, support for pupils etc. Furthermore, the agreement sets the number of days during each school year which are to be set for teaching and how many days are fixed for examination period.

Upper secondary schools shall organise a *school assembly* at least once every school year. All school personnel and pupils' representatives, according to further

decision by the head teacher, have a right to sit in the school assembly. The school assembly discusses school matters. Upper secondary schools shall organise a *teacher assembly* at least twice every school year. The teacher assembly in upper secondary schools shall cover policy making for school activities, such as organisation of study, methods of instruction, structure of school curriculum guide and organisation of examinations and study assessments.

Every upper secondary school shall operate a *pupils' association*. The pupils' association manages pupils' social activities, their welfare and general interests. It shall set its own rules regarding composition, role and working methods. The upper secondary school is responsible for the operation of their pupils' associations. The upper secondary school shall provide facilities for the operation of a pupils' association. The upper secondary school may provide funding for the pupils' association and the accounts of the association shall be subject to the same auditing as other school finances.

10.1.5 Role of Social Partners

The *social partners* play a crucial role in informing providers about the needs for knowledge and competences in the labour market, in order to make study programmes relevant and useful. This occurs through their participation in Occupational Councils and their professional committees, defined in the 2008 Upper Secondary School Act and regulation on the Occupational Councils' role (Mennta- og menningarmálaráðuneytið, 2009c), as well as through direct participation in school activities, such as school committees and advisory councils.

Occupational councils for the upper secondary school level have been operating for fifteen years and exercise significant influence on the development of vocational education and training, particularly on the curriculum development and quality in vocational education (Minstry of Education Science and Culture, 2011). The Minister of Education, Science and Culture appoints them for four years at a time for occupational groups or individual occupations. Each Occupational Council is comprised of five to nine representatives nominated by federations of employer's, federations of employees from the relevant occupations and one representative jointly nominated by the Association of Icelandic Upper Secondary Schools and the Icelandic Teachers Union. Under previous legislation the Occupational Councils wrote the curricula for the vocational programmes of study, but with the legislation of 2008 they take on an advisory role with respect to general study objectives and the need for knowledge and skills, workplace learning and examinations.

An *Occupational Committee* is composed of the chairs of the Occupational Councils together with a chair and vice-chair appointed by the Minister of Education. The role of the Occupational Committee is to advise the Minister on issues of policy making and implementation of vocational education, to serve as a platform for collaboration and coordination for the Occupational Councils.

Since 2010, a total of 12 Occupational Councils have been actively involved in the review of qualifications in their respective areas. Coordinated by the Ministry of Education, Science and Culture these councils cover most of the important occupational fields and have played a key role in placing existing qualifications (in their respective areas) to the relevant EQF levels (1–5) of the framework. This process has been important for clarifying the potential of the NQF and the learning outcomes perspective – to stakeholders in the labour market.

The Ministry of Education, Science and Culture is a National Coordination Point (NCP), and is, together with Occupational Councils, developing a list of all active qualifications at upper secondary level at the present time and give a reasoned support for assigning levels to them. The aim of the list is not only to gain united comprehension of placement of qualifications on NQF-levels, but also to implement the learning outcome thinking and verify whether recommended amount of NQF-levels and the descriptors are adequate for upper secondary formal education. The results are very promising. In June 2011 a draft of the list was prepared. The Occupational Councils will now proceed to write descriptions of competence/skills needs for individual professions. To begin with, these descriptions will refer to all qualifications which exist in the present day system, but later on they will also include new qualifications developed on the basis of new skills needs suggested by the labour market, that will broaden the education offer in line with the development in the labour market. They will be useful for education providers that will be responsible for writing aims for study programmes and they will from the beginning be assigned levels in the NQF.

The Occupational Councils are expected to play a key role in the identification of existing and future skills and competence needs. In this respect the learning outcomes approach has proved useful and highlights the relationship between skills and competency requirements for the workplace and the provisions offered by education and training (CEDEFOP, 2011).

When studying the responsibilities of each of the Occupational Council, with respect to the fields of studies at the upper secondary level being allocated to them, it becomes clear that some fields of study are unattended to (Appendix 18[26]). Firstly, Starfsbraut – the group of disabled students, that numbered 358 students in 2010, does not have any connection to the labour market. Currently, no Occupational Council has been assigned the responsibilities for several art subjects (1141 students), film production (144 students), the computers and informatics upper secondary programme (230 students) and security services / policing studies (19 students). The reasons for this can be different. The security services / policing studies, is one of a few fields of study that do not fall under the Ministry of Education, Science and Culture, it remains under the Ministry of the Interior. The other groups, thematically belonging to the creative industries, do not seem to have a full backing by the labour market or social partners, in the current arrangement of Occupational Councils. This has potentially caused a

[26] Appendix 18: Occupational Councils – Responsibilities for Fields of Study, 2010.

situation where the provision and curricula is not developing, at least not in keeping with the needs of the labour market, rather on the terms of the educational institutions that offers the programmes or interest groups in the fields. Considering that these fields all belong to an innovative sector of the economy, with a strong growth potential, they should be given more attention.

10.1.6 Accreditation of Schools

The Minister of Education, Science and Culture can provide schools, other than public schools, with *accreditation* to carry out instruction at upper secondary level. Such schools can be run as non-profit organisations, limited public companies or as other types of accepted legal entities. The accreditation does neither incur a commitment on behalf of the authorities for financial contribution out of the State Budget to the corresponding upper secondary school, nor any responsibilities for the school's commitments. The conditions for accreditation concern the following:

a. Role and objectives of the school
b. Administration and organisation
c. School curriculum guide and study programme descriptions
d. Organisation of teaching and learning
e. Personnel qualifications requirements
f. Admission requirements for pupils
g. Pupils' rights and duties
h. Working conditions for teachers and pupils as well as their support structures
i. Internal quality management system
j. Finances and insurances

Accreditation of an upper secondary school provides a confirmation that, at the time in which accreditation is granted, the activities of the respective school comply with general conditions of the 2008 Upper Secondary School Act and other law and regulations issued under it.

The board of directors of schools that receive accreditation from the Minister of Education, Science and Culture has the responsibility of hiring a head teacher to manage daily operations of the respective school. The head teacher is responsible for school activities on behalf of the board of directors or other liable parties, in compliance with the statutes, charter or other founding documents of the respective school. Eligibility requirements for the positions of head teacher and upper secondary schoolteachers are the same as for those in public schools. The Minister of Education, Science and Culture may, though, deviate from the teachers' educational requirements in schools that have been accredited, whenever the study programme in question is not based on the National Curriculum Guide for upper secondary schools, but is a specialised vocational study programme.

10.1.7 Core Schools

The Minister of Education, Science may designate an upper secondary school as *core school* in a particular field for a certain period of time. A core school shall take the initiative in developing instructional material, study structure and instructional methods and shall assist other upper secondary schools and companies in improving instruction and training in the relevant field.
An agreement between the Minister of Education, Science and Culture and the upper secondary school assuming the role of core school, shall define the project, its management, the duration of the contract and how the project shall be assessed. Interested parties from industry and Occupational Councils may be parties to such a contract. The Ministry of Education, Science and Culture provides special budget to core school for carrying out the agreed projects.

10.1.8 Student assessment and Examinations

For the certified trades there are journeyman's examinations (Minstry of Education Science and Culture, 2011). They are the responsibility of the trade in question. A committee with members from industry and the trade unions (employers and employees) define the requirements and oversee the journeyman's examination. This national co-ordinated examination consists of a practical and a theoretical part. A journeyman's examination can last from one to ten days, depending on the trade.

Apart from the journeyman's examination there are no national co-ordinated examinations in vocational education. Examinations are the responsibility of each individual school and are supervised by the head of the department in question. Examinations are written by an individual subject teacher or teachers and marked by them. External examiners are not called in except in the event of a dispute. According to the Upper Secondary School Act, Occupational Councils make proposals concerning assessment, including the journeyman’s examination.

10.1.9 Post-secondary Education

Upper secondary schools may offer study programmes organised in continuation of defined study completion at upper secondary level, in accordance with articles in the 2008 Upper Secondary School Act on vocational education and examination criteria. The Minister of Education, Science and Culture shall confirm study programme descriptions for such studies and the title of the study degree in question.

The descriptions or definitions of the education at this level, in the law and regulations, is very limited and leaves the school development open for experiments and interpretation.

10.2 Governance at the Tertiary Level

In higher education the lines of administrative authority are laid out in the Higher Education Institution Act of 2006 (Althing – Icelandic Parliament, 2006). Public higher education institutions are independent national institutions under the administrative authority of the Ministry of Education, Science and Culture. Both private and public institutions operate in accordance with the framework act of 2006, regardless of their operational form. According to law these institutions need to be accredited by the Minister of Education, Science and Culture, provided that they fulfil certain conditions. The Higher Education Institution Act states that each institution's governance is the responsibility of the institution's council and rector.

The 2006 Higher Education Institution Act does not describe vocational education specifically at the tertiary level, but the definition of a higher education institution is an independent educational institution which conducts teaching, research, preservation and search for knowledge, and creativity in the fields of science, education, technology or arts. It should educate students through teaching and participation in scientific research to prepare them for jobs that require scientific methods, knowledge and skills. Education provided by Higher Education Institutions takes into account the needs of society and can have an academic, as well as a professional education focus.

10.2.1 Accreditation of Higher Education Institutions

The higher education institutions may be run as state institutions, non-profit organisations, and limited public companies or as other types of accepted legal entities. A state-owned university is an independent public institution under the auspices of the Ministry of Education, Science and Culture. The Minister of Education grants accreditation to higher education institutions that qualify for the prerequisites of the 2006 Higher Education Institution Act. The minister issues rules regarding accreditation in accordance with internationally accepted criteria. The rules shall stipulate requirements, which the institutions must fill, that concern the following:

a. Role and objectives of Higher Education Institutions
b. Administration and organisation
c. Organisation of teaching and research
d. Personnel qualifications requirements
e. Admission requirements and student rights and duties
f. Working conditions for teachers and students as well as their support structures, including support for students with disabilities.
g. Internal quality management system
h. Description of study according to learning-outcomes
i. Finances

The accreditation of the institution is limited to specific fields of study, in which

the institution may operate, and it has to reapply should it wish to add new fields of study. The ministry appoints three independent individuals to a committee, which provides review for the accreditation regarding the particular fields. The discontinuation of a field of study must be reported to the ministry. If an institution fails to meet the provision of the act, and rules and regulations based upon it, the minister may revoke the accreditation.

10.2.2 Study Programmes and Degrees

All higher education institutions in Iceland accredited by the minister of education, according to the Higher Education Institution Act nr. 63/2006 have to follow the national qualification framework for higher education in Iceland, which is a systematic description of the structure of qualifications and degrees at the tertiary level (see Appendix 6[27]) and is specifically based on learning outcomes. The National Qualifications Framework defines and describes studies and degrees at higher education level (Level 4), from Diploma to Doctoral degree. The framework defines knowledge, skills and competences for each cycle/stage (Mennta- og menningarmálaráðuneytið, 2011d).

Higher education institutions decide which programmes of study they offer within their accredited fields of study, using the certified degrees and diplomas as their frame of reference. Higher education institutions can decide that a study programme involving practicum shall qualify for course credits at the different levels.

10.2.3 Administration

The administration of Higher Education Institutions is entrusted to a *University Council* and a *Rector* according to further provisions in special legislation, charter, statutes or other Higher Education Institutions treaties. The University Council is the supreme decision-making body within each Higher Education Institution unless clearly stated otherwise in this Act, special legislation, charter, statutes or Higher Education Institution treaties. Apart from that, the administration of Higher Education Institutions shall be carried out according to *special legislation, charter, statutes or Higher Education Institution treaties*.

Each Higher Education Institution shall organise a *University Assembly* at least annually. The assembly is a forum for discussion on professional matters within and for academic policy making. The University Council decides further on the role and organisation of the assembly. The University Council shall ensure the rightful representation of teachers, students and other personnel at the assembly. The Rector directs the University Assembly.

[27] Appendix 6: Types of Qualifications – Programmes leading to them and the awarding Organisations.

10.2.4 Resources

The Minister of Education, Science and Culture is authorized to negotiate agreements for the duration 3–5 years at a time regarding financial contribution for teaching and research in Higher Education Institutions. Contracts are made that now have an appendix, where the activities of the universities are further described. The appendix has defined cooperation processes between the ministry and the universities, which are revised every year. The aim of the new negotiation procedures between the ministry and the universities is to enable swift reactions to societal changes and to adapt the activities of institutions and the tertiary system to the needs of society at any given time (Mennta- og menningarmálaráðuneytið, 2012h). In practice the institutions are autonomous and have full control of their resources within those limits that the agreement and contracts specify.

10.3 Governance in Adult Education

In According to the Act on Adult Education from 2010 The Minister of Education, Science and Culture, has a responsibility for:

- general policy making for adult education in consultation with stakeholders,
- general administration for the implementation of the Act,
- affairs of the Education and Training Fund,
- support for development and innovation in the field of adult education and
- supervision and evaluation

Most *adult education centres* are self-regulated institutions that are owned and operated by bodies composed of unions, employers' associations and municipalities. All of them are dedicated to provide educational services to individuals that have not graduated from upper secondary school, such as information on study opportunities and real competence evaluation, career advice services and vocational education. They receive state grants and are to a large extent funded by the central government's Adult Education Fund. *The Education and Training Service Centre* administers large part of the government funds for Adult Education through a service agreement with the state. This involves writing of curricula and course descriptions, put in practice by adult education centres around the country, management of funds, collection of information on adult education and target groups, analysis of educational needs of these groups in cooperation with the labour market and educational providers, organisation of provision of adult education, developments of real competence assessment, development of career advice services around the country and enabling the making of educational materials for adult education (Mennta- og menningarmálaráðuneytið, 2011h).

11 Funding and Incentives

In Iceland local municipalities fund the construction and the operation of pre-primary and compulsory schools. State contributions towards the operation of schools at the upper secondary and at the tertiary level are determined in the Annual State Budget as passed by Parliament each year. Each upper secondary school is allocated funds from the State Budget according to a mathematical model where the number of pupils is one of the factors. The institutions manage the funds according to their budgets, covering salaries, operating and fixed costs.

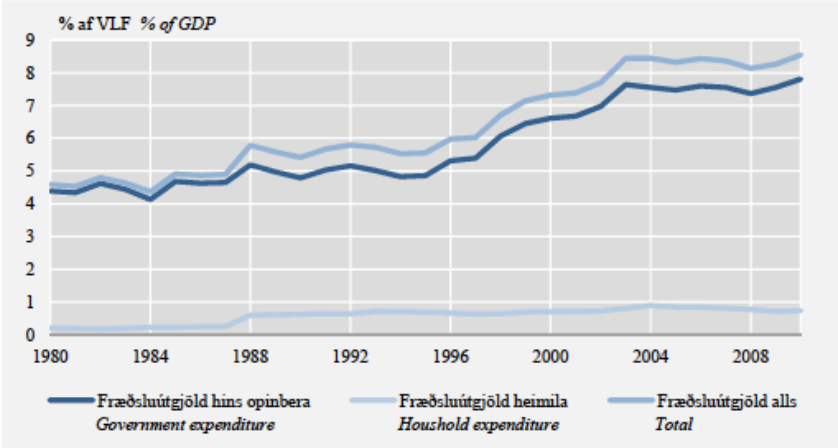
All educational institutions funded by the State are supervised by the Icelandic National Audit Office to ensure the accountability of the schools financial management. The upper secondary schools are subject to auditing each year.

When a new upper secondary school is established, an agreement needs to be arranged regarding capital investment costs and division of cost between the parties involved in establishing it. Capital investment costs include housing and general equipment that the parties to the agreement agree to provide. Local authorities shall provide lots for upper secondary schools without charge. The Minster of Education, Science and Culture set the guidelines for capital investment cost of upper secondary schools in consultation with the Association of Local Authorities in Iceland.

11.1 Public Funding, Private Funding – at all levels of education

Total education expenditure in Iceland in 2010 amounted to 128.2 billion ISK or 8.3% of GDP. Thereof, general government expenditure was 116.7 billion ISK or 91.0% of the total and private expenditure 11.5 billion ISK or 9.0% of the total. The share of the education expenditure of total general government expenditure was 15.7% (Statistics Iceland – Hagstofa Íslands, 2011e). The total expenditure on education has grown considerably in the last few years:

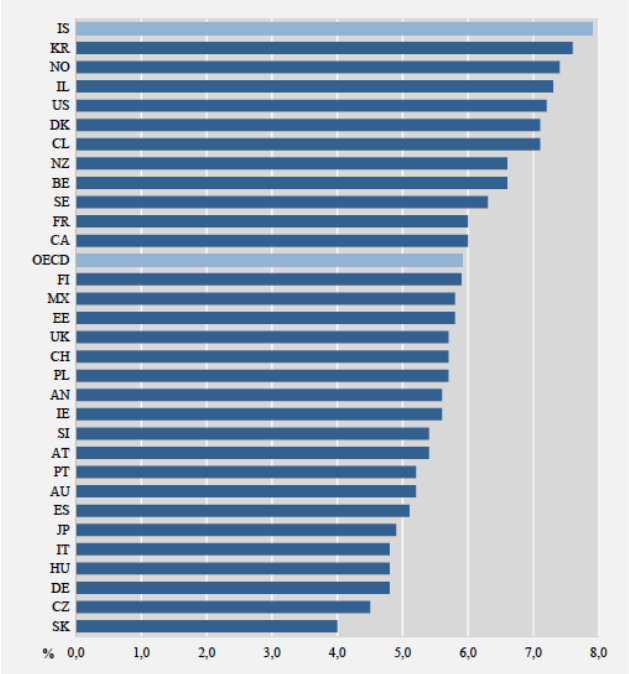
Figure 11–1. Education expenditure as per cent of GDP, 1998–2010.



Source: Statistic Iceland, 2011

The total education expenditure in OECD countries was around 5.9% of GDP on average in 2008, but the share between countries varies greatly. This percentage was the highest 7.9% of GDP in Iceland in 2008, in the United States education expenditure reached 7.2% of GDP in the same year, but in the Slovak Republic it was lowest of the OECD-countries, 4.0% of GDP.

Figure 11–2. Education expenditure in OECD countries as percentage of GDP, in 2008.



Source: Education at a Glance, 2011: OECD Indicators.

Of the *total education expenditure* in 2010, 11.5% was spent on education at the pre-primary level, 42.7% was allocated to the primary and the lower-secondary level, 17.3% to the upper secondary level, and 20.9% to the tertiary level. The remaining 7.6% was expenditure not allocated by level andthe administration of education. During the last decade there has been an increase in the expenditure, especially at the pre-primary and tertiary level:

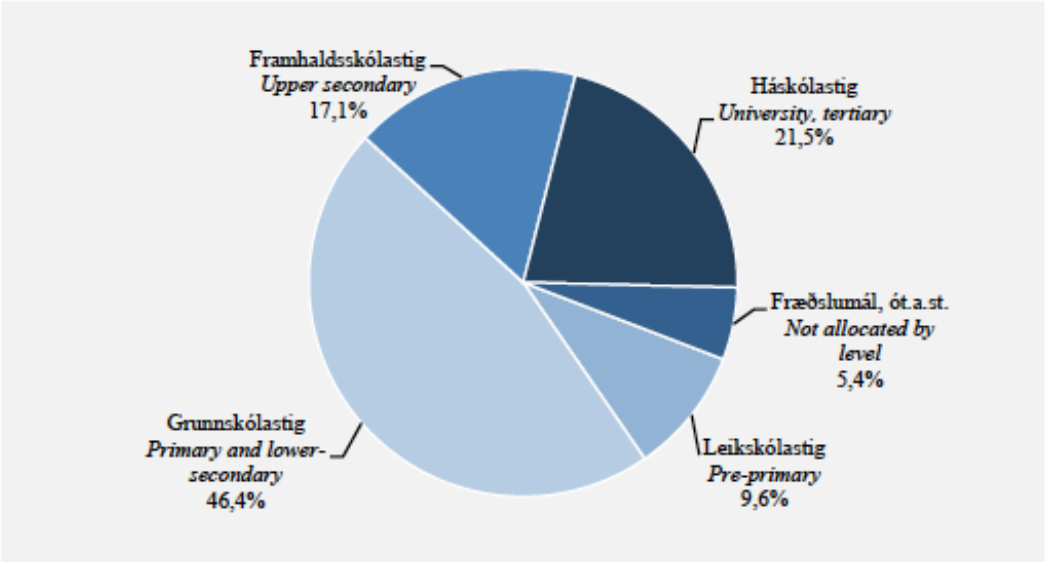
	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total %	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,**	**100,0**	**100,0**	**100,0**
Leikskólastig	9,33	9,97	9,40	9,65	9,20	9,37	10,62	11,35	11,85	11,92	11,50
Grunnskólastig	46,01	47,34	47,60	45,42	45,45	45,87	45,47	45,06	44,33	43,29	42,74
Framhaldsskólastig	20,65	18,01	18,72	19,38	19,48	18,40	18,61	17,88	17,58	17,91	17,34
Háskólastig	17,99	17,53	17,57	18,05	18,05	18,62	17,57	18,40	19,19	19,85	20,85
Fræðslumál, ót.a.s.	7,09	7,15	6,71	7,51	7,82	7,74	7,72	7,31	7,04	7,02	7,58

Table 11–1. Expenditure on education 1998–2010, percentage breakdown by level. *Source: Statistics Iceland, 2011.*

Source: Statistics Iceland, 2011. Leikskólastig (Pre-Primary level), Grunnskóli (Compulsory school – Primary and Lower Secondary level), Framhaldsskólastig (Upper Secondary Level), Háskólastig (University Level), Fræðslumál (Other educational expenditure)

The *public expenditure* on education has increased in the period 1998–2010. In 2010 the expenditure on the upper secondary level was17,1% and 21,5% at the university level.

Figure 11–3. General government expenditure on education 1998–2010



Source: Statistics Iceland, 2011.

The development of general government expenditure on education for the period 1998–2010, indicates an increase in expenditure at the pre-primary level and

tertiary level, but a decrease at the primary, lower secondary and upper secondary level. The post-secondary level is not registered specifically.

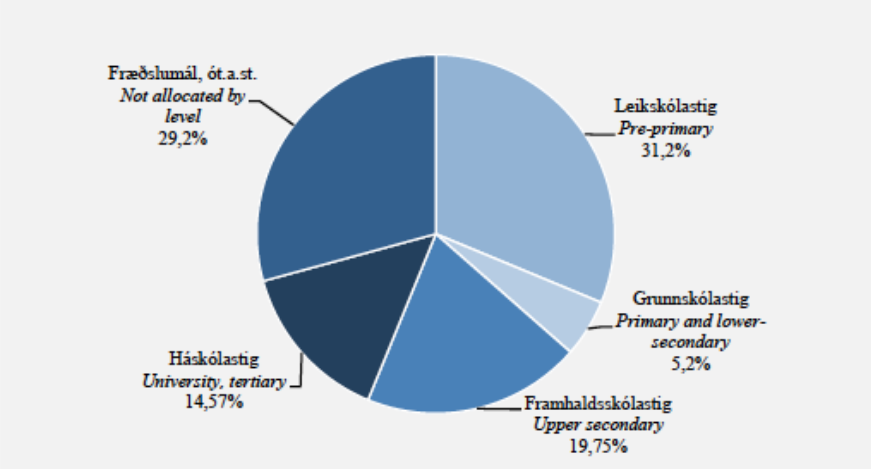
	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010
Fræðslumál alls	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,00**	**100,00**	**100,00**
Leikskólastig	6,62	7,04	6,49	6,59	6,31	6,68	8,19	9,11	9,92	10,06	9,56
Grunnskólastig	50,35	51,75	52,02	50,14	49,97	50,32	49,77	49,22	48,01	46,89	46,41
Framhaldsskólastig	20,73	17,94	18,79	19,51	19,57	18,36	18,49	17,64	16,60	17,67	17,11
Háskólastig	17,38	18,09	18,07	18,58	18,54	19,13	17,98	18,88	20,44	20,41	21,46
Fræðslum., ót.a.st.	4,91	5,18	4,63	5,18	5,60	5,52	5,58	5,14	5,04	4,97	5,45

Table 11–2. General government expenditure on education 1998–2010.

Source: Statistics Iceland, 2011. Leikskólastig (Pre-Primary level), Grunnskóli (Compulsory level – Primary and Lower Secondary level), Framhaldsskólastig (Upper Secondary Level), Háskólastig (University Level), Fræðslumál (Other educational expenditure)

The *private expenditure* can also be observed by educational levels. The private expenditure at the upper secondary level in 2010 is 19,75% and 14,57% at the tertiary level.

Figure 11–4. Private expenditure on education, 2010



Source: Statistics Iceland, 2011.

In 1998 private expenditure was ISK 28,5 thousand per person, but in 2010 it had reached 36,1 thousand. The increase is around 27%. The biggest increase in private spending is at the university level, just over 25% (Statistics Iceland – Hagstofa Íslands, 2011e).

Comparing the public and private expenditure in the Icelandic educational system with those of other countries indicates differences in emphasis and conditions.

	2000	2006	2007
EU-27	**4.88**	**5.04**	**4.96**
Belgium	:	6.00	6.02
Bulgaria	3.97	4.24	4.13
Czech Republic	3.97	4.61	4.20
Denmark	8.29	7.98	7.83
Germany	4.46	4.40	4.50
Estonia	6.10	4.80	4.85
Ireland	4.28	4.74	4.90
Greece	3.39	4.04 05	:
Spain	4.28	4.28	4.35
France	6.03	5.58	5.59
Italy	4.55	4.73	4.29
Cyprus	5.35	7.02	6.93
Latvia	5.64	5.07	5.00
Lithuania	5.90	4.84	4.67
Luxembourg	:	3.41 (1)	3.15 (1)
Hungary	4.42	5.41	5.20
Malta	4.49	6.79 05	:
Netherlands	4.96	5.46	5.32
Austria	5.74	5.44	5.40
Poland	4.89	5.25	4.91
Portugal	5.42	5.25	5.30
Romania	2.86	:	4.25
Slovenia	:	5.72	5.19
Slovakia	3.93	3.79	3.62
Finland	5.89	6.14	5.91
Sweden	7.21	6.85	6.69
United Kingdom	4.46	5.48	5.39
Croatia	:	4.11	4.07
Iceland	5.81	7.55	7.36
MK*	:	:	:
Turkey	2.59	2.86	:
Liechtenstein	:	2.06	1.92
Norway	6.74	6.55	6.76
United States	5.03	5.42	5.29
Japan	3.66	3.47	3.45

Table 11–3. Public expenditure on education as a percentage of GDP in European countries

Data source: Eurostat (UOE)
(i) See: Eurostat database, (:) Missing or not available, *MK: The former Yugoslav Republic of Macedonia; see Annex 2
(1) tertiary education level not included

	2000	2006	2007
EU-27	**0.63 i**	**0.67 i**	**0.73 i**
Belgium	0.42 i	0.34 i	0.34
Bulgaria	0.65	0.65	0.62
Czech Republic	0.42	0.56	0.51
Denmark	0.27 i	0.59	0.53
Germany	0.97	0.7	0.69
Estonia	:	0.34	0.32 i
Ireland	0.30	0.28	0.24 i
Greece	0.22 i	:	:
Spain	0.60	0.52	0.61 i
France	0.56	0.54	0.53
Italy	0.44	0.38	0.40
Cyprus	2.59	1.21	1.27
Latvia	0.63 i	0.66	0.56
Lithuania	:	0.46	0.45
Luxembourg	:	:	:
Hungary	0.57	0.54	:
Malta	0.48 i	:	:
Netherlands	0.82	0.88	0.90
Austria	0.33	0.59	0.48
Poland	:	0.54 i	0.50 i
Portugal	0.08 i	0.44 i	0.46 i
Romania	0.25 i	:	0.50
Slovenia	:	0.78	0.73
Slovakia	0.15 i	0.62 i	0.53 i
Finland	0.11	0.15	0.14
Sweden	0.19	0.17	0.16
United Kingdom	0.76 i	1.44 i	1.75 i
Croatia	:	0.38	0.35
Iceland	0.54 i	0.81 i	0.77 i
MK*	:	:	:
Turkey	0.04 i	:	:
Liechtenstein	:	:	:
Norway	0.08 i	:	:

Table 11–4. Private spending on education as a percentage of GDP (2000–2007)

Expenditure on educational institutions (all levels of education) from private sources as % of GDP and average annual change

Data source: Eurostat (UOE)
(i) See: Eurostat database, (:) Missing or not available,
*MK: The former Yugoslav Republic of Macedonia; see Annex 2

Also, it is of interest to observe the public spending by level of education between countries. Iceland's expenditure at the primary level is by far the highest of the European countries listed below:

	Primary	Secondary	Tertiary	All levels
EU-27	**1.16**	**2.21**	**1.12**	**4.98**
Belgium	1.42	2.58	1.31	6.02
Bulgaria	0.82	1.84	0.68	4.13
Czech Republic	0.58	2.03	1.07	4.20
Denmark	1.86	2.80	2.29	7.83
Germany	0.63	2.25	1.14	4.50
Estonia	1.13	2.25	1.07	4.85
Ireland	1.72	2.03	1.14	4.90
Greece	:	:	:	:
Spain	1.10	1.66	0.99	4.35
France	1.17	2.55	1.23	5.59
Italy	1.08	1.98	0.76	4.29
Cyprus	1.95	3.03	1.61	6.93
Latvia	1.24	2.11	0.93	5.00
Lithuania	0.67	2.41	1.01	4.67
Luxembourg	1.69	1.46	:	3.15
Hungary	0.99	2.29	1.03	5.20
Malta	:	:	0.95	:
Netherlands	1.32	2.16	1.45	5.32
Austria	0.97	2.52	1.50	5.40
Poland	1.59	1.89	0.93	4.91
Portugal	1.48	2.09	1.20	5.30
Romania	0.84	1.52	1.12	4.25
Slovenia	2.26	1.16	1.21	5.19
Slovakia	0.67	1.69	0.79	3.62
Finland	1.20	2.52	1.85	5.91
Sweden	1.68	2.64	1.77	6.69
United Kingdom	1.65	2.45	0.94	5.39
Croatia	1.83	0.87	0.81	4.07
Iceland	2.52	2.40	1.39	7.36
MK*	:	:	:	:
Turkey	:	:	:	:
Liechtenstein	:	:	0.17	:
Norway	1.69	2.36	2.16	6.76

Table 11–5. Public spending by level of education as a percentage of GDP (2007)

Total public expenditure on education as a percentage of GDP by levels of education and average annual change

Data source: Eurostat (UOE)
(i) See: Eurostat database, (:) Missing or not available
*MK: The former Yugoslav Republic of Macedonia; see Annex 2
(**) Investments on pre-primary level and those not allocated by level are not included in this table

11.2 Cost per student in 1998–2010

The cost per student has increased in the last decade from 1.165 thousand ISK in 1998 to 1.304 in 2010, or around 11,9%. The highest increase was at the pre-primary level, or 35%.

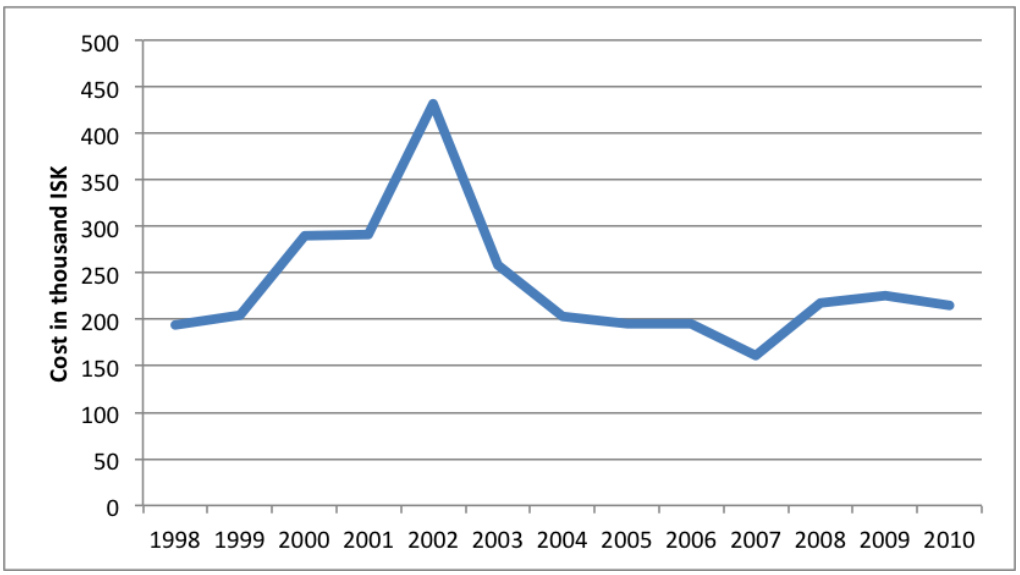
Þúsundir króna	1998	2000	2002	2004	2006	2008	2009	2010
Miðað við samneysluvísitölu, á föstu verði 2010								
Kostnaður á nemanda alls	**1.165**	**1.201**	**1.319**	**1.295**	**1.403**	**1.445**	**1.359**	**1.304**
Leikskólastig	1.053	1.216	1.234	1.189	1.497	1.686	1.560	1.425
Grunnskólastig	1.008	1.077	1.229	1.209	1.358	1.418	1.330	1.281
Framhaldsskólastig	934	871	1.018	1.044	1.031	971	919	860
Háskólastig	1.838	1.687	1.582	1.363	1.389	1.500	1.427	1.380

Table 11–6. Expenditure on education per student, by school level, 1998–2010

Source: Statistics Iceland, 2011. Leikskólastig (Pre-Primary level), Grunnskóli (Compulsory school – Primary and Lower Secondary level), Framhaldsskólastig (Upper Secondary Level), Háskólastig (University Level), Fræðslumál (Other educational expenditure)

At the upper secondary level the cost decreased around 7,9% in real value, while student numbers went up by 25,8%. At the university level the cost per student went down by around 25% in real value, per student at the same time that student grew in numbers by 126,7%. The breakdown of the cost per student is not available for academic versus vocational programmes for the upper secondary level or the tertiary level. Because there are only vocational students studying at the post-secondary level the cost per students can be calculated.

Figure 11–5. Cost of per student; post-secondary non-tertiary level, 1998–2010



Source: Statistics Iceland, 2012: http://www.statice.is/?PageID=1269&src=/temp_en/Dialog/varval.asp?ma=THJ05611%26ti=Public+expenditure+on+education+1998-

2011++++++++++++%26path=../Database/thjodhagsreikningar/fjarmal_fraedsla/%26lang=1%26units=Million%20ISK/percent

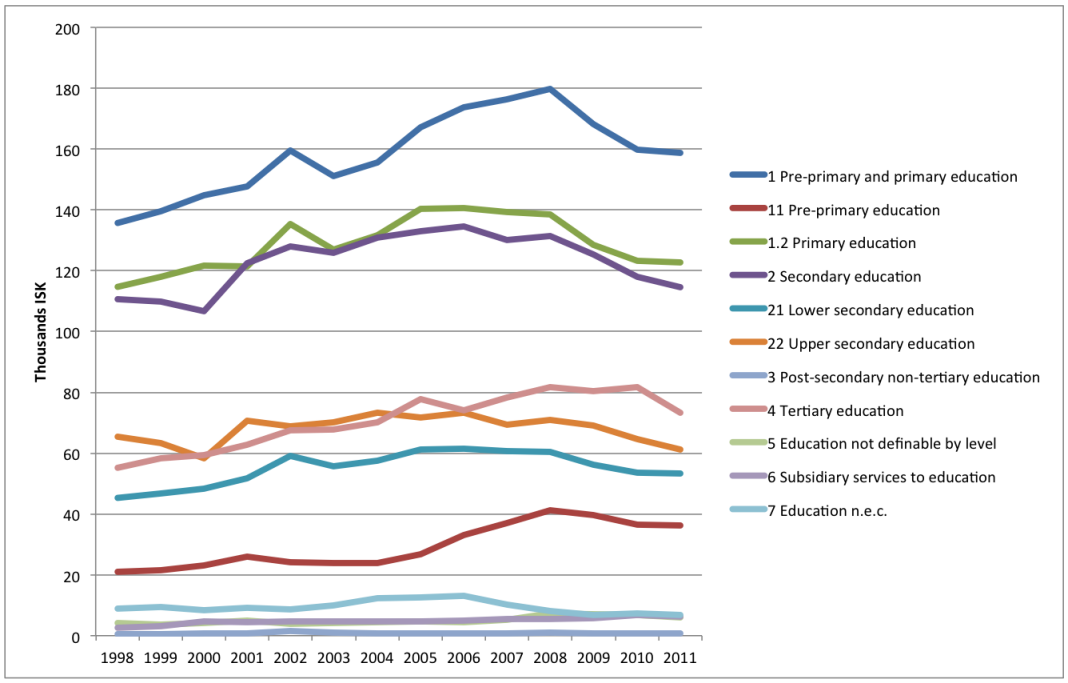
Comparing the cost per student in post-secondary non-tertiary education to, for instance, costs per student at the university level reveal a considerable difference. Much less expenditure is registered for the students at post-secondary non-tertiary level, it is between 11%–27%, of the cost registered per students in tertiary education.

	1998	2000	2002	2004	2006	2008	2009	2010
Post Secondary Level	194	289	432	203	195	217	224	215
Tertiary Level	1.838	1.687	1.582	1.363	1.389	1.500	1.427	1.380
Post Sec % of tertiary	11%	17%	27%	15%	14%	14%	16%	16%

Table 11–7. Cost of education per student, post-secondary non-tertiary level, 1998–2010. *Source: Statistics Iceland, 2011*

Comparing cost per student studying at the post-secondary level with cost per students at all levels, furthermore reveals that the post-secondary level student is the less costly for the public purse, of all students in the educational system.

Figure 11–6. Cost per student in thousand ISK at 2011 prices, all education levels, 1998–2010



Source: Statistics Iceland, 2011.

11.3 Funding Arrangements – Upper Secondary / Post-secondary Education

Costs because of new construction and initial capital investment for equipment at the upper secondary level are met in such a way that the state pays 60% and the local municipalities, one or more, that are formally parties to the construction of the school, pay 40%. All other costs at the upper secondary level are allocated in the State budget (Eurypedia, 2012).

Education in Iceland has traditionally been organised within the public sector. The grant-aided private upper secondary schools in the country operate in accordance with the same legislation as the public schools and are subject to the same supervision. All schools receive public funding determined in the State Budget.

Agreements between the Minister of Education, Science and Culture and individual upper secondary schools, that are made for a period of 3–5 years at a time, shall specify main emphasis in school activities, school curricula, study offer, organisation of instruction, quality control and evaluation, as well as other matters which the parties to the agreement consider feasible. The implementation of these agreements shall be reviewed annually and valid agreements are revised if the parties to the agreements consider necessary.

Each upper secondary school is allocated funds from the State Budget according to a mathematical model where the number of pupils is one of the factors. The institutions manage the funds according to their budgets, covering salaries, operating and fixed costs.

All educational institutions funded by the State are supervised by the Icelandic National Audit Office to ensure the accountability of the schools financial management. The upper secondary schools are subjected to auditing each year.

11.4 Funding Arrangements – Tertiary Education

Four higher education institutions are public and three institutions are run by private parties that receive public funding. Public and private higher education institutions receive individual appropriations from the State Budget. According to the Act on Public Higher Education Institutions the higher education institutions can charge enrolment fees. Private institutions charge tuition fees. The University of Iceland, which is by far the largest institution at this educational level, has substantial forms of income from a lottery that falls outside provisions made in the State Budget. The income from the lottery is restricted only to be used on housing.

The core funding of all higher education institutions in Iceland, regardless of ownership, is based on block funding per student. The Ministry of Education,

Science and Culture allocates block funding for each institution, based on a fixed number of students, for each institution. The institutions are allowed to enrol more students than gets funded by the Ministry. The categories of full time student equivalent differ between different fields of study. This means that allocated funds per full time student in medicine is higher than i.e. in humanities.

Apart from the block funding per student, the funding of institutions is based on performance-based contracts between the Ministry and the institutions. These performance-based contracts are used to allocate funds for research and development within each institution and can vary from one institution to another.

The Higher Education Institutions Act stipulates internal, financial and management autonomy of the institutions. The formal relationship with the Ministry of Education, Science and Culture is further defined in performance-related agreements with public institutions and service contracts with private institutions. The private institutions receive more than 50% from core funding for teaching and facilities from the central government, according to the same funding formula as the public institutions. In addition they charge students tuition fees, whereas the public institutions do not have the legal authority to do so. The research allocation is based on a three-year agreement between the Ministry of Education, Science and Culture and individual institutions under its auspices. The institutions differ in the extent to which they engage in research. All institutions operate on a non-profit basis.

11.5 Financial Incentive Mechanisms

In 2011 a start was made on some special financial incentives, introduced to combat the effects of the recession, fight dropout and to strengthen certain elements within vocational education. Two work groups were established by the government to decide on the policy and create a management plan for action.

The group *Samráðshópur um vinnumarkaðsmál* – a consultation group on labour market issues, produced a management plan and an agenda in march 2011, that resulted in at least six financial initiatives (Velferðarráðuneytið, 2011). Althing – The Icelandic Parliament, agreed to allocate 7 milliard ISK for these initiatives in three years, 2012, 2013 and 2014 (Helgason, 2011). These initiatives have the thematic name of *Nám er vinnandi vegur* – Education is a working way.

The group *Starfshópur um menntun og atvinnusköpun* – a work group on education and job creation, is working on the integration of education policy and labour policy of the government, with the emphasis to analyse the needs of the labour market, increase the impact of vocational education in the Icelandic education system and to develop new, varied ways in vocational education (Alþingi, 2011).

11.5.1 Financial Initiatives

The plan for the financial initiatives in relation to *Nám er vinnandi vegur* started to come into effect in 2011, with an additional finance contribution. In 2012 the project came into full force and is set to run with yearly financial contribution until 2014. The main actions are:

1. Financial assistance for job-seekers to (re)start their education.
2. Financial assistance for people less than 25 years, to enter upper secondary education.
3. Workplace learning fund, which provides grants to companies that can offer students places for training in the workplace.
4. Development fund for vocational education – various projects.
5. Implementation of new school policy to increase flexibility between adult education and upper secondary education.
6. Adult education grants for real competence evaluation and career advice service.

The financial contributions have been set as follows:

"Education is the working way" project - Financing 2012

Action	Explanation	Amount	Validity	
Upper secondary education - jobmarket	Assistance for 1000 job-seekers	800	2014	
Upper secondary education - jobmarket	Assistance, students < 25 ára	440	2014	(400 million ISK 2014)
Devlopment Fund - Vocational Education	Various initiatives	300	2013	
Workplace Learning Fund	Grants to companies	150	2014	
New school policy	Flexibiity beween adult education and upper education	40	2014	
Adult education	Real Competence Evaluation & Career Advice	60	2013	
	Total:	**1790**		

"Education is the working way" project - Financing 2011

Action	Explanation	Amount
Upper secondary level	Financial assistance, students < 25 ára	220
Adult education	Real Competence Evaluation & Career Advice	60
Total:		**280**

Table 11–8. "Education is the working way" project budget, 2011–2014.
Source: The Ministry of Education, Science and Culture, 2012

The first workplace learning grants have been released – 55 grants were released to companies in autumn 2011 and 112 grants in spring 2012.

The Development Fund for Vocational education advertised in spring 2012 openings for grants in the following areas:

- development of short and practical programmes for different occupations

- development of a provision for new fields of vocational learning and for students with special needs
- development of fields of study at the border of upper secondary education and higher education
- analysis for the need of vocational education

In addition, two funds, *The Development Fund for Educational Material/Content* (Mennta- og menningarmálaráðuneytið, 2012i) and *The Development Fund for Upper Secondary Education and Adult Education* (Mennta- og menningarmálaráðuneytið, 2007c) offer opportunities for those working within vocational education to research and develop new initiatives in vocational learning. These funds with a yearly budget of 15–30 million ISK provide funding to innovation projects in organisation of learning, teaching, learning materials, assessment and evaluation of schoolwork.

11.6 Student Funding Arrangements

11.6.1 Student funding at the upper secondary level

Education in the *public schools* (day school) at the upper secondary level is, as such, free of charge, but pupils pay *enrolment fees* and *material fees* to the school. The enrolment fee is currently ISK 6000; the limit of enrolment and material fee is prescribed in a ministry regulation nr. 614/2009. Exemptions are not made from the payment of enrolment fees. A service fee or student fund fees can be added to the enrolment/material fee, but they are optional for the student to pay. Some schools charge a *computer and materials fee* of up to ISK 12.000. For distance education or adult education entry (dreifnám) some schools charge an enrolment fee and then a *fixed fee per unit of study*, which can be around 5000 ISK.

Pupils in vocational education pay, additionally, a *part of the costs of materials*, which varies between programmes, but can be anything between ISK15000–50000. Some schools charge material fees by individual courses and there are examples of material fee for a single course being ISK 25.000. The head teacher decides the amount of these fees. Most schools publish a list of tariffs on their websites.

The government dependent private institutions and independent private institutions will all charge a registration fee to their programmes, whose amount varies. The enrolment fee of The Technical College Reykjavik, for instance, is currently between ISK 25.200 – 43.350 (Tækniskólinn, 2012a), for different schools or departments. In some vocational programmes at these institutions student bear a considerable or all cost of their studies. Cost of programmes for flight cabin crew personnel, air pilots and air traffic controllers can vary from ISK 215.000 to ISK 1.400.000.

Some schools giving VET courses obtain most of their finances through student's fees. An example is "The Beauty Academy" (Snyrtiakademían (Snyrtiakademían, 2013)), a school offering four programmes during 2012 in beauty therapy, chiropody/podiatry, make-up and manicure, with school fees at ISK 236.000–336.000 (manicure – 1 day/week, 12 months), ISK 499.000 (make-up – 4½ days/week, 14 weeks), ISK 1.880.000 (beauty therapy, 3 semesters), and ISK 1.990.000 (chiropody/podiatry – 3 semesters). Other examples are "The Icelandic School of Therapeutic Massage" (Nuddskóli Íslands (The Icelandic Film School, 2013)) and the "The Photography School" (Ljósmyndaskólinn (Ljósmyndaskólinn, 2013)) and "The Icelandic Film School" (Kvikmyndaskóli Íslands). In some fields of study, like industrial dairy processing, students register for a two-year workplace contract at an Icelandic dairy factory, followed by 20 months workplace training at Danish dairy farms and an academic study at a Danish vocational upper secondary school. The study finishes with a journeyman's examination, but the student is financially responsible for his/her education (T. Ólafsson, 2011).

All students who have to leave their legal residence for the purpose of studying have the right to *non-refundable grants* to cover expenses in this respect for up to four years. This right is defined in a law and a regulation on study grants issued by the Ministry of Education, Science and Culture (LÍN, 2012).

Schooling for students with special educational needs is free of charge for the families. Transport, extra staff or teachers trained in various special teaching methods are financed by the government or municipalities. The counsellors in the schools often determine the degree of aid and support for each student.

11.6.2 Student funding at the post-secondary non-tertiary level

The student fees at the post-secondary level vary between institutions. Student fees for a master of trade programme in a public upper secondary education can be around ISK 40.000 for the whole course, but private institutions charge fees by semesters which can be as high as ISK 140.000 (HR, 1912).

11.6.3 Student funding at the tertiary level

The tuition fees for private institutions vary between higher education institutions and fields of study. The tuition fees for undergraduate programmes are approx. ISK 140,000 – 350,000 for each school year. In private institutions students pay additional payments to student organisations. Public higher education institutions are only allowed to charge a registration fee, regulated by law, at ISK 45.000.

11.6.4 Student loans

The government has operated the Student Loan Fund for several decades, with the aim of providing equal access for students with different socio-economic backgrounds and, based on the same principle, provides free tuition at public institutions. The Fund offers student loans that are sufficient to cover costs incurred by the studies (tuition fees, books and materials, travelling expenses, etc.) as well as the cost of living.

The Fund provides assistance for the period of study or generally for two semesters of equal length for full-time studies (60 ECTS). All income forming the student's tax base will be subtracted by 10% of the amount of assistance during the study period. The rates of support for students living with low-income parents may be raised to 100% if the income of both parents is under the prescribed threshold.

In order to receive loans, students are obliged to complete at least 75% of full-time studies according to the programme of the educational institution, approved by the board of the Fund. Assessment of academic progress takes place each semester and if a student does not meet the required standards the loans will be reduced proportionally. For example, the loan to a student who completes 83% of full-time studies will be reduced by 17%.

Repayment of loans begins two years after the completion of studies. The interest rate on loans made by the Fund is 1% but can vary, although it is at no time higher than 3% per annum on the principal of the debt. Student loans are index-linked, based on changes in the consumer price index of the Central Bank of Iceland. The annual repayment of loans comprises two elements: one fixed annual sum, €681 (ISK 98000) in 2008, and one supplementary payment of 3.75% of the person’s income, calculated on the previous year’s tax base for municipal income tax purposes.

Students in the certified trades and in some other vocational programmes of study have the right to receive study loans from the Icelandic Study Loan Fund for programmes in the upper secondary and post-secondary level, providing the programmes are at least one year in duration. Students, coming straight from the compulsory school, cannot apply for the first 2 semesters. These rules of the Student Loan Fund work to the advantage of VET students, as students of academic programmes are not eligible for student loans at the upper secondary level.

Some *Grants* are available for postgraduate, research-oriented studies at higher education institutions in Iceland. The grants are awarded on the basis of a research proposal submitted jointly by a student and a faculty member.

12 Social Partners

The social partners play a role at various levels in the vocational education system in Iceland. Traditionally, the certified trades were the main player in vocational education, but their influence diminished in the educational wave in the seventies, with the establishment of comprehensive schools and integration of special and vocational industrial schools at the upper secondary level. In the last 10–15 years, however, their participation has increased again and various other stakeholders and social partners are stepping in and taking on new roles.

12.1 Social Partners in Upper Secondary / Post-secondary Education

The 2008 Upper Secondary School Act describes vocational study programmes (Article 23), leading to professional rights including journeyman's certificate, as well as other study programmes leading to a defined final examination, according to the minister's decision. The legislation also defines the roles of the Occupational Councils, which are nominated by social partners, usually organisations of employers and employees, in equal participation. The following social partner, listed in the Regulation on the nomination and work of Occupational Councils (Mennta- og menningarmálaráðuneytið, 2009c), are key partners:

- The Icelandic Confederation of Labour
- The Confederation of Icelandic Employers
- The Federation of Icelandic Industries
- The Association of Icelandic Upper Secondary Schools
- The Icelandic Teachers' Union
- Federation of State and Municipal Employees
- The Association of Local Authorities in Iceland

In addition, independent unions are listed as nominees to individual Occupational Councils:

- Bændasamtökin – The Farmers Association of Iceland
- Bílgreinasambandið – Association of Car Suppliers
- Félag skipstjórnarmanna – The Union of Marine Captains
- Félag íslenskra snyrtifræðinga – The Union of Icelandic Beauticians
- Blaðamannafélag Íslands – The Icelandic Journalist Association

12.2 Social Partners in Tertiary Education

Neither the 2006 Higher Education Act (Althing – Icelandic Parliament, 2006) nor the 2008 Act on Public Higher Education Institutions (Althing – Icelandic Parliament, 2008a) make a reference to vocational education (Appendix 8[28]). It is therefore not easy to pinpoint social players within higher education from the legislation. The autonomy of higher education institutes dictates an openness and the different departments at universities can initiate cooperation and invite social partners and companies for cooperation, as advisors or partners in research or projects.

12.3 Social Partners in Adult Education

In adult education, the roles of the social partners were confirmed in the 2010 Adult Education Act (Althing – Icelandic Parliament, 2010), with various social partners being nominated to the board of The Education and Training Fund for a four year term. The role of the Education and Training Fund is to encourage the existence of suitable educational opportunities for individuals who have short formal education. The Fund also participates in creating conditions that enable individuals to use these educational opportunities. The chairman is appointed without nomination; the *Confederation of Icelandic Employers* and the *Icelandic Confederation of Labour* nominate two representatives each; the *Federation of State and Municipal Employees* and the *Association of Icelandic Upper Secondary Schools* shall nominate one representative each; the *Ministry of Finance* and the *Association of Local Authorities* in Iceland shall commonly nominate one representative and the *Minister of Social Affairs and Social Security* one. The board sets the operation and allocation rules for the fund, which are later confirmed by the Minister of Education, Science and Culture. The Ministry of Education, Science and Culture can make an agreement with a legal entity or an institution to administer tasks regarding certification of curricula, the accreditation of education and training providers, administration of the Education and Training Fund; and regarding collection and dissemination of information.

Adult education shares many of the key social partners in vocational education at the upper secondary level.

12.4 A collaborative Forum and Educational Service Centres

FA – *The Education and Training Service Centre* – an entity, owned by the Icelandic Confederation of Labour (ASÍ) and the Confederation of Icelandic Employers (SA) and, since 2010, also owned by the Federation of State and Municipal Employees, the Association of Local Authorities in Iceland and the Ministry of Finance. The Centre's role is to be a collaborative forum of the

[28] Appendix 8: Overview of national policy on VET and lifelong learning.

founding parties for adult education and vocational training in cooperation with other educational bodies operating under the auspices of the member associations.

Other notable institutions that have an agreement with the Ministry of Education, Science and Culture and a role within adult education, continuing education and vocational education are *Iðan* Educational Centre and The Educational Centre of the Rafiðnaðarsamband Íslands (*Fræðsluskrifstofa rafiðnaðarins)*

Iðan Educational Centre is owned by Samtök iðnaðarins – The Federation of Icelandic Industries, Samiðn (Association of Trade Unions), MATVÍS (Association of Culinary, Food & Catering Workers), Félag bókagerðarmanna (Union of Bookmakers), FIT (Union of industrial and technical trades), VM (Union of marine engineers and metal technicians), Bílgreinasambandið (Association of employers selling vehicles, parts and service of those), Samtök ferðaþjónustunnar (The Icelandic Travel Industry Association) and Meistarafélag húsasmiða (Union of master builders). It operates on the basis of a service agreement with the Ministry of Education, Science and Culture and services and services five Occupational Councils, the Building and Construction Council, The Transportation, Vehicle and Logistics Council, The Crafts and Design Council, The Culinary, Hospitality and Tourism Council and The Graphic Media Council. Iðan and the Occupational Councils, which work within Iðan, are central in developing quality assurance policies, measures and handbooks that are meant to ensure quality in workplace learning. Iðan handles student contract, journeyman's examination, offers career advice services, real competence assessment and services to the labour market on analysis of educational needs and execution of educational programmes.

Fræðsluskrifstofa rafiðnaðarins is the educational centre of Rafiðnaðarsamband Íslands (The Electrical Workers' Union). It is an association of eight unions in the electrotechnical industry, with around 4800 members. It operates on the basis of a service agreement with the Ministry of Education, Science and Culture. The centre assists students with setting up of learning contracts, it organises and runs journeyman's examinations and conducts real competence evaluations. It also hosts one Occupational Council, which is assisted in its endevours. The association runs a school for continuing education in various technological fields relating to the professional development of tradesmen in the electrotechnical industry and master courses for electrotechnicians and electronic technicians. The educational centre runs an *i-library*, which aims to be able to provide all learning materials for their programmes and courses in digital format.

13 Qualifications Framework

The Ministry of Education, Science and Culture is currently developing and implementing a comprehensive national framework, the Icelandic National Qualification Framework for Lifelong Learning (ISQF), covering all levels and types of qualifications in the educational system, referencing it to the European Qualification Framework (EQF). Work on the framework started in 2006 and all main elements were in place in 2011. A task group of three experts within the Ministry of Education, Science and Culture is responsible for managing the reference process and has sought collaboration with representatives of all education levels, the Occupational Councils, social partners and other relevant stakeholders through a consultation process – and serves as a National Coordinating Point (NCP) for the ISQF consolidation.

Since Iceland joined the work on the European Lifelong Learning policy around 2000 a main concern has been to battle the dropout at the upper secondary level. A policy update reflects the emphasis placed on validation of informal and non-formal learning, as means to combat dropout, and on strengthening vocational education at the upper secondary level (Ministry of Education, 2009a). It became, therefore, an important objective to set up a national qualification framework for lifelong learning, open to adults, providing a new instrument for validating and recognising prior learning and the experience of adults. This followed the decision of the Icelandic Parliament when adopting the 2008 Act on Upper Secondary Education and an act on Adult Education in 2010, both of which point to the future role of the national qualification framework.

The Icelandic higher education sector started work on linking to the QF-EHEA in 2007, preceding the work on the comprehensive NQF. It is agreed that the three cycles of the higher education framework will provide the three highest levels in the Icelandic NQF. Opening up of these levels to qualifications outside the university system has not yet been discussed (CEDEFOP, 2011). Higher education has decided to adopt the EQF concepts knowledge, skill and competence as basis for their descriptors (Mennta- og menningarmálaráðuneytið, 2011d). The sector has been asked, in the same way as the occupation councils, to write descriptions of competence needs for individual fields of study. The higher education sector has only partly been involved in developing the comprehensive NQF. The consequence of this is that the relationship between (in particular) vocational and academic qualifications (and levels) has not been fully discussed and articulated. Future developments of the NQF might involve looking closer at this relationship between levels to ensure increased permeability and allow for more flexible progression routes.

The Icelandic national qualifications framework is assumed to encompass all education and training in Iceland: general education, academic studies, VET, art

studies, special and adult education. The ISQF, through its systematic application of learning outcomes, is seen as a tool for reviewing the overall functions of education and training and supporting long-term reform. The Occupational Councils are currently actively involved with defining/re-defining the competence requirements of the occupations in their respective fields and placing existing qualifications to the relevant levels of the ISQF/EQF framework. The intension is that all qualifications will be assigned levels through an accreditation process by the Ministry of Education, Science and Culture, which will assure system quality. The accreditation will, in the future, apply to all education at upper secondary level and higher education, and to arts education and adult education, as mentioned earlier (10.1.2).

13.1 Levels and descriptors

The ISQF framework consists of seven, learning outcome based, levels. The 10 criteria, that the EQF Advisory Group agreed upon as a guide for the referencing process of the NQF to the EQF framework, were fulfilled and links established between the qualification levels in the ISQF and the level descriptor of the EQF in the following way (Jónsdóttir, 2013):

NQF	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

Figure 13-1. Comparison of the levels of IS-NQF to the European Qualification Framework (EQF) – corresponding levels

Source: (Jónsdóttir, 2013).

The main curriculum for the upper secondary education (May 2011) illustrates how the NQF is envisaged for those levels relevant to upper secondary education (general and vocationally oriented), by publishing descriptors for level 1 to 4 (Mennta- og menningarmálaráðuneytið, 2011a). Higher education descriptors for three levels were published as part of the self-certification process to the QF-EHEA in 2011. Both descriptors use the terms knowledge, skills and competence, to define learning for each cycle or stage.

13.2 Competence and learning outcomes – design of qualifications

The shift to learning outcomes is seen as an important part of continuing education and training reform. A systematic use of learning outcomes, referring to a national set of descriptors, is seen as a prerequisite for the future design of qualifications.

All learning at the upper secondary level is 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 and the highest level can overlap with the university level at the other (Jónsdóttir, 2013):

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

Figure 13-2. Comparison of the levels of ISQF to EQF, with reference to principal competences. *Source: Jónsdóttir, 2013.*

The *first level* extends to both the compulsory school and the upper secondary school and offers general education. Studies at this level can involve general preparation for employment where little specialisation is required and work is done under the supervision of others.

The *second level* study programmes involve short specialisation that aims for professional preparation for further studies or employment that requires some degree of responsibility and independence, within a certain field of work, often under the supervision of others. The competence focus is on being active and responsible in the working environment.

The *third level* study programmes are characterised by increased requirements for knowledge, skill and competence for specialisation and professionalism. These studies involve preparation for university education, regulated professions, specialised vocational education and art studies. When completing level three

students are required to be able to work independently, be able to plan and carry out projects and to evaluate their own work.

The fourth level study programmes take place at the post-secondary level or in universities. Study completion at this level involves increased specialisation and/or extension of professionalism, or programmes, like master programmes for the certified trades, that offer management training, guidance, development and innovation training.

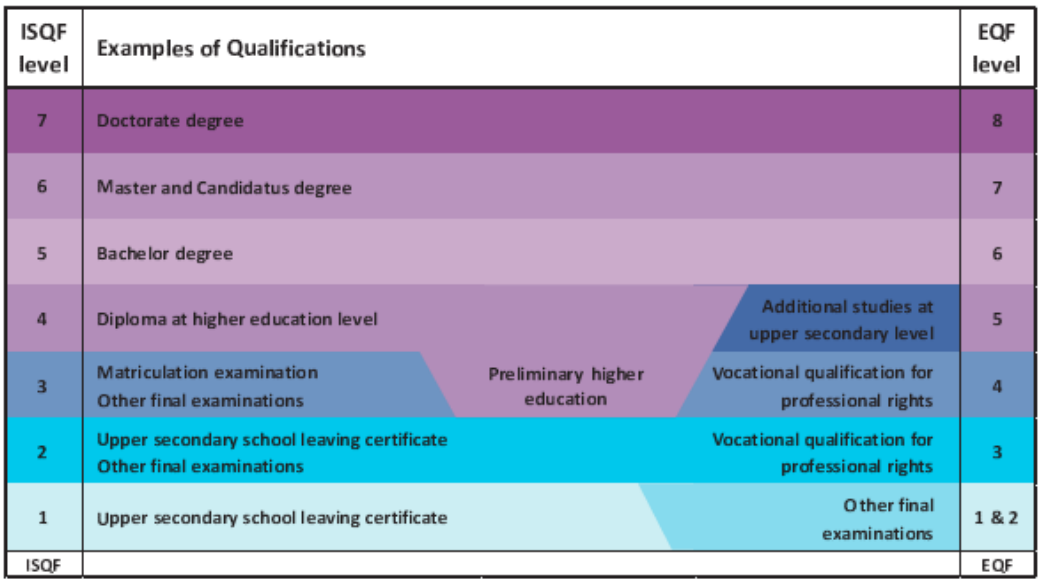


Figure 13-3. Comparison of the levels of ISQF to EQF, with reference to qualifications. *Source:* ***Source: Jónsdóttir, 2013.***

13.3 Validation of non-formal / informal learning and NQF

The introduction of a system for recognising non-formal and informal learning is an integrated part of the effort to establish a NQF. The work on validation started in 2002 and the Ministry of Education, Science and Culture has given The Education and Training Service Centre the role of developing a national strategy in collaboration with lifelong learning centres, upper secondary schools, labour associations and other stakeholders linked to sectors (ETSC, 2007). From 2007–2009 close to 500 individuals have had their skills and competences validated within the certified trades (CEDEFOP, 2011) which enable them to re-enter upper secondary education. The Education and Training Service Centre leads the work of curriculum development in keeping with the NFQ framework.

14 Teaching

14.1 Education and Recruitment of VET Teachers at the Upper Secondary Level

The teacher profession in Iceland enjoys protection by law. Teachers at upper secondary level are state employees and are employed according to the Government Employee Act (Alþingi – Icelandic Parliament, 1996a) and laws passed in 1986 concerning wage contracts for public employees.

14.1.1 Qualification requirements for VET teachers

According to the 2008 Act on the Education and Recruitment of Teachers and Head Teachers in Pre-School, Compulsory School and Upper Secondary School, only those that have been granted a licence by the minister of education, science and culture have the right to use the occupation title Upper Secondary School Teacher and work as such (Althing – Icelandic Parliament, 2008b). The licence shall stipulate the subjects or fields of specialisation of the upper secondary school teacher, according to a further provision in a regulation. A licence to use the occupational title Upper Secondary School Teacher can only be granted to those that have completed:

1. A Master's degree from a university that has been accredited by the Minister on the basis of the Higher Education Act no. 63/2006, in an accredited study field providing upper secondary school teaching education; or
2. Studies equivalent to a Master's degree, which the Minister recognizes as being equivalent to upper secondary school teaching education
3. Qualification as Master craftsman in a trade, whenever those skills may be applied to teaching in a specific subject or within a specific study programme, in which case the licence shall stipulate such specialisation, in addition to 60 credit units in Teacher Certification Studies; or
4. Certified final examination from the fields of art, technology or vocational education, whenever those skills may be applied to teaching in a specific subject or within a specific study programme, in which case the licence shall stipulate such specialisation. The education in question shall be at least 270–300 credit units, whereof 60 credit units shall be in Teacher Certification Studies.

If those conditions are met, the teacher can be given a letter of accreditation by the Minister of Education, Science and Culture, this is further stipulated in a 2010 regulation (Mennta- og menningarmálaráðuneytið, 2010d).

When the 2008 Act on the education and recruitment of teachers was in

preparation the work group discussing the future arrangement for teacher's education wanted the law to guarantee the equal standing of VET teachers with other teachers in the country (Mýrdal, 2008). But in effect, the above mentioned conditions of the law set the education of VET teachers apart from other teachers, because the law does not demand the equivalent educational background from VET teachers in their specialized subject, as of teachers in other subjects, that need to have a master's degree. Teachers in non-VET subjects have to study for 5 years to enter the profession and complete with a master's degree, but VET teachers from the certified trades can take on a teaching job, with a master of trade qualification in their field and one year at the bachelor-level, finishing 60 credit units, in teacher certification studies. This has been subject of some criticism, for instance from The Icelandic Teacher's Union, which sent an opinion to parliament in 2008, when the Act on the Education and Recruitment of teachers was in preparation (Kennarasamband Íslands, 2008). The union commented that it was lacking to state the addition which confirmed what was needed for VET teachers' qualifications in order to satisfy the five year educational condition the law stipulated. The union stressed the importance of a clearer definition of teacher education in a regulation, where notice would be taken of the opinion of a committee for the future arrangement of teacher education, to look forward to a more extensive professional knowledge in their speciality subject and pedagogy.

14.1.2 VET Teacher Education and Training

Teacher Education and training for VET teachers has been offered by two universities, The University of Akureyri and The Iceland University of Education / University of Iceland. The programmes run before the 2008 Act were half the length of current programmes.

The University of Akureyri started a programme for VET teachers in 1994, but stopped offering it in 2009 (Baldursdóttir, 2011). The VET student entered the same courses as other students in BA-studies, except for a special vocational pedagogy course that gave 10 credit units.

Teacher Education and training programmes for VET teachers at The Iceland University of Education / University of Iceland (since 2007) was first offered in 1976 (Jóhannesson, 2011). The programme on offer in 2011-2012: KEN121 – Teaching studies for certified master tradesmen is a diploma programmes, gives 60 ECTS units. It is intended for certified masters of a trade who want to teach their subject (trade) at compulsory or upper secondary level of education. It is a part time study programmes, taught over two years, to enable individuals to combine both work and study. The objective of the programme is to further students' knowledge and understanding of educational theory and to train them to apply their knowledge to the teaching profession (Appendix 20[29]).

[29] Appendix 20: Teaching Studies for Certified Masters of Trade, for details on programme content.

Short courses for guides or mentors in the workplace have also been offered since 2007, by Iðan Educational Centre, to improve the abilities of trainers in the workplace (Ó. Jónsson, 2012). The course content emphasises the organisation of workplace learning with reference to apprentice logbooks and the advantage of their use. Environmental factors, communication and conversation techniques are also on the learning agenda of these 30-hour courses. Similar courses have been offered for years for health care trainers by Framvegis Educational Centre (Framvegis, 2013).

14.1.3 Teacher quality assurance

As an estimation, there were around 1180 VET teachers in service in Iceland in 2011 (Árnason, 2011). Their work environment has become increasingly complicated of late, with new demands raised by sudden changes in social and economic conditions and improvements in school legislation. With changes in the legislation teachers now have to participate actively in writing curriculum for their subjects, have to meet challenges of inclusive education and diversify their teaching accordingly. Teachers are not evaluated as individuals. A consistent part of the school evaluation is student surveys for each course given during each semester. The head teacher usually discusses the results of these surveys with every teacher, in order to give appraisals and feedback, and to suggest improvements, if needed. Also, it is common to review the results of students' exams for the same purpose. An annual teacher appraisal is practiced in some school through a prepared interview with staff.

14.2 Education and Recruitment of VET Teachers at the Tertiary Level

University teachers come under the Government Employees Act from 1996. As there is not one single union for teachers at the university level, teachers at each institution have their own union, and each union is responsible for negotiating its own contract concerning salaries and working conditions. The conditions of service for teachers at the higher education level can vary between different educational institutions. Since 1997 the State Salary Commission decides the salaries of professors.

In order to be appointed as a professor, associate professor, lecturer and adjunct lecturer, *a master degree* at least , or equivalent knowledge and experience as reviewed by a evaluation committee, is required. Of late, it is more common that a PhD degree is required. Furthermore, applicants shall have demonstrated sufficient achievement in their work to enjoy recognition in the respective field of study.

14.3 Age and gender of school teachers – teacher shortage

In Iceland, teacher self-efficacy and job satisfaction are above the TALIS average (OECD, 2009). Despite of this length of experience of teachers in Iceland is below the TALIS average: the percentage of teachers working for 20 years of more is 23% – the 5th lowest of the 23 countries taking part in the survey (TALIS average is 36%). Females dominate the ISCED1 level in Iceland (80,32%), at ISCED3 level the percentage of females is 53,33% and at ISCED5 level females are 48,97% of the teacher group teaching at that level (European Commission, 2011).

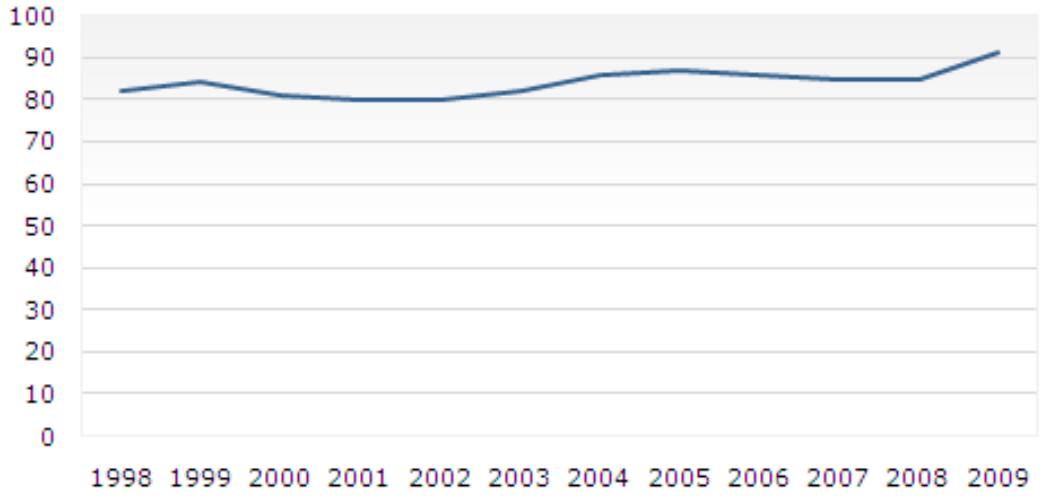
In 2008 34% of all secondary teachers in the EU were 50 years or older. In Iceland this percentage is 46,2% for ISCED 2–3 levels. Only 7% of teachers at the ISCED 2–3 level in Iceland are less than 30 years old. The average age of teachers in Iceland in 2009 was 44,6 year and has been going up (Hagstofa Íslands – Iceland Statistics, 2010).

Teachers by age (%), by ISCED level	Less than 30 years old ISCED 1	Less than 30 years old ISCED 2-3	50 years and older ISCED 1	50 years and older ISCED 2-3
EU-27	**15.0**	**12.0**	**28.5**	**34.0**
Belgium	23.1	16.4	20.4	32.8
Bulgaria	3.9	7.0	23.5	35.6
Czech Republic	13.1	9.8	34.0	32.7
Denmark	9.5	:	38.6	:
Germany	6.1	3.2	50.3	50.4
Estonia	10.3	9.9	29.7	43.8
Ireland	26.2	13.4	27.3	32.1
Greece	:	:	:	:
Spain	14.2	7.2	31.4	28.0
France	15.8	9.3	20.0	34.3
Italy	1.4	0.5	42.0	56.2
Cyprus	34.9	15.5	2.9	20.8
Latvia	9.6	9.9	35.7	38.8
Lithuania	5.8	10.5	29.1	35.8
Luxembourg	28.9	20.0	23.0	28.8
Hungary	10.8	12.5	22.5	29.2
Malta	32.0	29.7	23.8	20.9
Netherlands	20.3	11.5	33.8	44.6
Austria	8.3	5.9	34.7	37.8
Poland	16.4	17.6	11.8	19.7
Portugal	11.0	10.4	29.2	22.1
Romania	19.4	20.6	30.9	33.6
Slovenia	11.1	8.8	16.0	26.5
Slovakia	17.0	16.4	25.5	35.8
Finland	10.4	8.4	28.2	37.1
Sweden	5.1	8.1	48.8	41.5
United Kingdom	24.6	18.1	27.4	30.9
Croatia	:	:	:	:
Iceland	12.1	7.0	30.8	46.2
MK*	11.0	14.8	25.0	30.4
Turkey	:	:	:	:
Liechtenstein	11.1	11.7	29.2	27.0
Norway	11.6	8.1	36.2	43.8

Table 14–1. Age distribution of schoolteachers in the EU, 2008.
Source: EUROSTAT (UOE), *MK: The former Yugoslav Republic of Macedonia; see Annex 2
EU27 calculated with the average of countries
For country specific notes see:
http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/dataset?p_product_code=EDUC_THPERTCH

The percentage of teachers with qualifications in teaching has never been higher in Iceland than now. In autumn 2009 91,2% of teachers had qualifications (Hagstofa Íslands – Iceland Statistics, 2010) and has gone up from around 80% in year 2000.

Figure 14–1. Percentage of schoolteachers with qualifications, 2009.



Source: Statistics Iceland, 2009.

Statistics or data on working teachers and teacher shortage are not readily available, and usually teacher statistics would only available for the profession as a whole, not for VET teachers in particular. The shortage of teachers is not very apparent. As teacher's salaries are relatively low in Iceland, compared to other European countries, it can therefore occur when the labour market is in expansion that VET teachers take on better paid jobs. The Minister can grant exceptions for unqualified teachers, if no teachers with qualifications apply for the post. This can only be done for one year at a time.

15 Career Guidance

15.1 Preparations of Career Guidance Professionals

Educational and career guidance is a relatively new profession in Iceland. A programme for educating career advisors was set up at the University of Iceland in 1990 parallel to an effort to develop educational and career guidance in the educational system (Háskóli Íslands, 2010). Before 2004, the programme was run as a one-year diploma programme in further education. From 2004, an additional year enabled students to graduate with an MA-degree. A revised MA-programme started in autumn 2010, with increased workplace training (University of Iceland, 2012). The conditions for entry are BA, B.Ed. or BS-degrees, or an equivalent qualification with 1st grade, i.e. over 7,.25 (Háskóli Íslands, 2012).

The profession was legalised in 2009 (Mennta- og menningarmálaráðuneytið, 2009a).

The Ministry of Education, Science and Culture initiated projects to strengthen career guidance in 1989, and in 1997 it was decided to employ career advisors at all compulsory schools in the Reykjavík area, at the lower secondary level. Since 2008, with the Compulsory School Act, all students have the legal right to receive educational and career advising within the compulsory school by a professional career advisor. In a recent dialogue between the stakeholder in VET education, initiated by the NATLOGUE-Project (National dialogue and structural sustainability in education and training), a strong emphasis was placed on the availability of educational counselling and guidance on vocational interest at the compulsory level, as well as at the upper secondary level (Mennta- og menningarmálaráðuneytið, 2012f).

Compulsory schools generally offer educational counselling which, includes assistance in organising studies and study-related problems. Educational counselling also helps students with their personal problems. Guidance on vocational interests and on vocational education opportunities are a part of the career advisors professional task list, but there are indications that career advisors have problems fulfilling these duties, partly because of work overload and, to some extent, because of shortage of tools and information on jobs, companies and job prospects (Vilhjálmsdóttir, 2011).

The Ministry of Education, Science and Culture carried out an evaluation of the implementation of law in compulsory schools in 2010 (Guðmundsdóttir, 2010). The headmasters were asked if all students had access to a career advisor in accordance with the act nr35/2009 on career advisors. The answers showed that only 50,6% of the compulsory schools employed a career advisor and that 31,4%

of students did not have any access to a career advisor, whatsoever. It seems therefore that there is ample scope for improvement, not only to fulfil the obligations of the legislations, but also in developing the guidance on vocational interests and improve on information supply or education materials for career guidance on the labour market, companies and jobs.

Recent Icelandic research indicates that access to a career advisor is one of the few factors that can reduce dropout in the upper secondary school (Aðalbergsdóttir, 2006). The research of Guðbjörg Vilhjálmsdóttir, professor at the University of Iceland, that made a comparison between groups of students that graduated and dropped out, showed that gains in organised occupational thinking at the age 15–16 predict graduation from vocational education, controlling for effects of social factors and grades (Guðbjörg Vilhjálmsdóttir, 2010).

The access to a career advisor in upper secondary schools and universities is not as critical as that of the compulsory school. All upper secondary schools have a one or more career advisors employed at the school, but student access is more limited in larger schools and in regions outside the capital (Mennta- og menningarmálaráðuneytið, 2007b). They offer personal advice, assistance with learning difficulties, interest surveys and advice on future career.

Career advisors are employed in most universities. The level of service differs, somewhat, the larger universities offer various services, such as courses on reading and learning techniques, note taking, time management and for combating exam anxiety. They offer special assistance in learning difficulties, personal advice and interest surveys. Some, like Reykjavík University, emphasise services to students on graduation, linking them to the labour market in order to ease the transit from school to work.

A work group assigned to evaluate the status of educational and career guidance in Iceland in 2007 put forward certain objectives for improvements. Some have been realised but the following still remain to be implemented:

- All students in compulsory schools and upper secondary schools should have access to educational and career guidance.
- A holistic management plan should be established for the primary, lower secondary and upper secondary levels of the education system
- A project manager should be appointed by the Ministry of Education to implement the suggestions of the work group and work on the management plan

16 Quality Assurance

The Ministry of Education, Science and Culture is responsible for the *evaluation and monitoring* of educational institutions in the educational system in Iceland.

The law requires educational institutions to systematically evaluate the achievements and quality of school activities and the Ministry of Education, Science and Culture issues guides for this *internal evaluation* procedure.

External evaluations are organised by the Ministry of Education, Science and Culture and can include evaluation of schools/institutions as a whole, evaluation of internal evaluation methods or any defined areas of school activities.

Laws on upper secondary education (Alþingi – Icelandic Parliament, 2008) stipulate that the Ministry of Education, Science and Culture is to conduct comprehensive external evaluation at this school levels. The rationale for this was to gather reliable information concerning factors such as quality control in operating schools, the educational achievement and careers of pupils, teaching practices and their impact on educational achievement, communication within schools, and relationships with parties outside schools.

Provisions for quality control of teaching and research in higher education were laid down in the Higher Education Act of 2006 (Althing – Icelandic Parliament, 2006).

The monitoring, evaluation and quality assurance in adult education is explained in the Act on Adult Education (Althing – Icelandic Parliament, 2010).

Every three years, the Minister of Education, Science and Culture delivers *comprehensive reports to the Parliament* on pre-primary, compulsory and upper secondary education schools' operation and activities, based on systematically gathered information, evaluation and research (Mennta- og menningarmálaráðuneytið, 2011f). In the 2011 report, under development of provision and related grants, development of vocational courses is given special emphasis. An account is made of the Occupational Councils, their part in defining competences for ISQF levels of vocational programmes, and of the occupational committee, its advisory and coordinating role for the Occupational Councils. Other reported actions on vocational education are: actions on the consolidating of workplace learning, curricula development, definitions of competences in relation to levels of ISQF and qualifications. Finally, first details on a holistic policy for vocational learning are introduced. Judging from the report the current emphasis on quality improvements is on quality in workplace learning, with publication of handbooks and increased awareness and training of trainers.

Iceland has since year 2000 taken part in the OECD PISA study and in TALIS 2009. Iceland also participates on a regular basis in OECD work on developing student-achievement indicators. OECD experts have furthermore regularly reviewed the Icelandic educational system.

16.1 National Examinations

Nationally coordinated examinations in the mother tongue and mathematics are held in grades 4 and 7. There are also nationally coordinated examinations in grade 10 in mother tongue, English and mathematics. The purpose of these examinations is primarily to indicate the pupil's standing. These examinations are prepared, graded and organised by the Educational Testing Institute (Námsmatsstofnun, 2012). The results of the national coordinated examinations are distributed, i.e. pupils receive their own marks and the mean figures are distributed to the public for each examination at every compulsory school in the country, as well as for each region and region wide.

The journeyman's examination for the skilled trades is the only nationally co-ordinated examination at the upper secondary school level. According to the Upper Secondary School Act from 2008 the Minister of Education, Science and Culture may decide to set nationally co-ordinated examinations in individual upper secondary school subjects.

16.2 Quality Assurance in Vocational Education at the Upper Secondary / Post-secondary Level

The Upper Secondary Schools Act no. 80/1996 (Alþingi – Icelandic Parliament, 1996c) stipulated that each school should introduce methods of evaluating the work of the school, including its teaching and administrative methods, communication within the school and relations with outside parties. This was followed up by the Ministry by publications on evaluation and self-evaluation methodology and introductory material to schools (Menntamálaráðuneytið, 1997).

The 2008 Act on Upper Secondary Schools (Alþingi – Icelandic Parliament, 2008) confirmed the objectives for evaluation and quality control in the upper secondary schools, defining the purpose as:

a. to provide information about school activities, its achievements and development to educational authorities, upper secondary schools, personnel, receiving schools, the economy, parents and pupils
b. to ensure that school activities are according to law, regulations and national curriculum guide for upper secondary schools
c. to increase the quality of studies and school activities and encourage developmental work
d. to ensure that pupils' rights are respected and that they get the service they are

entitled to according to law

The 2008 Act on Upper Secondary Schools requires schools to fulfil certain conditions, one of which is to set up an *internal quality management system* (article 12).

16.2.1 Internal Evaluations

The 2008 Upper Secondary School Act stipulates *internal evaluation* of achievement and quality of school activities with active participation from school personnel, pupils and parents as relevant. The upper secondary school issues publicly information on its internal evaluation, its connections with school curriculum guide and plans for development.

The act also provided that every five years an *evaluation* should be made, on the initiative of the Minister of Education, *on the self-evaluation procedures* used in schools. This was first done in 2002–2003. The report stated that 52% of 29 upper secondary schools did have an official self-evaluation plan, 14% did systematic self-evaluation of all main factors, 35% of some factors, 41% did some experiments in self-evaluation and 7% were in preparation of self-evaluation (Menntamálaráðuneytið, 2002b). 41% of the schools had published some form of self-evaluation report. The findings from evaluation of the self-evaluation procedures revealed that only 24% of those were satisfactory, 24% were partially satisfactory and 52% were unsatisfactory. A follow-up evaluation made by the ministry in 2007-2008, in comparison, showed that 79% of schools evaluations were satisfactory, 14% were partly satisfactory and 7% were unsatisfactory (Menntamálaráðuneytið, 2009).

16.2.2 External Evaluation

The Ministry of Education, Science and Culture administers the acquirement, analysis and dissemination of information regarding upper secondary school activities as an integral part of regular *external quality control* of school activities, together with assessments, surveys and studies. The Ministry of Education, Science and Culture sets an agenda for three years at a time regarding surveys and assessments that aim at providing information on implementation of the law, of the National Curriculum Guide and other school activities (Mennta- og menningarmálaráðuneytið, 2010b). The Minister may also decide to carry out special external evaluation of an upper secondary school or of individual parts of its activities if considered necessary. Assessments of upper secondary schools shall be carried out no less than every five years and are assigned to independent agents.

Since year 2000 there have been 26 external evaluations carried out evaluating vocational programmes or vocational institutions at the upper secondary level and

9 external evaluations at the tertiary level (Appendix 16[30]). None of those external evaluations have been targeting post-secondary education in particular. After external evaluation comprehensive evaluation reports are sent to the schools and published on the ministry's website. The results of external evaluation are to be used by the school to improve its work. Educational authorities also make use of evaluation results. The results of external evaluations are, for instance, disseminated to the schools in annual contract meetings with the school head and to the Occupational Councils for information.

16.3 Quality Assurance in Vocational Education at the Tertiary Level

Quality assurance at the tertiary level can be seen as a double-sided coin, it consists of an internal evaluation that is conducted within the university, or institutions providing tertiary education, and an external evaluation. The evaluations should cover teaching and research and be based on internationally acknowledged standards. The external evaluation is performed by external and independent evaluators in such a way that it can compare the quality of different institutions in the tertiary system, universities, research institutions and other bodies that receive public funding for research (Helgadóttir et al., 2009).

The Higher Education Act no.63/2006 (Art. 23) stipulates the objectives of quality control of teaching and research in higher education institutions:

a. to ensure that the requirements for accreditation of Higher Education Institutions are met
b. to ensure that the qualification framework for higher education and degrees is fulfilled
c. to improve the quality of teaching and research in an efficient way
d. to encourage increased responsibility of Higher Education Institutions for their own activities
e. to ensure the competitiveness of Higher Education Institutions at international level

Following the legislation the ministry published a *guide for higher education institutions on internal and external evaluation* and the tasks of a peer-groups carrying out the external evaluation (Menntamálaráðuneytið, 2006). *The rules for both internal and external evaluations at higher education institutions* are laid down by the Ministry of Education, Science and Culture (Ministry of Education, 2009b), which further explains the objectives and criteria, procedures, implementation and publication for internal and external evaluations.

The Ministry of Education, Science and Culture established the *Quality Board for Icelandic higher education in 2010*, tasked with taking forward the development

[30] Appendix 16: Evaluations Reports: VET Institutions, VET Programmes and other related activities, 2000–2010.

of a Quality Enhancement Framework (QEF) for the higher education sector in Iceland. In undertaking this work, the Board has worked closely with the *Icelandic Quality Council for Higher Education*, also established by the Ministry. In addition, informal discussions have been held individually with all the higher education institutions and with a range of other bodies and individuals associated with higher education in Iceland. Its design has also benefitted from drawing on European and wider international experience and expertise, and the framework is positioned at the forefront of international development (Menntamálaráðuneytið, 2006).

The Quality Board for Icelandic higher education has discussed the issues of vocational education, but no resolutions or policy is available yet. The first external evaluation of a higher institution according to the new rules has been carried out for Reykjavik University, which provides vocational education at the post-secondary and university level, and the report will be available in September, 2012 (Magnússon, 2012).

16.4 Quality Assurance in Adult Education

The 2010 Adult Education Act lays out the rules for quality assurance in adult education. Institutions providing adult learning have to fulfil certain conditions for operation, one of which is the existence of a quality control system focused on adult education. The ministry certifies curricula and course descriptions, confirming the fulfilment of specific requirements for organization and quality of teaching. The objectives of evaluation and quality control for adult education are:

a. to ensure that education and training providers operate according to provisions of the law, related rules that may be issued and curricula
b. to increase the quality of education and training according to this law, and
c. to ensure that the rights of individuals, that use the services provided on the basis of the law, are respected.

Education and training providers shall carry out a systematic evaluation of the quality and results of their activities and publish information about their internal quality control and subsequent plans for improvement.

The Minister of Education, Science and Culture shall administer surveys, analyses and research that aim at ensuring the general quality of adult education and a general understanding and knowledge of related issues. Implementation of these tasks shall normally be entrusted to a neutral body.

The Education and Training Service Centre in Reykjavík lead a European project on development of quality standards in adult education, RECALL, which finished in 2006. The product of RECALL was EQM (European Quality Mark) (European Quality Mark, 2012), which is a transparent evaluation process for educational bodies, employed to evaluate their practices with acknowledged quality standards. Since some adult learning education centres in Iceland have already developed

their standards and a handbook and received certification as a certified adult education centres.

17 Policy developments and initiatives

The first decade of the new millennium is characterised, nationally, by accelerated developments in the labour market, increased cooperation, between social players and between the ministry and stakeholders in education, by educational improvements of existing fields of study in vocational education and some new entries of fields of study, especially relating to new technologies, services, art and design. Policies of lifelong learning and inclusive education have also contributed to an increased fairness and accessibility in the educational system.

17.1 A Report of the Committee on the Formation of Educational Policy, the 1996 legislation and the 1999 curriculum

Vocational education in Iceland in the new millennium inherited a policy that was put in practice with the 1996 Upper Secondary School Act (Alþingi – Icelandic Parliament, 1996c) and a main curriculum in 1999 (LHÍ – Iceland Academy of the Arts, 2012). Suggestions came from *The Committee on the Formation of Educational Policy*, set up in 1992 to form a policy and to revise the existing legislation for the primary, lower secondary and upper secondary schools (Appendix 8[31]). The committee delivered its report *Nefnd um mótun menntastefnu* (Mennta- og menningarmálaráðuneytið, 1994) in June 1994 as well as a draft for the new legislation. The committee emphasised that the guiding light in the compulsory and upper secondary school should be prepare young people for an active participation in a democratic society, which is based on collaboration and characterised by information technology, specialism and flexibility.

The committee suggested decentralisation in education and advocated for school's independence, a centralised formation of objectives and coordinated assessment of achievements of students at certain levels, self-evaluations of institutions, quality management and increased information delivery to the public on the achievements in education. The committee also emphasised continuation in education and recommended better usage of students' time, by shortening the duration of programmes in the upper secondary school, both academic and vocational programmes. It recommended that educational and career counselling would become a regular part of the agenda in the compulsory school, especially at the lower secondary level and that all students should study at least one vocational subject from 8th grade onwards.

[31] Appendix 8: Overview of national policy on VET and lifelong learning.

The committee remarked that instead of connecting academic and vocational studies in the comprehensive upper secondary school system, as the intention had been with the formation of the comprehensive schools, the weight of academic studies had increased at the expense of vocational learning. Therefore, a revision of all curricula and organisation of learning in programmes was desirable, so that they could better serve the needs of individuals, the labour market and society. The committee advocated for work division between upper secondary schools, which would allow students to study in their home surroundings, before they would move for a more specialised study in another region. The committee suggested different minimum entry conditions for vocational programmes than for academic programmes, decided on by ministry, schools and representatives of the labour market, which do not seem to have been put into force. It also suggested that vocational students should be allowed to take matriculation exams to gain entrance to certain university programmes. The committee stated that is was desirable that educational policy for vocation education would go in hand with a policy on developments in the labour market policy. The following key points were suggested for the development of vocational education:

- Vocational education should be given a priority in the education system
- Efforts should be made to raise interest of young people to pursue vocational studies
- Give social partners, employers and employees, an increased role in policy making and development of vocational education in their field
- A Co-operation Committee for Vocational Study (Samstarfsnefnd) should work on relations between school and labour market, and advice the minister of education on forming of a policy for vocational education
- Establishment of Occupational Councils for different occupations or groups of occupations. They should analyse the needs for knowledge and competences of employees and make proposals to the minister of education on the arrangements of learning in the subjects that pertain to the council.
- Schools that provide vocational education should be authorised to establish special advisory committees with representatives from the labour market in the region, to enable relations between schools and labour market
- Authorise the establishment of core schools for specific occupations or groups of occupations in cooperation with unions or associations of particular occupations, in order to pioneer a development in the field. The representatives of federations of employers and employees in the relevant occupations should sit on the board of cores schools for experimentation sake.
- The parties of the labour market should bear the cost of participation of their representatives
- The structure of vocational learning should be revised and the objective should be that learning should be experienced in a holistic way. In workplace learning, the study in school and learning in the workplace should come together, if possible.

- The companies that offer workplace learning should fulfil minimum requirements, which the Occupational Councils should define. Learning contracts or training contracts should be made for all learning that takes place at the workplace.
- Assessment should be carried out, continually, right through the programme, both at school and in the workplace
- VET students should have an option to continue their studies, from all levels in upper secondary education, and to attend preparation learning for a matriculation exam, when they finish 3–4 years of vocational education.
- Start development of short vocational programmes, with a defined qualification, in close cooperation with federations of employees and employers.

In a discussion on new fields of studies, in the report, the committee states that in order for the minister of education to decide on the establishment of a new field of study information need to be available as well as an evaluation of the prerequisites for the enablement of a new field of study. That is, information on the needs of the labour market for the proposed study, an interest in participation and an agreement with the labour market on the acknowledgement of the programme, so to increase the chance that the student that finishes the programme will be preferred for the work rather than an individual without the professional education, when someone is going to be hired for the job. The organisation of the new field of study is the responsibility of the Occupational Council that it pertains to. If a field of study does not pertain to any Occupational Council the minister can establish a work group or a committee to prepare for the creation of the field of study. The report does not elaborate on how to proceed with labour market relation for a new study field, when it has been established.

The policy points delivered in this report initiated a bulk of changes made in the 1996 legislation and transpired in the main curriculum that was consequently written in 1999. It was, and in many ways still is, a formative policy, setting the agenda until the wave of new legislations and improvements set in towards the end of the last decade, but have not been fully implemented. It took reference in Danish legislation, especially in the form of cooperation with the labour market and choice of representatives for the committees and councils, that later served at the cogwheels of development in vocational education.

It is debatable whether the vocational education was given an absolute priority in the educational system following the 1996 legislation and publishing of the 1999 curriculum guide, but it did gain more attention and the government introduced many of the suggestions of the committee in order to connect schools and the labour market, by giving social players, employers and employees, an increased role in policy making and development of the vocational education, with the creation of *The Co-operation Committee for Vocational Study* and *Occupational Councils*. Financial effort was also put into support for actions to develop specific areas of vocational education as time wore on, financing the revision or development of curricula, educational content and materials, as well as through direct support for adult education. Many of the operational suggestions were tried

and tested, with various results. Quality became more of a concern and conscious efforts were made to strengthen quality in vocational institutions and structures of certified trades as well as in some other vocational subjects, that is still on going. Efforts were made to make a link between school learning and workplace learning, by describing the objectives and relationships in new curricula and create the necessary tools and pathways, to put these into practice.

The concepts *innovation and harnessing of knowledge* come into function in the 1999 curriculum, not in the legislation or main curricula for the upper secondary school (Menntamálaráðuneytið, 1999a) or the compulsory school (Menntamálaráðuneytið, 1999b), but in arguments for it (Menntamálaráðuneytið, 1999e) and in the curriculum for information and technology education at the compulsory school (Menntamálaráðuneytið, 1999d). Information and computer technology was introduced into the curriculum at a similar time and the course set on integrating the new technologies into all subjects, in a special policy paper on IT (Mennta- og menningarmálaráðuneytið, 1999).

It is worth noting that the arts (classified as vocational education) gained a revised status in the 1996 legislation and in the 1999 curriculum (Menntamálaráðuneytið, 1999a), opening the way for art & design students (visual arts, dance, design, music), graduating from the upper secondary school, to enter university, when art & design was defined as "a three year programme, that would prepare students either for further learning at specialised schools or at schools at a university level." The main art school (Myndlista- og handíðaskólinn) had been upgraded to a university status in 1999 and could therefore receive student at that level (LHÍ – Iceland Academy of the Arts, 2012).

The status of vocational education and vocational programmes, in this respect, is clearly different from the arts in the legislation: "Pupils following vocational programmes shall also have the possibility of additional study in preparation for university-level study." And when defining final examination in the legislation, the status of the final examination of vocational studies is still begging definition: "Final examinations in upper secondary schools, such as the university entrance diploma (stúdentspróf) and final examinations in vocational programmes of study, which may confer the right to further study or employment qualifications, shall be administered on a national basis in certain subjects as prescribed specifically in a Regulation." In all cases, this meant that the vocational student had to add additional studies should he/she want to study at the university. The other options for further studies were master of trade studies or any programmes offered at the post-secondary non-tertiary level.

Vocational study and approved artistic study at upper secondary school level could also be assessed for credit as an area of specialisation in academic programmes of study, subject to the requirements prescribed in the National Curriculum Guide", but not vice versa. They were labelled as "optional subjects", defined in the National Curriculum Guide, and were meant to "provide pupils with the opportunity to acquaint themselves with artistic, vocational and academic areas of their choice."

17.2 The Vocational Committee and preparation for a New Legislation

A policy for improvement of vocational education at the upper secondary level and post-secondary non-tertiary level was represented by *The Vocational Committee* (Starfsnámsnefnd) in 2006, that was appointed by the Ministry of Education, Science and Culture to revise vocational education, to explore the options to increase students' attendance in vocational education, simplify the organisation of learning and improve upon the relationships of vocational learning at the upper secondary level with the compulsory school and institutions at the tertiary level. The committee was also to review the chapter in the laws in force on upper secondary education and vocational learning, evaluating if the need existed to revise the organisation of vocational learning at all levels, as well as the work of the Occupational Councils and the collaborative committee.

The main conclusions of the committee were that a reorganisation of the structure of the upper secondary school was needed (Starfsnámsnefnd, 2006). A New Upper Secondary School should become a single stream, without any separation of academic and vocational learning, but with several different programmes. All learning at the upper secondary level should have equal standing and changes were needed in workplace learning. The committee quoted articles of the 1996 Upper Secondary School Act, which it insisted maintained the segregation of academic learning and vocational learning, such as articles 16 and 24, that stated that academic studies served as preparation for university studies and confirmed the matriculation examination as the prerequisite to university entry. In the opinion of the committee there was time to remove this segregation. It pointed out that vocational learning did not have an equal standing when it came to studies at university level and that vocational students were made to put in much more effort than academic students, should they want to continue their studies at the university.

The committee suggested to government that it should aim for establishing a professional-university level (fagháskólastig) and to formalise the collaboration of different levels of the educational system. Changes were also required to the operation of The Co-operation Committee for Vocational Study and The Occupational Councils.

The committee recommended a fixed core of studies: Icelandic, mathematics and English, and that all other subjects and programmes should be arranged according to curricula credited by the Ministry of Education, Science and Culture and through a formalised collaboration with the universities, trough the Occupational Councils. The matriculation exam could be a step on the student's way to a defined learning outcome. Emphasis was put on the strengthening of educational counselling and career advice at the upper secondary level. The committee recommended an appointment of a committee for cooperation between school levels and an appointment of a *consultation committee* that would handle

communication and harmonisation between the Occupational Councils. The committee also suggested that the curricula in upper secondary schools, as well as educational materials, should be revised on a yearly basis. There were suggestions about bringing workplace learning closer to school learning, steering the student's school and workplace learning into an united track, and about the Occupational Councils overseeing workplace learning and hiring supervisors, that could be at school or institutions serving vocational education. The committee also made specific suggestions to improve quality in vocational education, such as accreditation of companies in workplace learning, logbooks and establishment of a specific fund by government and labour market to support workplace learning.

The new legal framework established in 2006–2008 did not meet with the suggestions of the committee to remove the matriculation examination as an entry condition to university, or give final exams in vocational education the same status, but created conditions for decentralisation and more autonomy for schools at the upper secondary level to develop their school curricula guide and their own programmes with curricula that needed accreditation from the Ministry of Education, Science and Culture. These are only coming now into effect, because of the delay of implementation of the legislation. The new legal framework also enabled many of the committee's suggestions, such as for quality arrangements and funding of workplace learning. The main curriculum raised the issue of equality of subject in the upper secondary education and confirmed the core subjects: Icelandic, mathematics and English, with a minimum study of 45 fein units.

17.3 European Work Programmes and Policy-making for Lifelong Learning

Iceland entered the Education and Training 2010 work programme of the European Union early on and has been taking an active role in both the Bologna and the Copenhagen processes (European Commission, 2005). The early effort set about general reforms in the structure of education and training institutions and evaluations, but a priority was soon set on building a coherent lifelong learning policy that resulted in a coherent and comprehensive strategy building, in collaboration with the representatives of the labour market, associations of employers and employees, and schools. In this work the Open Method of Co-ordination was the preferred methodology. These early efforts concentrated on the following:

- Teachers and trainers
- Basic skills, foreign language teaching and enhancing entrepreneurship
- ICT in education
- Increasing participation in maths, science and technology
- Better use of resources
- Mobility and European cooperation

- Open learning environment, greater citizen involvement and social cohesion
- Increased attractiveness of education and stronger ties between education, the employment sector and society

Priority reforms included the following targets and actions:

Involvement of key players: *centres and funds*
Foundations for further learning: *advancement in distance education*
Objectives concerning key competences: *revisions involve all areas of the school environment including key competencies*
Recognition and validation of non-formal and informal learning: *official recognition of non-formal study courses*
Development of widely accessible lifelong guidance: *networks for LLL guidance*
Development of diverse learning pathways and open learning environments: *Increased possibilities for distance learning both at the upper secondary and higher education levels open opportunities for continuing education*
Integrated use of ICT in education and training systems: *Action Plan for eLearning 2005–2008*
Investing in teachers' and instructor' training in the light of LLL requirements: *Iceland University of Education offered a postgraduate programme in adult education*
Attention for disadvantaged groups: *operations of the centre Fjölmennt*
Learning throughout life: *Continuing Education Week, motivation campaigns*
Developing flexibility: *real competences acknowledgement and their acceptance in the upper secondary school*
Innovation in curricula and learning tools/methods: *a number of projects on development and production of educational materials for compulsory and upper secondary schools*
Promotion of LLL through partnerships and incentives: *contracts in the labour market include special stipulations for a specified percentage of wages to be channelled into continuing education funds for employees*

A report on LLL was published in 2007 (Mennta- og menningarmálaráðuneytið, 2007a), which gave a general view of Iceland's participation in European policy work in education and training, assessing the participation so far and describing the main initiatives undertaken (Mennta- og menningarmálaráðuneytið, 2007a). Iceland's participation in the second phase of Education and Training 2010 concentrated on the following:

- On modernisation of higher education
- On teachers and trainers
- On ways to make maths, science and technology more attractive
- On improved use of ICT in education
- On recognition of learning outcomes
- Open learning environment, greater citizen involvement and social

Steps of actions that were taken:

- New framework for pre-university education with a view to a more continuity in transition between school levels
- 10 step agreement with the Icelandic Teacher's Union for improvements in schools.
- New Upper Secondary School: Report of the Joint Committee on VET
- The 2006 Act on Higher Education
- Full review of education law in progress

The last phase to be reported in Education and Training 2010 was in 2010, when a report was made on the progress so far (Ministry of Education, 2009a). The policy initiatives that were most prominent were:

- New legislation for higher education in 2006, with emphasis on assurance of quality
- New legislations for the pre-school, compulsory school and upper secondary school and for the recruitment of teachers and school managers in 2008
- Lifelong learning in education – legislation on adult education
- key competence – definitions
- learning outcomes – curriculum building
- qualification framework – definitions
- reducing dropout from learning – project work
- increasing the quality of teacher education – adult education and vocational learning & training
- enhancing the relationship between education and the employment sector, including evaluation of real skills competences

17.4 The 2020 Plan and Sustainability

Iceland has aligned itself with other European countries and produced a governmental policy statement for the economy and community with the mottos: knowledge, sustainability, welfare, which was developed through dialogue and collaboration between hundreds of Icelanders throughout the country and in consultation with regional associations, local authorities, trade unions and economic interest groups. It includes plans for investments in human resources and the necessary infrastructures for the economy, as well as policies on how to strengthen education and culture, innovation and development, the environment and social infrastructure. The aims are based on a draft of an economic activity plan, which was developed in consultation with representatives from trade unions and the Confederation of Icelandic Employers, as well the chairpersons of Science and Technology Policy Council committees and parliamentary party representatives. In the development of the policy statement, particular consideration was given to those groups that risk long-term unemployment in the wake of the financial crisis.

The policy statement presents 30 actions and tasks that are designed to be the first steps towards reaching the goals of Iceland 2020 (Prime Minister's Office, 2011a). It sets out the objective to reduce the percentage of Icelanders aged between 20–66, which have not received any formal secondary education, from 30% to 10% by 2020. To support an Economic Activity Plan, a progressive education policy, with an emphasis on quality and investing in human resources, research and the development of key elements, is considered essential. Emphasis is put on support for business clusters and investing in education, science and innovation. A special focus is placed on further study opportunities and on-the-job training for people who are temporarily excluded from the labour market. Temporary support for growth sectors is also envisaged, for research and development, education and continuing education. The labour market and welfare system are perceived as needing to ensure flexibility and security. A special focus will be placed on further study opportunities and on-the-job training for people who are temporarily excluded from the labour market. The labour market and education plans are considered to have to take into account the needs of both genders in each area. In general, education is seen as a key factor, and it is considered important to link it to all other policy making. Other important factors mentioned in this report are green economy, creative industries, growth agreement for tourism, cooperation clusters between the fishing and food industries, strengthening of local government, national and regional planning and a formulation for the capital area.

This last factor has actually just been actualised, with the Labour Policy of the City of Reykjavík – A Creative City (Reykjavíkurborg – City of Reykjavik, 2012). Another example of a regional plan where ministries, stakeholders in the labour market and schools have been linked in an effort to fight/reduce unemployment and start new initiatives in vocational education was made recently in Suðurnes in south west Iceland (Velferðarráðuneytið – Ministry of Welfare, 2011).

17.5 Recent Developments for Policy on Vocational Education

In a recent report on the status of schooling (Mennta- og menningarmála-ráðuneytið, 2011f) a reference is made to a holistic policy for vocational education, on which work has just started.

17.5.1 Skills beyond School – mapping of vocational education

Research is on-going in cooperation with OECD on post-secondary non-tertiary education and the needs of the labour market for an education at this level. A background report will be published following an OECD visit. The scope has also been extended to upper secondary education and higher education, to be able to evaluate continuity to other school levels.

17.5.2 Skills Needs Analysis

A collaboration project has been initiated with CEDEFOP, The European Centre for the Development of Vocational Training, which involves analysis and evaluation of the educational needs of the Icelandic labour market and the current provision of vocational education in Iceland (mismatch – over and under skilling). The project is connected to a larger project of CEDEFOP, Skill Supply in Europe, where a comparison between countries will be possible.

17.5.3 Implementation of a Lifelong Learning Policy – NATLOGUE Project

The 2010 Act on Adult Education formed the last link in a chain of legislations in Iceland, which completed a framework for lifelong learning. The NATLOGUE project (National dialogue and structural sustainability in education and training) has been in action during 2011–2012, where the implementation of this lifelong learning policy, with an emphasis on vocational education and adult learning, has been the focus. The aim of this project was to facilitate discussion between stakeholders in education and training around tasks presented by new legislation, especially in VET at upper secondary level and in adult learning. The aim of the discussion was to clarify the current situation, to spread knowledge about new ideas and new approaches, to enhance communication amongst stakeholders and help providers rethink their own positions and their fixed ways of doing things (Mennta- og menningarmálaráðuneytið, 2012f).

Collaboration meetings and seminars and a final conference, were held with approximately 1000 individuals attending, such as various stakeholders, students and representatives from all regions. A final report has just been published (Mennta- og menningarmálaráðuneytið, 2012f). The main findings are to be found in Appendix 22[32]– NATLOGUE Project.

17.5.4 Education is a working way – initiative to fight dropout and unemployment

The initiative *Education is a working way* (Nám er vinnandi vegur) started in 2011. Its aim was to guarantee all students below 25 years of age a place at the upper secondary school in the autumn 2011. Furthermore, up to 1000 individuals were guaranteed with learning opportunities in autumn 2011 and for three consecutive years. The initiative is based on the 2020 government policy for the labour market and the community and it places special emphasis on giving job-

[32] Appendix 22: NATLOGUE project – Main Findings.

seekers the opportunity to return to education or to take up studies of their choice (Mennta- og menningarmálaráðuneytið, 2012d).

17.5.5 Legislation – Fund for Workplace Learning

In May 2012 a new legislation was agreed on in Parliament for the support of workplace learning (Alþingi – Icelandic Parliament, 2012). The Workplace Learning Fund gives grants to companies and institutions for workplace learning and training, which is defined as a part of vocational programme according to the main curriculum of the upper secondary school system. It role is to improve the status of vocational learning and to strengthen workplace learning by making it easier for students to finish their studies, to reimburse some of the cost companies occur because of workplace learning and to make it easier for companies and institutions to make contracts with students for workplace learning and training. The members of the board are nominated from various social partners, The Teachers Union, student organisation and the ministry of finance.

18 Strengths and Challenges

The period 2001–2010 has been a time of change and ongoing development in vocational education in Iceland. The changes have partly been brought about by swift social changes and globalisation, rapid development of the Icelandic economy, the expansion of business activities abroad and severe repercussions of the economic crisis and unemployment. These circumstances have created adverse conditions and of late thrown the spanner in the works in the labour market, but also spurred new initiatives for government and vocational education, in particular, as a part of the educational system most strongly connected with the economy. They have brought out the challenges in the vocational education system, but also shown its strengths and triggered new solutions (Althing – Icelandic Parliament, 2008c).

18.1 Challenges

Recent restructuring of the educational system and the institutional drift of several vocational/industrial schools from the upper secondary level to higher education, has left learning of some occupations at the upper secondary level, with limited options for further education, and elevated others to university status and paved the way for their academic development. This drift has also, on occasions, left a gap at the upper secondary level, with some fields of study not, or to a limited extent, being provided at the upper secondary level. The status of VET in the educational system has possibly been weakened by this development and the challenge would be to create a coherent and continuous path in VET education, right through the educational system, from compulsory education to higher education. This invites analysis of the feasibility of VET development 1) in upper secondary schools, at the post-secondary non-tertiary level, 2) of a separate professional university level for VET (fagháskólastig) or 3) a convergent part of higher education that would include both vocational and academic tracks.

The governance of the upper secondary school system, especially with reference to the financial model employed, is slow and almost unable to react to sudden changes in student numbers, such as the experienced increasing need for intake in times of crisis, limiting access, especially to mature students. Reaction times were too slow and a special initiative was needed to resolve the situation.

The support system of VET, is partial and fragmented, lacking a coherent vision and coordination. The support activities are executed by a few institution that deal with a limited range of occupations or fields of VET, which govern mostly their own affairs and in the interest of their owners. Some occupations do not have support or have to make do with a minimal supportive action from their

professional association or union. This invites questions such as whether the support system should be strengthened by specific actions and governed by an external, impartial body, that evaluates its development and progress.

Statistical data on certain important operational factors in the educational system, such as dropout of students, financing of vocational education versus academic education and return of education for different qualifications given in the education system is not available or hard to retrieve. This causes difficulties in research and management in education, and a lack of transparency of career development for students and their parents. It also deprives actors in the educational system of the opportunity to regularly evaluate their working conditions and results of their achievements.

The new legislative framework for the Icelandic education system and the National Curriculum guide create the conditions for establishing a more equal standing between vocational and academic education. All 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 challenge is to re-define vocational as well as academic fields of study to the relevant levels, as well as to adapt the Icelandic upper secondary school to European and International norms of three years of study. The result of this might be that some vocational study levels might end up in higher education and create conditions for diplomas or new degrees in higher education.

It will be a challenge in the coming years to increase the provision of courses and study fields in VET in cooperation with the different sectors in the labour market, at the upper secondary level and at the higher education level. In this context it will be important that labour market partners and companies can help define their future educational needs, are willing to collaborate on new study offers and can be receptive of students' needs for training and work placements.

Some vocational study fields have not received an acceptance in the educational system, but the education is being offered in private schools, where students have to pay more for their education. This invites inequity and unequal standing of the fields of study within vocational education.

Not all fields of study have the support of a functioning Occupational Council and their interests might not be well supported. This is most apparent in the arts, design, film production and computer and informatic studies, where no Occupational Councils take direct responsibility for development in the respective study fields. In the arts there have been working groups established for the purpose of working to analyse competences (Mennta- og menningarmálaráðuneytið, 2011f).

Schedules and tight curriculum arrangements can get in the way of flexibility and creative pedagogy in vocational education, but recently established school autonomy might counteract this and enable schools to resolve these issues.

Integration of academic learning with vocational education is an aspect of VET development that appears to be challenging within the upper secondary school and even prevent students from graduating. Currently, the first two years of the upper secondary education seem to be tailored for preparation of academic studies, but are missing courses that relate to technical professions, industry, services or educational professions. That is one reason why VET education is prolonged and takes longer to complete. This needs addressing and balancing.

The role and continuing education of VET teachers and trainers in the workplace deserves consideration, in relation to curriculum design and re-development, resulting from new legislations. Greater autonomy of teachers might call for increased support in implementation of the legislation and quality assurance, planning of VET delivery, development of learning/teaching methods, learning and teaching materials and assessments methods. Direct interaction with the labour market might also bring out new tasks for VET teachers, such as increased supervision of students' contracts and progress in training in the workplace.

The education of VET teachers is not comparable to other teachers in the educational system (Appendix 8[33]), because requirements on their professional/educational background are not the same as to teachers of academic subjects (as defined in the 2008 Act on The Education and Recruitment of Teachers and Head Teachers in Pre-School, Compulsory School and Upper Secondary School). This could be limiting to development of VET and causes concerns in times of change and improvements. Strengthening the professional identity of VET teachers may be one of the big challenges for the development of the vocational education and training in the future.

There is a conflict existing between the emphasis in the general curriculum on learning outcomes and that the credit units should be defined by the work input of the student, and the existing collective bargaining agreement The Union of Teachers have with the government, which concerns working arrangements (see page 126). The challenge will be to reach a new agreement, but talks regarding this have been ongoing during the winter 2011/2012.

Students do not have sufficient access to committees or institutional arrangements, where decisions are made on issues that relate to them and their interests. The current legislation for the upper secondary school (2008) does not invite students' participation into the work of the Occupational Councils, but makes it conditional for the Minister of Education to consult social partners and pupils' associations on regulation regarding workplace learning, work based training and the authorisation of the upper secondary school to entrust the administration of the workplace learning to a third party. The challenge is not only giving students the access and rights to take part in a decision making

[33] Appendix 8: Overview of national policy on VET and lifelong learning.

processes where their affairs are determined, but also to focus more on their interests regarding the programmes, contents and learning arrangements.

The collecting and mediation of career information and contemporary career options is insufficient in the current changeable society and the roles and efforts of all social players, as well as government, should be considered in this respect. A central database, internet guidance and other efforts, such as yearly introductory events or competitions in VET might be the challenge to meet, in this respect.

The availability and delivery of career guidance at the primary and lower secondary level (the compulsory school), is not fulfilling the conditions of the legislation from 2008, which stipulates that all students have the right to receive educational and career guidance and counselling within the compulsory school from the appropriate specialists.

The relationship between schools and companies and institutions in the labour market is not strong and at times hardly existing. This prevents collaboration on vocational learning and creates missed chances to react with society and the immediate environment of the school on interesting projects that could be of interest for both parties, and students in particular.

Analysis of the different needs of the regional industrial sectors and those of people in every region of Iceland are a challenge, so that the future educational opportunities will be more in line with needs of each region.

18.2 Strengths

Educational policies and the National Curriculum Guide, that support VET education, are well researched and developed. They create a foundation to build on in curriculum design and other developmental school activities. It is important that financing, tool and supportive actions are made available for this purpose.

Variety in provision of programmes and good efforts of schools to uphold teaching in various fields of study, in spite of limited resources.

The increasing collaboration and participation of social partners of the labour market in the design of vocational education programmes and their input to enable development in vocational education and workplace learning and training. This can take various forms, such as initiatives by various partner in the labour market, work of Occupations Councils and direct support to schools.

Several companies offer vocational courses or even operate schools for their staff – operate as a learning organisation. The willingness of companies to educate and cooperate with schools might be an untapped resource, that would add to what the school environment can offer, for instance in the latest in technology.

The actions taken by various Occupational Councils to improve quality in workplace learning and training, by strengthening their functions and publishing guides for journeymen's examination committees and apprentice committees, and student logbooks.

Some schools invite representatives from companies to respond to their suggestions on programmes and a few have invited companies and institutions to take a seat in professional councils in individual fields of study to advice the school on the development of programmes and workplace learning, project work and opportunities for students to learn from the world of work.

Advances in development of vocational education at the post-secondary non-tertiary level in the period 2001–2010, with an increase in provision, some new programmes and increase in number of students.

Consolidation of adult education and construction of adult education centres in all regions, important advancements on real competence evaluation and quality in adult education.

An increased flexibility in VET education, to accept real competences evaluations and to assist the adult learner with building a career on the experiences they have in the workplace.

New funding arrangements for workplace learning are producing increased incentives for companies and institutions to offer students contracts for workplace learning.

Development funds for initiatives in vocational education are meeting with need for research and analysis and new innovative projects that will benefit vocational education and training.

The new 2008 legal framework in education introduces for the first time emphasis on innovation and entrepreneurial studies as one of the twelve main elements of the National Curriculum Guide, that is, it should emphasise: "Understanding of vital creative activities, innovation and entrepreneurial studies" (Althing – Icelandic Parliament, 2008c). It also invites a balance between academic and practical studies.

19 Summary

The education system in Iceland maintains a variety in provision of VET programmes compared to academic paths and schools make good efforts to uphold teaching in various fields of study, often in spite of limited resources. The provision is strong at the upper secondary level and since year 2000 the post-secondary non-tertiary provision has been increasing, as has the number of students attending courses at that level. During the same period the vocational education at the tertiary level has receded. A collaborative effort of social partners has been realised for those with the least education and VET has taken a fresh hold in adult education. The foundations of VET in education are being strengthened, but VET struggles to increase student participation at all levels, especially at the university level. An increase in information on VET studies, learning outcomes and return on education to students and their parents are needed to counteract this development.

Educational policies and the National Curriculum Guide create a foundation to build on in VET curriculum design and for definition of competences and qualifications. This framework helps to redefine the practices of VET and is, along with quality development and quality assurance, improving its status.

An established collaboration among social partners in the labour market makes a valuable contribution to advancement in VET education – in adult education, in upper secondary education through the work of the Occupational Councils and lately in joint actions to fight unemployment and dropout in education. This is an important effort in order to reduce unemployment and to prepare students for re-entering the labour market when the recession recedes. The acceptance of financial incentives in workplace learning is promising and will enable participation of students for training in the labour market. This needs to be linked with quality improvements and collaborative efforts with employers, in order to define learning outcomes and qualifications that will be respected in the labour market.

A labour market policy in now in preparation that will offer guidelines for future planning of VET education and some local authorities have taken steps in. This needs to be taken into consideration in re-designing of VET curricula and in setting the course for adaption of new fields of study, as well as implementation of green policies. A desireable action would be a formation of VET quality policy, that would encompass both school and workplace learning, VET in adult education and training on the job.

Financing improvements of resources and establishment of new fields of study are a challenge that has for long been an issue in VET education, but needs to be

considered if a development effort is to be considered, in high technology fields and innovative creative industries.

A recommendation would be to strengthen the professional identity of VET teachers and re-develop their professional and pedagogical education. VET teachers will need support in new curricula implementation.

Students should be given increased access to committees or institutional arrangements, where decisions are made on issues that relate to them and their interests – and this should be manifested in the legislation. Availability of educational and career guidance needs to be increased, especially at the lower secondary level of education. Information of VET studies, as well as other paths in upper secondary education, should also be offered to parents. An increased attention should be paid to students interests when setting learning objectives and learning outcomes and the different emphasis in organisation of VET studies with respect to gender. As many learners in VET education are mature students, their experience and background should be considered when planning for VET is on the agenda.

Initiatives for encouraging research in vocational education should be considered, as this research field is underdeveloped, especially research on workplace learning and training in the workplace. Research on innovation and entrepreneurial education in education and the workplace can also be recommended. Research results in these fields would be a good source for futher policy developments in the field of VET.

Appendices

Appendix 1: Time allocation to subjects in the national curriculum for compulsory schools.

Appendix 2: Registered students in vocational education at the upper secondary level (ÍSNÁM 3CV).

Appendix 3: Registered students in vocational education at the post-secondary non-tertiary level (ISCED 4CV).

Appendix 4: Registered students in vocational education at the tertiary level (ISCED 5B).

Appendix 5: Types of Programmes – Minimum Entrance Requirements – Diplomas, Credentials and Certifications.

Appendix 6: Types of Qualifications – Programmes leading to them and the Awarding Organisation.

Appendix 7: VET Institutions – Upper Secondary, Post-secondary and Tertiary Education.

Appendix 8: Overview of national policy on VET and lifelong learning.

Appendix 9: Number of students registered at Upper Secondary and Post-secondary Education in 2010 – Academic and General Tracks / VET tracks.

Appendix 10: Vocational Councils – Reports.

Appendix 11: List of Diplomas and Degrees – Upper Secondary, Post-secondary and Tertiary Level.

Appendix 12: Stig menntunar – lýsing á ISCED-97 stigum, flokkunarskilyrðum og víddum. Levels of Education – Description of ISCED-97 levels, conditions for classification and variations (In Icelandic).

Appendix 13: Number of students in VET Education at the Upper Secondary Level, by narrow Fields of Study, 2001–2010.

Appendix 14: Number of students in VET Education at the Post-secondary Level, by narrow Fields of Study, 2001–2010.

Appendix 15: Number of students in VET Education at the Tertiary Level, by narrow Fields of Study, 2001–2010.

Appendix 16: Evaluations and inspection Reports: VET Institutions, VET Programmes and other related activities, 2000–2010.

Appendix 17: Workplace Learning: handbooks – status of execution, March 2012.

Appendix 18: Occupational Councils – Responsibilities for Fields of Study, 2010. Overview – Upper Secondary Education.

Appendix 19: Occupational Councils: policies – long term / short term emphasis.

Appendix 20: Teaching Studies for Certified Masters of Trades – Programme Description.

Appendix 21: 2010 Innovation Union Scoreboard – The Innovation Union's performance scoreboard for Research and Innovation – Country Profile – Iceland.

Appendix 22: NATLOGUE project – Main Findings.

Bibliography

Aðalbergsdóttir, G. (2006). *An investigation into student dropout rates in Icelandic upper-secondary schools.* University of Warwick. Warwick.

Althing. (2011). Althingi. In A. B. J. a. S. K. Jónsdóttir (Ed.). Reykjavik.

Althing – Icelandic Parliament. (2006). *Higher Education Institution Act, No.63 2006*. Reykjavik: Ministry of Education, Science and Culture Retrieved from http://eng.menntamalaraduneyti.is/media/MRN-PDF-Althjodlegt/Higher-Education-Act-no.-63-2006nytt.pdf.

Althing – Icelandic Parliament. (2008a). *Act on Public Higher Education Institutions, No.85/2008 – Draft Translation*. Reykjavik: Ministry of Education, Science and Culture Retrieved from http://eng.menntamalaraduneyti.is/media/MRN-PDF-Althjodlegt/Act-on-Public-Higher-Education-Institutions-no-85-2008---amended-2010.pdf.

Act on the Education and Recruitment of Teachers and Head Teachers in Pre-School, Compulsory School and Upper Secondary School, No. 87, 12 June 2008, 87 C.F.R. (2008b).

Althing – Icelandic Parliament. (2008c). *The Compulsory School Act – No 92, 12 June 2008*. Reykjavik: Althing – The Icelandic Parliament. Retrieved from http://eng.menntamalaraduneyti.is/media/MRN-pdf_Annad/Compulsory_school_Act.pdf.

Althing – Icelandic Parliament. (2008d). *The Preschool Act - No.90, 12 June 2008*. Reykjavik: Althing – The Icelandic Parliament Retrieved from http://eng.menntamalaraduneyti.is/media/MRN-pdf/Preschool_Act.pdf.

Althing – Icelandic Parliament. (2008e). *The Upper Secondary School Act*. Reykjavik: The Ministry of Education, Science and Culture Retrieved from http://eng.menntamalaraduneyti.is/media/MRN-PDF-Althjodlegt/Upper_secondary_school_Act.pdf.

Lög um náms- og starfsráðgjafa – The Act on Career Advisors (2009).

Althing – Icelandic Parliament. (2010). *The Adult Education Act - No.27, 31 March 2010*. Reykjavik: Althing – Icelandic Parliament Retrieved from http://goo.gl/HDyin.

Alþingi. (2002). *Frumvarp til laga um opinberan stuðning við tækniþróun og nýsköpun í þágu atvinnulífsins (Lagt fyrir Alþingi á 127. löggjafarþingi 2001–2002.)*. Reykjavík: Aþingi Retrieved from http://www.althingi.is/altext/127/s/0868.html.

Alþingi. (2006). *Frumvarp til laga um háskóla (Lagt fyrir Alþingi á 132. löggjafarþingi 2006–2006)*. Reykjavík: Alþingi – Icelandic Parliament Retrieved from http://www.althingi.is/altext/132/s/0654.html.

Alþingi. (2009). *Lög um stuðning við nýsköpunarfyrirtæki nr.152, 29.desember 2009*. Reykjavík: Alþingi Retrieved from http://www.althingi.is/altext/stjt/2009.152.html.

Alþingi. (2010). *Lög um framhaldsfræðslu*. (Nr. 27/2010). Reykjavík: Innanríkisráðuneytið Retrieved from http://www.menntamalaraduneyti.is/log-og-reglugerdir/.

Alþingi. (2011). *Svar forsætisráðherra við fyrirspurn Vigdísar Hauksdóttur um nefndir, ráð, verkefnisstjórnir og starfshópa*. Reykjavík: Alþingi Retrieved from http://www.althingi.is/altext/140/s/pdf/1025.pdf.

Alþingi. (2012). *Lög um heilbrigðisstarfsmenn, nr 34 15 maí 2012*. Reykjavík: Alþingi – Icelandic Parliament Retrieved from http://www.althingi.is/altext/stjt/2012.034.html.

Alþingi – Icelandic Parliament. (1996a). *Government Employees Act*. Reykjavík: Alþingi – Icelandic Parliament Retrieved from http://eng.fjarmalaraduneyti.is/legislation/nr/561.

Alþingi – Icelandic Parliament. (1996b). *Lög um framhaldsskóla, 1996 nr 80 11.júní*. Reykjavík: Alþingi Retrieved from http://www.althingi.is/lagas/135a/1996080.html.

Alþingi – Icelandic Parliament. (1996c). *The Upper Secondary School Act, No. 80, 11 June 1996*. Reykjavík: Ministry of Education, Science and Culture Retrieved from http://eng.menntamalaraduneyti.is/Acts/nr/2435.

Alþingi – Icelandic Parliament. (2008). *The Upper Secondary School Act - No. 92, 12 June 2008*. Reykjavik: Althing – The Icelandic Parliament Retrieved from http://eng.menntamalaraduneyti.is/media/MRN-pdf_Annad/Upper_secondary_school_Act.pdf.

Alþingi – Icelandic Parliament. (2012). *Lög um vinnustaðanámssjóð*. Retrieved from http://www.althingi.is/pdf/thingskjal.php4?lthing=140&lokaskjal=765.

Alþýðusamband Íslands. (2012). Icelandic Confederation of Labour (ASÍ) Retrieved 25.5.2012, from http://www.asi.is/desktopdefault.aspx/tabid-382/521_read-1115/

Alþýðusamband Íslands, S. A. (2001). Samstarf aðila vinnumarkaðarins um menntamál. Reykjavík.

Árnason, H. (Producer). (2011, 29.11.2011). Staða og menntun starfsmenntakennara – kynning á Menntavísindasviði HÍ 31.10.2011.

Retrieved from http://dl.dropbox.com/u/3415448/Sta%C3%B0a og menntun starfsmenntakennara-Kynning31.okt.2011-org %282%29.pdfhttp://dl.dropbox.com/u/3415448/Sta%C3%B0a og menntun starfsmenntakennara-Kynning31.okt.2011-org %282%29.pdf

Ásgrímsson, K. (2011, 16.12.2011). [Millistig og viðbótarstig frá 1975 – personal corrspondance / email].

Ásgrímsson, K. (2012, 21.2.2012). [Framhaldsfræðsla og símenntun – Adult Education and Lifelong Learning].

Baldursdóttir, A. Þ. (2011). [VET Teacher Education at University of Akureyri].

Bamford, A. (2011). List- og menningarfræðsla á Íslandi. Reykjavík.

Bandalag háskólamanna. (2012). Association of Academics Retrieved 20.06.2012, from http://www.bhm.is/enska/

Bentsson, J. B., & Ásbjörnsson, Þ. (2004). Arðsemi menntunar á Íslandi. Reykjavík: Hagfræðistofnun – Háskóli Íslands.

Björnsdóttir, E. D. (2006). *Hvaða áhrif hefur menntun á laun fólks?* Háskólinn á Akureyri. Akureyri. Retrieved from http://skemman.is/stream/get/1946/1305/3768/1/menntunlaun.pdf

Björnsdóttir, I. (2002). *Innviðir íslenska iðnfræðslukerfisins á 20.öld.* (M.A. in Education), University of Iceland, Reykjavík.

Björnsson, Á. M. (2007). Lokaskýrsla – Tilraunaverkefni AMS í Reykjavík ásamt Borgarholtsskóla og Iðnskólanum í Reykjavík – Verkefni á vegum Menntamálaráðuneytisins og Félagsmálaráðuneytisins. Reykjavík.

Blöndal, K. S., & Jónasson, J. T. (2011a). The development in Icelandic education: situation in 2011 in the respective of a century. In P. Mikiewicz (Ed.), *Social Capital and Education – Comparative research between Poland and Iceland, Final Report* (pp. 52–96). Wroclaw: University of Lower Silesia.

Blöndal, K. S., & Jónasson, J. T. (2011b). Dropout in a Small Society: Is the Icelandic Case Somehow Different? In S. M. Lamb, E.; Teese, R.; Sandberg, N.; Polesel, J. (Ed.), *School Dropout and Completion* (pp. 233–251). London: Springer.

Blöndal, S. (2002). *Investment in Human Capital through Post-Compulsory Education*. Paper presented at the Meeting of National Economic Research Organisations, OECD Headquarters, Paris. http://www.oecd.org/dataoecd/22/42/34949912.pdf

Borgarholtsskóli. (2012). Borgarholtsskóli – Comprehensive Secondary School in Iceland. Retrieved 20.3.2012, from http://www.bhs.is/skolinn/english/

BSRB. (2012). Federation of State and Municipal Employees Retrieved 29.5.2012, from http://www.bsrb.is/english-summary/

Capacent Gallup. (2011). Þörf fyrir menntað starfsfólk. Reykjavík: Capacent.

CEDEFOP. (2011). Development of National Qualifications Frameworks in Europe – October 2011 *Working Paper No 12*. Luxembourg.

Daníelsdóttir, H. K. (2008). Report: Iceland – Immigrant Pupils with Special Educational Needs: Cultural Diversity and Special Needs Education. Reykjavík.

ECRI. (2012). ECRI Report on Iceland (fourth monitoring cycle) – Adopted on 6 December 2011. Strasbourg.

Elvar Örn Arason, I. Ó., & Briem, Á. (2005). OECD Thematic Review of Tertiary Education – National Background Report for Iceland. Reykjavik: Educational Testing Institute of Iceland.

Endurmenntun Háskóla Íslands. (2012). Continuing Education – University of Iceland Retrieved 20.3.2012, from http://www.endurmenntun.is/English/

ETSC (Ed.). (2007). *Validation on non-formal and informal learning in Iceland*. Reykjavík: The Education and Training Service Centre (ETSC).

Euroean Commission. (2012). Statistics for European Politics Retrieved 13.5.2012, from http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Statistics_for_European_policies – Education:

European Commission. (2005). Implementing the Education and Training 2010 Work Programme – 2005 Progress Report – Iceland *Lifeling Learning: Education and Training Polices – Coordination of Lifelong Learning Policies*. Brussels.

European Commission. (2011). Progress toward the common European objectives in education and training. In Denis Crowley (Ed.), *Commission staff working document*. Brussels: Directorate-General for Education and Culture, Joint Research Centre-Ispra, Centre for Research on Lifelong Learning (CRELL), Eurostat, Education, Audiovisual and Culture Executive Agency, Unit P9 (Eurydice), European Agency for development in special needs education.

European Quality Mark. (2012). Welcome to the European Quality Mark (EQM) Retrieved 27.06.2012, from http://www.europeanqualitymark.org/home/

Eurostat. (2012). Education and Training – Data / Database Retrieved 22.06.2012, from http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database

Eurydice. (2008). National Summary Sheets on Education Systems in Europe and ongoing Reforms – Iceland, November 2008. Brussels.

Eurydice – Eurostat. (2012). Key Data on Education in Europe 2012. Brussels.

Eurypedia. (2012). Early Childhood and School Education Funding. *European Encyclopedia on National Education Systems* Retrieved 25.06.2012, from https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Iceland:Early_Childhood_and_School_Education_Funding#Upper_Secondary_Education

Eyjólfur Sigurðsson. (2011). Ævitekjur og arðsemi menntunar. 1–23. Retrieved from http://www.bhm.is/media/frettir/AEvitekjur-og-ardsemi-menntunar.pdf

Fisktækniskólinn – Icelandic College of Fisheries. (2012). Um skólann Retrieved 05.06.2012, from http://www.fiskt.is/efni/forsida

Fjölbrautaskóli Suðurlands. (2012). FSU – Um skólann. Retrieved 21.3.2012, from http://www.fsu.is/j/index.php?option=com_content&view=article&id=232&Itemid=66

Fjölbrautaskóli Suðurnesja. (2012). Sudurnes Comprehensive College Retrieved 21.3.2012, from http://www.fss.is/en/

Fjölbrautaskólinn í Breiðholti. (2012). Breiðholt College. Retrieved 20.3.2012, from http://www.fb.is/skolinn/breidholt-college/

Fjölbrautaskólinn við Ármúla. (2012). The Comprehensive College / Comprehensive Secondary School at Ármúli. Retrieved 20.3.2012, from http://www.fa.is/english/

Fjöltækniskóli Íslands – Iðnskólinn í Reykjavík. (2008). Sameining Fjöltækniskóla Íslands og Iðnskólans í Reykjavík. Reykjavík.

Flugstoðir. (2012). Nám í flugumferðarstjórn. Retrieved 25.3.2012, from http://www2.flugstodir.is/?PageID=12

Fræðslumiðstöð Atvinnulífsins. (2012a). FA hefur samning við eftirtaldar fræðslustofnanir, from http://frae.is/um-fa/samstarfsadilar/

Fræðslumiðstöð Atvinnulífsins. (2012b). Námskrár Retrieved 23.5.2012, from http://frae.is/namsskrar/

Fræðslumiðstöð atvinnulífsins. (2013). Um Fræðslumiðstöð atvinnulífsins ehf (FA). *Um FA* Retrieved 30.06.2013, from http://www.frae.is/um-fa/

Framvegis. (2013). Framvegis – Miðstöð símenntunar Retrieved 25.04.2013, from http://www.framvegis.is/namskeid/naestu-namskeid/

Friðriksson, F. F. (2006). Mannaflaþörf í nokkrum atvinnugreinum á árunum 2007 og 2008. Reykjavík.

Gallup, I. (2004). Samtök Iðnaðarins – þörf iðnaðar fyrir menntun, desember 2003 – janúar 2004. Reykjavík.

Gestur Guðmundsson. (1993). Starfsmenntun á framhaldsskólastigi – núverandi vandi og nokkur verkefni. *Ný menntamál, 11*(2), 6–13.

Gray, H. W. (2011). *Markvisst Vinnustaðanám.* Paper presented at the Gæði í starfsmenntun og framhaldssfræðslu, Reykjavík.

Gray, H. W. (2012). [Um fagráð starfsgreinaráða – Information by email 11.6.2012].

Guðbjörg Vilhjálmsdóttir. (2010). Occupational Thinking and Its Relation to School Dropout. *Journal og Career Development, 37*(4), 677–691. doi: 10.1177/0894845309357052

Guðmundsdóttir, H. (2010). Könnun meðal skólastjóra á innleiðingu og framkvæmd laga um grunnskóla – Unnið fyrir mennta- og menningarmálaráðuneytið (pp. 1–33). Reykjavík.

Gunnarsson, V. I. (2002). Fiskvinnsluskólinn og saga fræðslumála fiskiðnaðarins. *Sjávarútvegurinn – Vefrit um sjávarútvegsmál, 1*(2), 2–10.

Gylfason, Þ. (2001). Menntun, jöfnuður og hagvöxtur I – III. *Vísbending* Retrieved 20.06.2012, from https://notendur.hi.is/gylfason/inequal1.htm – https://notendur.hi.is/gylfason/inequal2.htm – https://notendur.hi.is/gylfason/inequal3.htm

Hagfræðistofnun. (1992). Þjóðhagsleg arðsemi menntunar. Skýrsla nr. C92.08. Reykjavík: Hagfræðistofnun Háskóla Íslands.

Hagfræðistofnun. (2012). Institute of Economic Studies Retrieved 20.6.2012, from http://hhi.hi.is/en/node/17

Hagstofa Íslands. (2008). *ÍSNÁM2008 – Byggð á alþjóðlega staðlinum ISCED-97*. Reykjavík: Hagstofa Íslands.

Hagstofa Íslands – Iceland Statistics. (2010). Starfsfólk í grunnskólum haustið 2009 Retrieved 28.06.2012, from http://www.hagstofa.is/Pages/95?NewsID=4486

Hagstofa Íslands – Iceland Statistics. (2011a). Brautskráningarhlutfall og brottfall af framhaldsskólastigi Retrieved 25.9.2011, from http://www.hagstofa.is/Pages/95?NewsID=5981

Hagstofa Íslands – Iceland Statistics. (2011b). Símenntun 2003-2011 (Continuing Education 2003–2011) Retrieved 2.2.2012, from http://www.hagstofa.is/?PageID=95&NewsID=6102

Háskóli Íslands. (2010). Skýrsla um heildstætt MA-nám í náms- og starfsráðgjöf. Reykjavík.

Háskóli Íslands. (2012). Náms- og starfsráðgjöf Retrieved 28.06.2012, from http://www.hi.is/felags_og_mannvisindadeild/nams_og_starfsradgjof

Háskólinn í Reykjavík. (2010). Welcome to Reykjavik University. Retrieved 20.3.2012, from http://en.ru.is/

Heilsumeistaraskólinn. (2012). Healthmaster School – About us. Retrieved 21.3.2012, from http://www.heilsumeistaraskolinn.com/HMS/um_okkar___About_us.html

Helgadóttir, Á., Magnúsdóttir, B. R., Jónsson, B., Steingrímsson, E., Frímannsson, G. H., Guðrún Nordal, . . . Þórlindsson, Þ. (2009). Aðgerðir í háskóla- og vísindamálum – Skilagrein rýnihóps menntamálaráðherra.

Helgason, S. (2011). Menntun og atvinnusköpun ungs fólks – 449.mál. Retrieved 30.06.2012, from http://www.althingi.is/altext/raeda/139/rad20110606T155522.html

Herbertsson, T. Þ. (1997). Menntun, mannauður og hagvöxtur – Skýrsla nr. C9702. Reykjavík: Hagfræðistofnun Háskóla Íslands.

Hólaskóli – Hólar University College. (2012). Soaring towards the Future. Retrieved 10.3.2012, from http://www2.holar.is/index.php?option=com_content&view=article&id=495&catid=164&Itemid=239

HR. (1912). Skólagjöld skólaárið 2012-2012 Retrieved 17.06.2012, from http://www.ru.is/media/almennt/skolagjold.pdf

Iceland Assembly. (2010). Þjóð til þings – þjóðfundur 2010 um stjórnarskrá Íslands Retrieved 25.11.2011, from http://www.thjodfundur2010.is/english/

Iceland Statistics. (2009a). Grunnskólar 2007–2008 *Hagtíðindi – Statistical Series – Education* (Vol. 3). Reykjavik.

Iceland Statistics. (2009b). Innflytjendur og einstaklingar með erlendan bakgrunn 1996–2008 – Immigrants and persons with foreign background 1996–2008 *Hagtíðindi – Statistical Series* (pp. 1–24). Reykjavik.

Iceland Statistics. (2011). Nemendur fæddir 1988–1994 eftir uppruna Retrieved 2.1.2012, from http://www.hagstofa.is/?PageID=95&NewsID=6103

Iceland Statistics – Hagstofa Íslands. (2004). Brottfall nemenda af háskólastigi 2003–2003 – Dropouts from tertiary education 2002–2003. *Hagtíðindi – Statistical Series*. Retrieved from https://hagstofa.is/lisalib/getfiletrack.aspx?ItemID=968

Iðnaðar- og viðskiptaráðuneyti. (2012). Skýrsla nefndar vegna endurskoðunar iðnaðarlaga. Reykjavík.

Iðnskólinn í Hafnarfirði. (2012). Iðnskólinn í Hafnarfirði – Welcome to the Technical College of Hafnarfjörður. Retrieved 20.3.2012, from http://www.idnskolinn.is/mc/english/

Ingi Bogi Bogason, Davíð Lúðvíksson, & Vilborg Helga Harðardóttir. (2011). Staða menntunar og þörf fyrir menntað starfsfólk. Niðurstöður könnunar. Reykjavík.

Jóelsdóttir, Á. (2001). Löggiltar iðngreinar á sviði hönnunar- og handverksgreina – Staða, menntun og framtíðarsýn. Reykjavík.

Jóhannesson, I. Á. (2011). [Teacher studies for certified masters of trade – discussion].

Jón Torfi Jónasson. (1995). Baráttan á milli bóknáms og starfsnáms á framhaldsskólastigi. *Rannsóknir í félagsvísindum, 1*, 277-285.

Jónasson, J. T. (1994). Skipt um skoðun. Um flutning nemenda á milli þriggja flokka námsbrauta í framhaldsskóla (Change of mind. Transition of students between three different tracks at the upper secondary school). *Uppeldi og menntun, 3*(1), 63–82.

Jónasson, J. T. (1997). Students Passing the Icelandic University Entrance Examination (UEE) 1911–1994. *European Journal of Education, 32*(2), 209–220.

Jónasson, J. T. (2004). What determines the expansion of higher education? Credentialism, academic drift, and the growth of education. *Rannsóknir í félagsvísindum 5*, 275–290.

Jónsdóttir, A. (2013). Referencing of the Icelandic National Qualification Framework to the European Qualification Framework for Lifelong Learning – Draft Report. Reykjavík: Ministry of Education, Science and Culture.

Jónsson, A. K., & Arnardóttir, E. (2012). Tölfræðilegar upplýsingar um erlenda ríkisborgara og innflytjendur á Íslandi. Ísafjörður.

Jónsson, Ó. (2012). [Kennsla á vinnustað – upplýsingar um námskeið fyrir leiðbeinendur á vinnustöðum].

Keilir. (2012). Keilir – Atlantic Center of Excellence. Retrieved 21.3.2012, from http://en.keilir.net/

Kennarasamband Íslands. (2008). *Umsögn Kennarasambands Íslands um frumvarp til laga um menntun og ráðningu kennara og skólastjórnenda við leikskóla, grunnskóla og framhaldsskóla, þskj. 322–288.mál*. Kennarasamband Íslands, Reykjavík.

Kristjánsdóttir, I. G. (2012). Nám er vinnandi vegur – átaksverkefni. Eftirfylgni, árangur og helstu lærdómar – haustönn 2011. Reykjavík.

Kvennaskólinn í Reykjavík. (2012). Kvennaskólinn í Reykjavík Junior College. Retrieved 23.3.2012, from http://www.kvenno.is/Pages/8

Kvikmyndaskóli Íslands. (2012). The Icelandic Film School // About us. Retrieved 21.3.2012, from http://www.icelandicfilmschool.is/about-us/

Landbúnaðarháskóli Íslands. (2012). The Agricultural University of Iceland (AUI). Retrieved 11.2.2012, from http://landbunadur2.lbhi.is/index.aspx?GroupId=410&TabId=416

Landlæknisembættið. (2012). The Directorate of Health Retrieved 05.06.2012, from http://landlaeknir.is/?PageID=945

LHÍ – Iceland Academy of the Arts. (2012). Söguágrip Retrieved 04.07.2012, from http://lhi.is/skolinn/um-listahaskolann/soguagrip/

LÍN. (2012). Reglugerð um námsstyrki Retrieved 29.06.2012, from http://www.lin.is/lin/UmLIN/Log_og_reglur/Reglugerd_um_namsstyrki.html

Ljósmyndaskólinn. (2013). Um skólann Retrieved 24.4.2013, from http://www.ljosmyndaskolinn.is/?page_id=10

Magnússon, M. L. (2012). [Quality in vocational education at the tertiary level – Phone conversation].

Maskína. (2011). Vinnuumhverfi fagmanna – Apríl 2011. Reykjavík: Iðan fræðslusetur.

Mennta- og menningarmálaráðuneytið. (1994). Nefnd um mótun menntastefnu Retrieved 18.12.2011, from http://www.menntamalaraduneyti.is/utgefid-efni/utgefin-rit-og-skyrslur/HTMLrit/nr/2091

Mennta- og menningarmálaráðuneytið. (1999). Í krafti upplýsinga – tillögur menntamálaráðherra um menntun, menningu og upplýsingatækni 1996-1999 Retrieved 04.06.2012, from http://www.menntamalaraduneyti.is/utgefid-efni/utgefin-rit-og-skyrslur/HTMLrit/nr/2033

Mennta- og menningarmálaráðuneytið. (2004). *Aðalnámsskrá framhaldsskóla – Almennur hluti – 2004*. Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/2E2B4D24A5610ACE002576F00058D975/Attachment/Mmal.pdf.

Mennta- og menningarmálaráðuneytið. (2005). *Námskrá fyrir starfsbrautir framhaldsskóla – Sérdeildir*. Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.menntamalaraduneyti.is/media/MRN-doc_Namskrar/Namskra_starfsbrauta_framhaldsskola_2005.doc.

Mennta- og menningarmálaráðuneytið. (2006). *Reglur um viðurkenningu háskóla á grundvelli 3.gr.laga nr. 63/2006 um háskóla*. Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.stjornartidindi.is/Advert.aspx?ID=1e376204-ca17-40c8-892e-f8baba1177c6.

Mennta- og menningarmálaráðuneytið. (2007a). Education & Training 2010 – The Development of Education Policy in Iceland in the context of Europe. Reykjavik.

Mennta- og menningarmálaráðuneytið. (2007b). Náms- og starfsráðgjöf – Skýrsla starfshóps (pp. 28). Reykjavík.

Mennta- og menningarmálaráðuneytið. (2007c). Þróunarsjóður framhaldsskóla og fullorðinsfræðslu Retrieved 25.06.2012, from http://www.menntamalaraduneyti.is/frettir/Frettatilkynningar/nr/4100

Mennta- og menningarmálaráðuneytið. (2009a). *Lög um náms- og starfsráðgjafa*. (139a). Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.menntamalaraduneyti.is/log-og-reglugerdir/.

Mennta- og menningarmálaráðuneytið. (2009b). Reglugerð um rétt nemenda í framhaldsskólum til kennslu í íslensku.

Mennta- og menningarmálaráðuneytið. (2009c). *Reglugerð um skipan og störf starfsgreinaráða*. (711). Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.stjornartidindi.is/DocumentActions.aspx?ActionType=Open&documentID=ce4b9bdd-28bc-4f2f-83c4-9fbc33f471e0.

Mennta- og menningarmálaráðuneytið. (2009d). *Reglugerð um sveinspróf*. Reykjavík: Mennta- og menningarmálaráðuneytið. Retrieved from http://www.reglugerd.is/interpro/dkm/WebGuard.nsf/key2/525-2000.

Mennta- og menningarmálaráðuneytið. (2010a). *Aðalnámskrá framhaldsskóla – Iðnmeistaranám*. Reykjavík: Mennta- og menningarmálaráðuneytið

Retrieved from http://www.menntamalaraduneyti.is/media/MRN-pdf-namskrar/Namskrarrammi_idnmeistaranams_drog.pdf.

Mennta- og menningarmálaráðuneytið. (2010b). Mat á skólastarfi – Áætlun um ytra mat í framhaldsskólum, grunnskólum og leikskólum, 2010–2012. Reykjavík.

Mennta- og menningarmálaráðuneytið. (2010c). Orðaskrá um evrópska menntastefnu – 100 lykilorð. In CEDEFOP (Ed.). Reykjavík: Mennta- og menningarmálaráðuneytið.

Mennta- og menningarmálaráðuneytið. (2010d). *Reglugerð um viðurkenningu á faglegri menntun og hæfi til starfa hér á landi*. (Nr. 879). Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.stjornartidindi.is/DocumentActions.aspx?ActionType=Open&documentID=aa68f59b-aaf9-49d8-b6aa-a1fd45cb3fb8.

Mennta- og menningarmálaráðuneytið. (2010e). Starfsnámsbrautir Retrieved 7.5.2012, from http://www.menntamalaraduneyti.is/utgefid-efni/namskrar/nr/3963

Mennta- og menningarmálaráðuneytið. (2010f). Stefna um opinbera háskóla. Retrieved 26.3.2012, from http://www.menntamalaraduneyti.is/frettir/Frettatilkynningar/nr/5546

Mennta- og menningarmálaráðuneytið. (2011a). *Aðalnámskrá framhaldsskóla 2011 – Almennur hluti*. Reykjavík: Mennta- og menningarmálaráðuneyti Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/3442E1BA50DDCB6F002579CD004E09C0/Attachment/adalnskr_frsk_2012.pdf.

Mennta- og menningarmálaráðuneytið. (2011b). *Aðalnámskrá grunnskóla – almennur hluti*. Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/47E0CDCA01EB8B77002579CD005A2D2B/Attachment/adalnskr_grsk_alm_2012.pdf.

Mennta- og menningarmálaráðuneytið. (2011c). *Aðalnámsskrá framhaldsskóla: Almennur hluti*. Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/3442E1BA50DDCB6F002579CD004E09C0/Attachment/adalnskr_frsk_2012.pdf.

Mennta- og menningarmálaráðuneytið. (2011d). *Auglýsing um útgáfu um æðri menntun og prófgráður*. Reykjavík: Stjórnartíðindi Retrieved from

http://stjornartidindi.is/DocumentActions.aspx?ActionType=Open&documentID=afd35930-4c5a-4de4-bd7e-2134da404446.

Mennta- og menningarmálaráðuneytið. (2011e). *Reglugerð um vinnustaðanám og starfsþjálfun á vinnustað Nr. 840/2011*. (840). Reykjavík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.stjornartidindi.is/DocumentActions.aspx?ActionType=Open&documentID=61a9a40d-071c-4b52-824b-7b847dfb2e93.

Mennta- og menningarmálaráðuneytið. (2011f). Skýrsla mennta- og menningarmálaráðherra um stöðu skólamála samkvæmt beiðni (Lögð fyrir Alþingi á 139. löggjafarþingi 2010-2011) (pp. 1–40). Reykjavik.

Mennta- og menningarmálaráðuneytið. (2011g). Starfsgreinaráð – Skýrslur og tillögur Retrieved 7.5.2012, from http://www.menntamalaraduneyti.is/utgefid-efni/namskrar/starfsgreinarad/

Mennta- og menningarmálaráðuneytið. (2011h). *Þjónustusamningur Mennta- og menningarmálaráðuneytis við Fræðslumiðstöð atvinnulífsins ehf.* Reykajvík: Mennta- og menningarmálaráðuneytið Retrieved from http://www.frae.is/files/%C3%9Ejonustusamningur 2010_1662122173.pdf.

Mennta- og menningarmálaráðuneytið. (2012a). Flokkun sérþarfa í kennslu og ADL Retrieved 19.06.2012, from http://www.menntamalaraduneyti.is/media/MRN-pdf-eydublod/Flokkun-sertharfa-i-kennslu-og-ADL.pdf

Mennta- og menningarmálaráðuneytið. (2012b). *Frumvarp til laga um vinnustaðanámssjóð (Lagt fyrir Alþingi á 140. löggjafarþingi 2011–2012.)*. Reykjavík: Alþingi. Retrieved from http://www.althingi.is/altext/140/s/1256.html.

Mennta- og menningarmálaráðuneytið. (2012c). Heilbrigðis- og félagsgreinar Retrieved 05.06.2012, from http://www.menntamalaraduneyti.is/utgefid-efni/namskrar/nr/3980

Mennta- og menningarmálaráðuneytið. (2012d). Nám er vinnandi vegur – átak í starfsmenntun 2012–2013 Retrieved 27.06.2012, from http://www.menntamalaraduneyti.is/nam-er-vinnandi-vegur/

Mennta- og menningarmálaráðuneytið. (2012e). Námskrár (Curriculums) Retrieved 21.3.2012, from http://www.menntamalaraduneyti.is/utgefid-efni/namskrar/nr/3954

Mennta- og menningarmálaráðuneytið. (2012f). National dialogue and structural sustainability in education and training – Final report. Reykjavík.

Mennta- og menningarmálaráðuneytið. (2012g). *Reglugerð um nemendur með sérþarfir í framhaldsskólum*. Reykjavík: Innanríkisráðuneyti –

Stjórnartíðindi Retrieved from http://www.stjornartidindi.is/Advert.aspx?ID=9e579ba7-ba11-40d2-abee-9750d97a579d.

Mennta- og menningarmálaráðuneytið. (2012h). Samningur gerður við Listaháskóla Íslands Retrieved 23.06.2012, from http://www.menntamalaraduneyti.is/frettir/forsidugreinar/nr/6935

Mennta- og menningarmálaráðuneytið. (2012i). Þróunarsjóður námsgagna Retrieved 29.06.2012, from http://www.menntamalaraduneyti.is/sjodir-og-eydublod/leikskolar/nr/4365

Menntamálaráðuneytið. (1997). *Sjálfsmat skóla – leikskólar, grunnskólar og framhaldsskólar*. Reykjavík: Menntamálaráðuneytið Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/8F7A17F4C22D2832002576F00058D40C/Attachment/sjalfsm_skola_97.pdf.

Menntamálaráðuneytið. (1999a). Aðalnámskrá framhaldsskóla – Almennur hluti – 1999 Retrieved 19.06.2012, from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/F781B6FD851ADE2D002576F00058D4BB/Attachment/AFalmennurhluti.pdf

Menntamálaráðuneytið. (1999b). Aðalnámskrá grunnskóla – Almennur hluti Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/65AB9888E10E766D002576F00058D4AE/Attachment/AGalmennurhluti.pdf

Menntamálaráðuneytið. (1999c). Aðalnámskrá grunnskóla – Íslenska sem annað tungumál Retrieved 19.06.2012, from http://www.ismennt.is/vefir/namskra/g/islenska/nybuar/inngangur.html

Menntamálaráðuneytið. (1999d). Aðalnámsskrá grunnskóla – Upplýsinga- og tæknimennt Retrieved from http://www.ismennt.is/vefir/namskra/g/taekni/ut_tm.rtf

Menntamálaráðuneytið. (1999e). *Enn betri skóli – Kynning á aðalnámskrá grunnskóla*. Reykjavík: Menntamálaráðuneytið.

Menntamálaráðuneytið. (1999f). *Reglugerð um löggiltar iðngreinar, nr 648/1999*. Reykjavík: Menntamálaráðuneytið Retrieved from http://goo.gl/Pz5aX.

Menntamálaráðuneytið. (2000). *Námskrá fyrir sérdeildir framhaldsskóla – Starfsbraut*. Reykjavík: Menntamálaráðuneytið Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/2D562E94B387CEE2002576F00058D54A/Attachment/Framhaldssk%C3%B3la.pdf.

Menntamálaráðuneytið. (2002a). *Erindisbréf nemaleyfisnefnda*. Reykjavík: Menntamálaráðuneytið Retrieved from http://brunnur.stjr.is/mrn/logogregl.nsf/nrar/erindisbref9502002.

Menntamálaráðuneytið. (2002b). Úttektir á sjálfsmatsaðferðum framhaldsskóla – helstu niðurstöður.

Menntamálaráðuneytið. (2006). *Gæðaeftirlit á háskólastigi – Fagúttekt – Leiðbeiningar fyrir innra og ytra mat, sbr reglur um gæðaeftirlit með háskólakennslu nr.666/2003*. Reykjavík: Menntamálaráðuneytið Retrieved from http://menntamalaraduneyti.is/mrn/logogregl.nsf/nrar/reglur6662003.

Menntamálaráðuneytið. (2007). Skýrsla starfshóps um fjölbreytileika og sveigjanleika í skipulagi náms og námsframboðs. Reykjavík.

Menntamálaráðuneytið. (2008). Íslenska fyrir útlendinga – grunnám. Námskrá. Retrieved from http://brunnur.stjr.is/mrn/utgafuskra/utgafa.nsf/xsp/.ibmmodres/domino/OpenAttachment/mrn/utgafuskra/utgafa.nsf/09EB12C2F5928DA0002576F00058DCD3/Attachment/namskra_islenska_fyrir_utlendinga_2.pdf

Menntamálaráðuneytið. (2009). Niðurstöður útttekta á sjálfsmatsaðferðum framhaldsskóla 2007–2008 – Heildarniðurstöður. Reykjavík.

Menntaskólinn í Kópavogi. (2012). Kópavogur Senior Grammar School – History. Retrieved 20.3.2012, from http://www.mk.is/index.php?option=com_content&view=article&id=532&Itemid=166

Ministry of Education, S. a. C. (2006). *Higher Education Institution Act No.63, July 1 2006 – Draft Translation*. Reykjavik: Ministry of Education, Science and Culture.

Ministry of Education, S. a. C. (2008). Upper Secondary Education in Iceland 2008. Reykjavik.

Ministry of Education, S. a. C. (2009a). Policy-making for LIFELONG LEARNING – The Development of Education Policy in Iceland in the context of Europe (pp. 73). Reykjavik.

Ministry of Education, S. a. C. (2009b). *Rules on Quality Control and Research in Higher Education Institutions*. Reykjavik: Ministry of Education, Science and Culture Retrieved from http://www.rannis.is/files/Rules on Quality Control of Teaching and Research in HEIs (321_2009)_197700511.pdf.

Ministry of Education, S. a. C. (2011). Stofnanir Retrieved 20.12.2011, from 20.12.2011

Ministry of Education, S. a. C. (2012). *Reglugerð um breyting á reglugerð um innritun nemenda í framhaldsskóla, nr. 1150/2008*. Reykjavík: Ministry of Education, Science and Culture Retrieved from Reglugerð.

Ministry of Finance. (2012). The Ministry of Finance's Mission, Goals, Values and Vision Retrieved 29.5.2012, from http://www.ministryoffinance.is/ministry/mission/

Ministry of Industry, E. a. T. (1999). Industry – Regulation No 940/1999 respecting Authorised Branches of Industry (translated from the Icelandic) Retrieved 28.5.2012, from http://eng.idnadarraduneyti.is/laws-and-regulations/nr/1164

Ministry of Social Affairs. (2007). *Government Policy on the Integration of Immigrants*. Reykjavík: Ministry of Foreign Affairs Retrieved from http://eng.velferdarraduneyti.is/media/acrobat-enskar_sidur/stefna_integration_of_immigrants.pdf.

Minstry of Education Science and Culture. (2011). *OECD – ICELAND, Improving schools review – background report*. Reykjavik.

Minstry of Education Science and Culture. (2012). The Icelandic National Curriculum Guide for Upper Secondary Schools – General section. Reykjavík: Minstry of Ecucation, Science and Culture.

Myndlistaskólinn í Reykjavík. (2012). Myndlistaskólinn í Reykjavík – Um skólann. Retrieved 23.3.2012, from http://myndlistaskolinn.is/node/164

Mýrdal, S. (1999). *Governance and Inclusion in Icelandic Primary and Secondary Educatin: Emerging Issues and Stories*. Paper presented at the Annual Convention of the American Educational Research Association, April 19–23, 1999, Montréal. http://www.ismennt.is/not/ingo/EGSIEMON.HTM

Mýrdal, S. (2008). *Ný menntastefna og lögverndun kennarastarfsins – Helstu breytingar samkvæmt nýjum frumvörpum um skólamál.* . Paper presented at the Kynning fyrir kennaranema í KHÍ, 8.janúar 2008, Reykjavík.

Námsmatsstofnun. (2012). Námsmatsstofnun – Um stofnunina Retrieved 26.06.2012, from http://www.namsmat.is/vefur/stofnunin/stofnunin.html

Nýsir – Ráðgjafarþjónusta. (2006). Mat á samfélagslegum og efnahagslegum áhrifum álvers Alcoa Fjarðaráls í Reyðarfirði. Reyðarfjörður.

OECD. (2009). OECD Teaching and Learning International Survey (TALIS) TALIS 2008 – Overview of country results in TALIS – Iceland. Paris: OECD.

OECD. (2011). Education at a glance 2011: OECD Indicators. Paris.

OECD. (2013). Glossary of Statistical Terms Retrieved 24.04.2013, from http://stats.oecd.org/glossary/search.asp

OECD, U.-U. (2005). Education Trends in Perspective – Analysis of the World Education Indicators. Paris.

Ólafsson, S. (2011). Pensions, Health Care and Long-term Care – ASISP Annual Report 2011, Iceland. Reykjavik: ASISP.

Ólafsson, T. (2011). [Viðtal um kostnað nemenda af námi á Íslandi].

Olgeirsson, N. S. (2008). *Framtíð meistarakerfisins*. Paper presented at the Matvís – Ráðstefna um menntun og nýliðun, Reykjavík. http://matvis.is/matvis/upload/files/radstefn_nov_2008/niels_2.ppt

Open University – Reykjavik University. (2012). Welcome to the RU Open University. Retrieved 20.3.2012, from http://www.openuniversity.is/

Prime Minister's Office. (2011a). Iceland 2020 – governmental policy statement for the economy and community. Reykjavik.

Prime Minister's Office. (2011b). Iceland 2020 – governmental policy statement for the economy and community. Knowledge, sustainability, welfare. Reykjavík.

Prime Minister's Office. (2011c). Social objectives: Welfare, knowledge, sustainability Retrieved 7.5.2012, from http://eng.forsaetisraduneyti.is/iceland2020/social-objectives/

Rafiðnaðarskólinn. (2010). Meistaranám Retrieved 24.5.2012, from http://www.raf.is/index.php?option=com_content&view=article&id=56&Itemid=65&lang=is

Rafiðnaðarskólinn. (2012). Rafiðnaðarskólinn – About the School. Retrieved 25.3.2012, from http://www.raf.is/index.php?option=com_content&view=article&id=46&Itemid=54&lang=en

Rannís. (2011). Research & Development in Iceland 2011. Reykjavik.

Reykjavíkurborg – City of Reykjavik. (2012). Atvinnustefna Reykjavíkur – Skapandi Borg. Reykjavíks.

Ríkisendurskoðun. (2012). Frumgreinakennsla íslenskra skóla. Reykjavík.

Samband íslenskra sveitarfélaga. (2011). Fréttir – skólamál – samningur um eflingu tónlistarnáms undirritaður Retrieved 23.06.2011, from http://www.samband.is/verkefnin/skolamal/frettir---skolamal/nr/1096

Samband Íslenskra Sveitarfélaga. (2012). The Association of Local Authorities in Iceland Retrieved 28.5.2012, from http://www.samband.is/um-okkur/english/

Samtök Atvinnulífsins. (2012). SA-Confederation of Icelandic Employers Retrieved 12.1.2012, from http://www.sa.is/english/

Samtök iðnaðarins. (2012). SI – The Federation of Icelandic Industries Retrieved 12.1.2012, from http://www.si.is/english

Sigurðardóttir, M. S., & Young, T. (2011). Towards Creative Iceland: building local, going global – Quantitative and qualitative mapping of the cultural and creative industries in Iceland. Reykjavik: The Research Centre of Creative Industries – University of Iceland.

Sigurðsson, Ó. (2008). *Reiknilíkan framhaldsskóla – MA-thesis – Public Management.* (MA), University of Iceland, Reykjavík. Retrieved from http://www.google.is/url?sa=t&rct=j&q=reiknil%C3%ADkan framhaldssk%C3%B3la&source=web&cd=2&ved=0CC4QFjAB&url=http%3A%2F%2Fskemman.is%2Fstream%2Fget%2F1946%2F3385%2F10547%2F1%2FOlafur_Sigurdsson.pdf&ei=jDxfT-TpLdSp8AP7iPHGBw&usg=AFQjCNE8hWGx7BSr7sYqLm0ukZGf3Mn8oA&cad=rja

Snyrtiakademían. (2013). Snyrti – Akademian Retrieved 25.4.2013, from http://www.snyrtiakademian.is/

Starfsnámsnefnd. (2006). Nýr framhaldsskóli – skýrsla Starfsnámsnefndar. In J. B. Stefánsson (Ed.). Reykjavík.

Statistics Iceland – Hagstofa Íslands. (2004). Brottfall nemenda úr framhaldsskólum 2002–2003 *Skólamál – Education* (Vol. 2004, pp. 1–12).

Statistics Iceland – Hagstofa Íslands. (2009). Immigrants and persons with foreign background 1996–2008 *Mannfjöldi – Population* (pp. 1–24). Reykjavík.

Statistics Iceland – Hagstofa Íslands. (2010). Population projection 2010–2060 – Spá um mannfjölda 2010–2060 *Statistical Series – Hagtíðindi* (Vol. 2010, pp. 1–24). Reykjavik.

Statistics Iceland – Hagstofa Íslands. (2011a). Landsframleiðslan 2010 – endurskoðun / Gross Domestic Product 2010 – Revision *Hagtíðindi – Statistical Series, Þjóðhagsreikningar – National accounts* (Vol. 2011, pp. 1–15). Reykjavik.

Statistics Iceland – Hagstofa Íslands. (2011b). Mannfjöldaþróun 2010 – Population development 2010. *Hagtíðindi – Statistical Series – Population Development, 96*(18), 1–24.

Statistics Iceland – Hagstofa Íslands. (2011c). Short term indicators in November 2011 *Statistical Series – Short term indicators* (Vol. 2011). Reykjavík: Iceland Statistics.

Statistics Iceland – Hagstofa Íslands. (2011d). Skráðir nemendur í framhalds- og háskólum haustið 2010 – Registered students at the upper secondary and tertiary level in autumn 2010 (Vol. 1, pp. 1–28). Reykjavik.

Statistics Iceland – Hagstofa Íslands. (2011e). Útgjöld til fræðslumála á Íslandi 1998–2010 *Statistical Series – Hagtíðindi: Þjóðhagsreikningar – National Accounts* (Vol. 2011, pp. 1–32). Reykjavik.

Statistics Iceland – Hagstofa Íslands. (2012). Metadata description – Student Register; upper secondary and tertiary level Retrieved 3.5.2012, from http://www.statice.is/pages/1745/?src=../../vorulysingar_en/v_transporter.asp?filename=V10198.htm

Stefánsdóttir, D. (2008). Educational and Vocational Guidance in Iceland Retrieved from http://www.ask.hi.is/Apps/WebObjects/LME.woa/swdocument/47/B%C3%A6klingur+um+n%C3%A1ms-+og+starfsr%C3%A1%C3%B0gj%C3%B6f.pdf

Stjórnlagaráð. (2011). The Constitutional Council – General Infomation Retrieved 1.12.2011, from http://www.stjornlagathing.is/english/

Suppanz, H. (2006). Adapting the Icelandic education system to a changing environment *Economics department working papers* (pp. 29). Paris: OECD.

Tækniskólinn. (2012a). Gjaldskrá Tækniskólans Retrieved 25.06.2012, from http://www.tskoli.is/gott-ad-vita-/gjaldskra/

Tækniskólinn. (2012b). Welcome to Technical College Reykjavik. Retrieved 20.3.2012, from http://en.tskoli.is/

The Icelandic Eurydice Unit. (2010). Structures of Education and Training Systems in Europe – Iceland 2009/10 (pp. 1–46). Brussels: Eurydice.

The Icelandic Film School. (2013). Home page Retrieved 25.4.2013, from http://www.icelandicfilmschool.is/home/

The Ministry of Education, S. a. C. (2009). Education, Research and Innovation Policy – A new direction for Iceland.

The World Bank. (2011). Data – Iceland Retrieved 23.11.2011, from http://data.worldbank.org/country/iceland

Thorarensen, E., & Gylfadóttir, M. K. (2011). Starfsgreinaráð og starfsgreinanefnd: Stefna og verklag. Reykjavík.

UNESCO. (1997). International Standard Classification of Education – ISCED 1997. Paris: UNESCO.

University of Iceland. (2010). Welcome to the School of Education. Retrieved 15.1.2012, from https://english.hi.is/school_of_education/school_of_education

University of Iceland. (2012). Career Councelling and Guidance – Course Catalogue Retrieved 28.06.2012, from https://ugla.hi.is/kennsluskra/index.php?tab=nam&chapter=namsleid&id=100435_20126

UNU-MERIT. (2011). INNOVATION UNION SCOREBOARD 2010 – The Innovation Union's performance scoreboard for Research and Innovation. Mastricht: Maastricht Economic and social Research and training centre on Innovation and Technology.

Velferðarráðuneytið. (2011). Tillögur samráðshóps um vinnumarkaðsmál: Í NÁM–TIL VINNU! Reykjavík.

Velferðarráðuneytið – Ministry of Welfare. (2011). Interim Report by the collaborative group monitoring welfare in the Sudurnes region. Reykjavik.

Verkmenntaskóli Austurlands. (2012). Verkmenntaskóli Austurlands – Saga skólans og sérstaða. Retrieved 21.3.2012, from http://www.va.is/Apps/WebObjects/VA.woa/wa/dp?id=1000154

Verkmenntaskólinn á Akureyri. (2012). VMA Introduction – Akureyri Comprehensive College. Retrieved 21.3.2012, from http://www.vma.is/skoli/page/skolinn_kynning_enska/

Viðskiparáð Íslands. (2012). Viðskiptaráð Íslands – Iceland Chamber of Commerce Retrieved 10.2.2012, from http://www.vi.is/forsida/

Vilhjálmsdóttir, G. (2011, 23.06.2011). [Interview on Education for Career Advisors, Career Advicing and Councelling Services].

Vinnumálastofnun – Directorate of Labour. (2011). *Atvinnuleysi frá 1980–2010, ársmeðaltal*. Retrieved from: http://www.vinnumalastofnun.is/files/Atvinnuleysi fr%C3%A1 1980 %C3%A1rsme%C3%B0alt.xlsx

Vinnumálastofnun – Directorate of Labour. (2012). Mannaflaþörf Retrieved 9.5.2012, from http://www.vinnumalastofnun.is/vinnumalastofnun/utgefid-efni-og-talnaefni/skyrslur-og-talnaefni/mannaflathorf/