

# White Paper

## on education reform



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## Summary

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Our vision is for young people in Iceland to enjoy the same opportunities to live and work in an ever-changing world as their counterparts in the countries to which we wish to compare ourselves. To make this possible, Icelandic students must be given access to education within an education system meeting the highest international standards.



The main strengths of the Icelandic education system, compared to the general situation in the comparison countries, are relatively small achievement gaps between schools, the fact that students generally feel happy at school, and a school system that is both flexible and not overly centralised.

On the other hand, the education system now battles against declining literacy rates among pupils leaving compulsory school and slow student progress in upper secondary school. Thus, reading comprehension and mathematical and scientific literacy among Icelandic students have deteriorated in the past decade and their performance now scores below the average of the OECD countries. Only 44 per cent of students enrolled in Icelandic upper secondary schools graduate on time, a much lower percentage than in the comparison countries. Furthermore, relatively few students enrol in vocational programmes, and those who do, together with students enrolled in preparatory programmes, are less likely to graduate on time.

Many nations have accumulated knowledge and experience in the field of education reform. The strategy that has been found to work best is to set few but ambitious goals on which a wide consensus can be reached and which can be the focus of long-term efforts. At the same time, it is important to promote change in schools, enhance teachers' professional awareness, increase the gathering and dissemination of information and, last but not least, to analyse and evaluate the results achieved and draw appropriate conclusions.

### Two principal goals have been defined for education reform in Iceland until 2018:

- > **90 per cent of compulsory school pupils to meet minimum reading standards—up from 79 per cent currently.**

One of the measures proposed in order to reach this goal is to increase the time allocated to Icelandic in the reference timetable of the National Curriculum Guide for compulsory schools. Furthermore, standards should be developed for the levels of reading proficiency to be attained by pupils at each stage of compulsory schooling, and reading literacy should be measured regularly from the preschool level to the final classes of compulsory school.

- > **60 per cent of upper secondary students to graduate on time—up from 44 per cent currently.**

This goal is to be reached by rethinking the duration of programmes and shortening studies leading to final examinations, tackling drop-out, and restructuring vocational education. A standard duration of three years is proposed for programmes leading to the matriculation examination, and ways to shorten vocational programmes are to be investigated. A screening of risk factors influencing early school leaving is to be conducted among all upper secondary school students. Vocational education is to be reviewed with a view to simplifying basic programmes and developing a tertiary vocational education level.

This White Paper is intended as a starting point for further discussion and consultation with all those with an interest in education. Within that framework, working groups will subsequently be set up to develop and implement short- and long-term action plans.

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# Introduction

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We live in a period of rapid technological development, globalisation and natural and societal change. Regardless of where we think the world is heading, most people agree that a good education is the best thing to bring on that journey. A solid education makes it easier for young people to find their way in a complex and ever-changing world, besides being the foundation of a strong economy and of the citizens' wellbeing.

## How can the Icelandic education system provide the country's youth with the education required for life and work in a modern society?

The legislation applying to the three school levels—preschool, compulsory school and upper secondary school—and the recently updated National Curriculum Guides contain, amongst other things, guidance with regard to critical thinking, creativity, communication, and active participation in a democratic society. These factors are sometimes referred to as 21<sup>st</sup>-century skills. The White Paper focuses on identifying where efforts to strengthen the Icelandic education system need to be directed and which strategies are most likely to provide students with the education mandated by law and by the National Curriculum Guides. Work on the White Paper has been based on international studies of education reform, and attempts have been made to draw lessons from the experience of those nations that perform strongest in international comparisons.

The White Paper discusses the current state of the Icelandic education system and proposes priorities and actions on the basis of that analysis. The main weight is placed on the key goals of improving reading performance and the progress of upper secondary students. The paper lists the wheres and hows of reform directed toward this objective, based primarily on comparable international data, compiled with regular intervals, although it is foreseen that the further development of such actions will draw upon the large number of Icelandic studies relating to the national education scene.

It should be made clear that the main priorities and actions discussed below in no way exclude reform in other fields of education. Above all, they are a description of certain priority projects on which wide consensus is likely to be reached. The measures to be developed in continuation of this will no doubt be put to broad use in schools and have widespread and positive effects.

The main purpose of this White Paper is to create a basis for discussion and action on education reform in Iceland. The intention is to call out to all those with a stake in education to contribute to further work in this field. In that regard, the long-term perspective is important given the complexity of education systems and the fact that the results of reform often take a long time to become evident, although short-term benefits may certainly also materialise in a limited number of fields.

The people of Iceland have shown that they are capable of coordinating their efforts to achieve successful change in schools. Without a doubt, one of the best examples of this is the considerable accomplishment of the past 20 years in reducing tobacco and drug use among children of compulsory school age. This was made possible through the concerted and well-founded action of the government, municipal councils, school administrators, teachers, parents, pupils, sport and youth associations, various actors in the field of prevention, and experts. The experience among other nations is that this type of approach can be used to improve education with good results.

## Education and competence in the new century

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A substantial policy effort in the field of education came to a close in 2008 with the adoption by parliament of new legislation on the three school levels—preschool, compulsory and upper secondary—and the Act on the education and recruitment of teachers and school administrators. In the years that followed, new acts on continuing education and on school counsellors were also adopted. Subsequently, work has been ongoing to implement these Acts, and a range of Regulations have been issued, together with updated National Curriculum Guides.

One of the main elements of the 2008 education policy, as well as of the National Curriculum Guides issued on the basis thereof, was an emphasis on student competence and on giving schools the freedom to cultivate the diverse talents of young people. Municipal councils and schools were given increased powers to shape course offerings and teaching practices. At the same time, the duration of the teacher training programmes was increased.

Although much has been achieved with the adoption of new legislation and the publication of the National Curriculum Guides, there has been a lack of adequate guidance regarding their implementation and the priorities to be followed. The recent findings of the PISA survey conducted by the Organisation for Economic Co-operation and Development (OECD) and the results of an analysis of the state of the Icelandic upper secondary school unambiguously point to the need for further measures to strengthen the Icelandic education system.

When the foundations of the Icelandic school system were laid in the first decades of the last century, questions arose—as they do today—regarding the goals to be pursued in the education of young people. Guðmundur Finnbogason, who contributed to the drafting of the Act on Education which entered into force in 1907, provided the following answer: “Each person’s education must be judged by his ability to live and work in company with other people, to live and work in a manner that day by day increases the value of his life both for himself and for others.” (Guðmundur Finnbogason, 1994

[1903], p. 33). Over a century later, a better answer is difficult to find.

The main objectives pursued in formal education in Iceland are outlined in the legislation in force on preschools, compulsory schools and upper secondary schools, as well as in the National Curriculum Guides.

Thus, according to the Act on Preschools, the role of the school is to promote the all-round development of children, lay the foundations for their participation in a democratic society, stimulate their Icelandic language skills, cultivate their expressive and creative aptitudes, and seek to strengthen their personal identities, health awareness, safety, and human relations skills. At the compulsory level, the focus remains on the all-round development of the pupils, their proficiency in the Icelandic language, their understanding of Icelandic society, their communication and cooperation skills, their sense of initiative, independent thinking, and the harnessing of their creativity in the constant pursuit of education and maturity. The Upper Secondary Education Act adds an emphasis on preparation for further studies, participation in the labour market, disciplined and independent working methods, and the acquisition of skills required for specialised occupations.

All of these objectives are developed in more detail in the National Curriculum Guides for each school level, as well as in individual school curriculum guides and in municipal school policy documents.

The use of the term 'competence', meanwhile, is aimed at defining more precisely the results to be achieved by education.

The National Curriculum Guides define competence as encompassing knowledge, skills and attitudes. In turn, attitudes reflect morality, emotions and creativity, initiative-taking and social skills. Therefore, competence consists not only in having acquired a certain knowledge, but also in knowing how to apply that knowledge (skills/proficiency) and in making use of attitudes (exercising judgment) in order to apply the knowledge in different situations. One might say that competence refers to the outcome of education, i.e. the results produced, instead of being only knowledge—for knowledge's sake.

Within the education system, competence is normally divided into levels within a so-called competence framework. This means that students are expected to acquire a basic competence in the first stages of their education, and a more specific competence as their schooling advances. However, competence is not acquired exclusively in a school environment. Schools certainly provide an essential foundation, but learning is a life-long process, whether at the workplace or in each person's daily life. This explains the importance of learning competence: the skills required for lifelong learning.

The term 'literacy' is one of the measures of competence. Traditionally, literacy refers to the ability to read and write. In OECD's PISA survey, a wider definition of literacy is used, referring to students' capacity to apply their knowledge and skills in key subject areas, and to analyse, reason about, solve and explain the problems posed in diverse subjects, effectively and in a variety of situations. Thus, the concepts of mathematical and scientific literacy have been introduced in addition to reading literacy.

Internationally, the education and the competence that students need to acquire in the 21<sup>st</sup> century are a prominent topic of discussion. Participation in the economy and society of the 21<sup>st</sup> century is seen as

requiring heightened adaptability and a constant updating of knowledge in order to keep up with the pace of development. Other skills highlighted include creativity, health, communication, critical thinking and sustainability, all of which have been incorporated into the recently updated Icelandic National Curriculum Guides. Finally, the attention has been directed toward information and communications technology, the exploitation of which has led to a fundamental shift in the requirements of the society and of the labour market.

When the foundations of the Icelandic education system were laid in the first decades of the last century, both the society and the economic activities pursued were quite different from those of today. The ideals of the pioneers of education in Iceland as regards public education and opportunities for all to develop and to participate in a democratic society remain valid in this new century. However, the required competencies have changed and young people have to be prepared for participation in a society and an economy in constant flux.

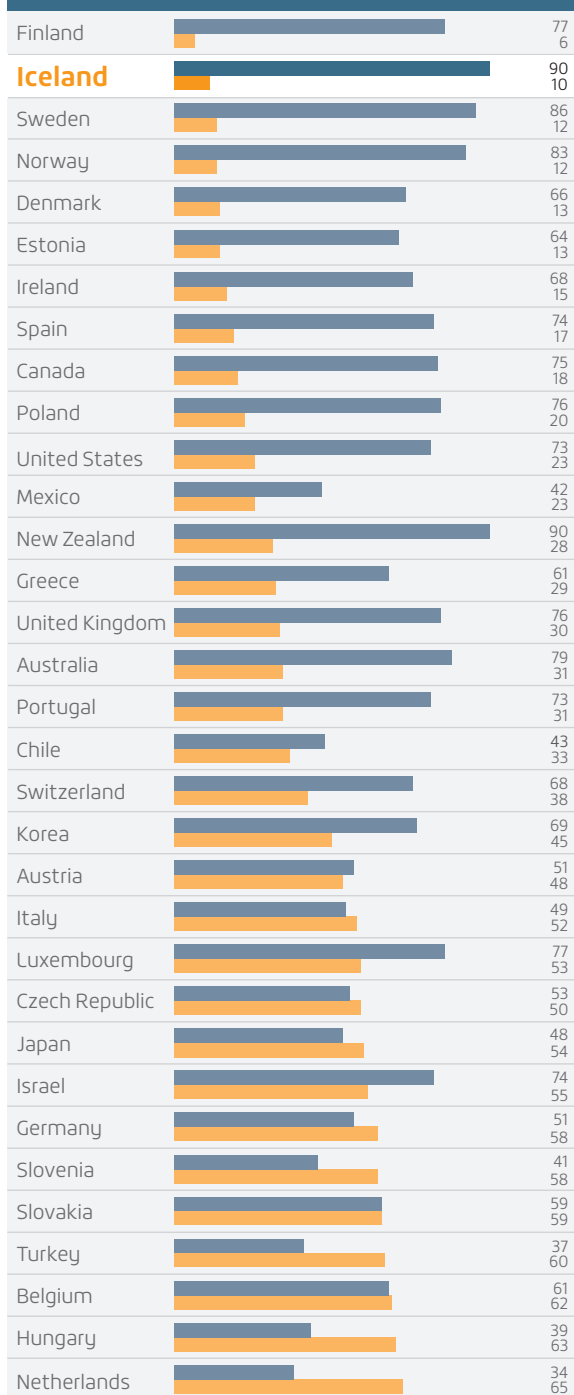
In today's international community, nations are engaged in never-ceasing competition where it takes a strong economy and a flourishing society to attract young and dynamic people. A good education is a key ingredient in the development of any economy or society. The position of individuals and nations—whether in relation to value-creation, the encounter of different social groups, or general welfare—is increasingly determined by their level of education. In that respect, the point of reference is not necessarily the length of schooling, but the competence which individuals have acquired on leaving school and their ability to use it to take on new and challenging tasks for the rest of their lives.

**The vision is for young people in Iceland to be on even footing with their counterparts in those countries that have the best education, and to have the same opportunities for participation in the society and economy of the 21<sup>st</sup> century.**

"Each person's education must be judged by his ability to live and work in company with other people, to live and work in a manner that day by day increases the value of his life both for himself and for others."

# The position of the Icelandic education system in an international context

**Figure 1 – Impact of the school on performance in mathematics**



One of the main strengths of the Icelandic education system is equal access to education. Iceland is among those countries where student performance varies the least between schools.

A comparison with other countries makes it possible to identify a number of indicators of the state of the Icelandic education system, both its strengths and its weaknesses.

One of the main strengths of the Icelandic education system, based on such a comparison, is equal access to education. Iceland is one of the countries with the smallest achievement gaps between schools (see Figure 1). As an example, Iceland came in second, after Finland, in OECD's PISA survey 2012 on the measure 'between-school variance in mathematical literacy'. On the other hand, student performance varies more within individual schools in Iceland than in most other countries, a fact likely explained in part by the 'inclusive school' policy.

Social status only has a small impact on the performance of Icelandic students. Access to education is high: nearly a third of the population, some 100,000 people, is enrolled in an educational institution at each time, with participation extending to all age groups, from the preschool level to continuing education.

Another strength of the Icelandic education system is its low level of centralisation. Municipal councils, schools, and the communities they serve all have considerable freedom to decide on course offerings and the organisation of schooling, given that the National Curriculum Guides for preschool, compulsory school and upper secondary school leave ample scope for shaping the work of schools at the local level. Each municipal council sets its own school policy and can build upon it to define the priorities to be followed in its preschools and compulsory schools, as well as each school's curriculum guide. At the upper secondary level, schools create course descriptions and make proposals for programmes, which are subsequently confirmed by the Ministry of Education, Science and Culture for inclusion in the National Curriculum Guide.

Factors explaining the distribution of mathematical literacy:

- Variance between school averages
- Variance between students within each school

Source: OECD, PISA survey 2012; Educational Testing Institute

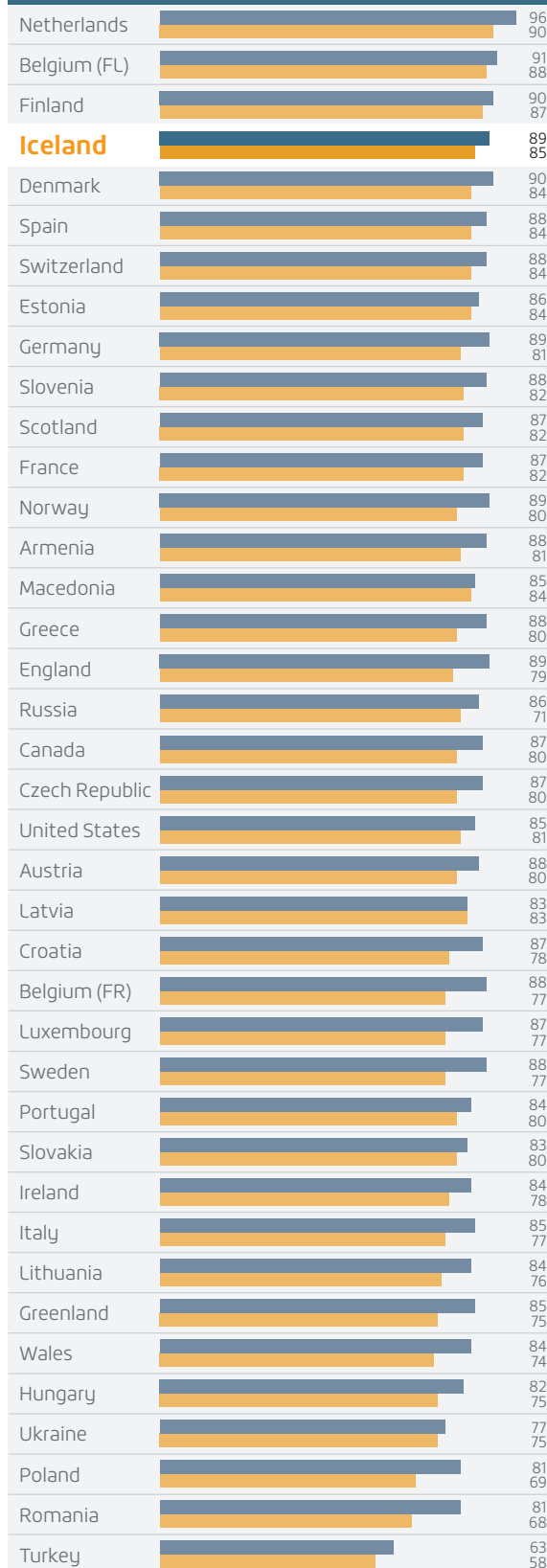




Thus, municipal councils and schools have the freedom to adapt course offerings and school work to local conditions, as well as to different student groups and their needs.

Happiness at school is an important prerequisite for successful education and for the acquisition by students of competence in a variety of domains. Happiness at school is high among Icelandic school

**Figure 2 – Percentage of 15-year-olds who report 'high life satisfaction'**



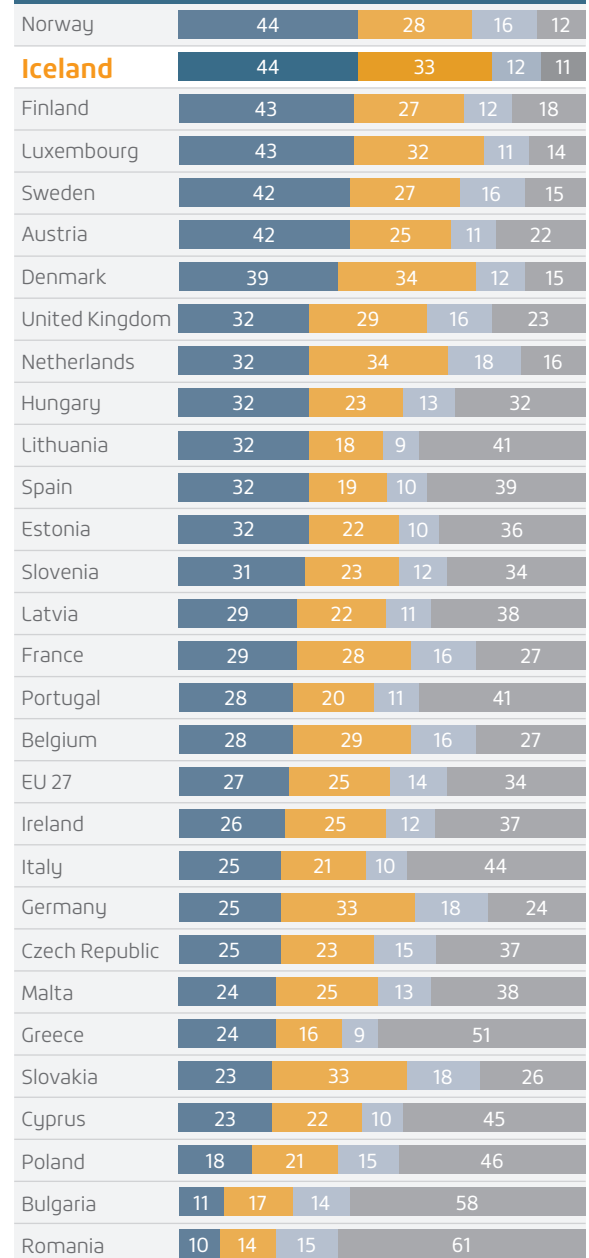
Happiness at school is high among Icelandic school children compared to other countries



Boys (%)  
Girls (%)

Source: World Health Organisation, HBSC study 2009/10

**Figure 3 – Computer skills of individuals in the European countries**



The percentage of people with a high level of computer skills was highest among Icelanders and Norwegians.



High level of computer skills (%)  
Medium level of computer skills (%)  
Low level of computer skills (%)  
No computer skills (%)

Source: Eurostat, 2011b; Information Society Statistics

children compared to other countries: according to an international survey of the health and wellbeing of 15-year-old school children, conducted by the World Health Organisation (WHO, 2012), Iceland ranked fourth among the participating countries with respect to children's satisfaction with life (see Figure 2). Interestingly, in all countries but one boys reported higher life satisfaction than girls, and this was the case in Iceland as well.

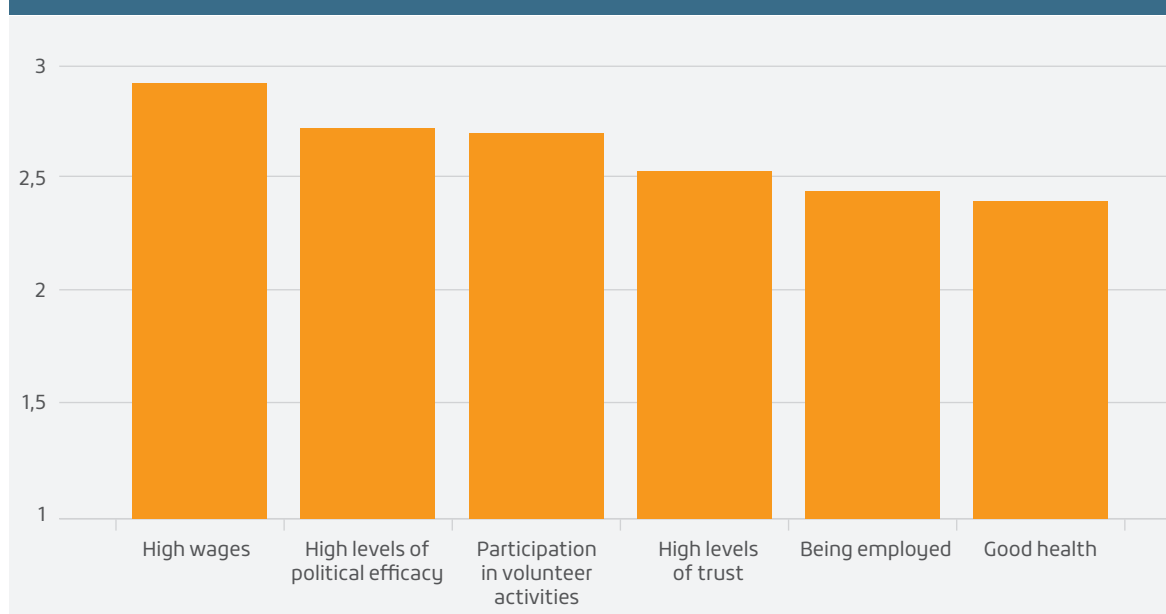
Many believe that information technology skills will soon be of crucial importance for the life and work of individuals and the continuing development of human societies. The status of and access to information technology, as well as widespread familiarity with that type of technology, can have a huge impact on education and innovation, both within the education system and in society at large. Iceland leads the way among the European countries when it comes to the capacity of adults to use information technology (see Figure 3).

A survey conducted among the general public measured proficiency in using computer applications, as well as in carrying out more complicated operations, such as installing operating systems. The percentage of people with a high level of computer skills was highest in Iceland and Norway. Similarly, Iceland had the lowest percentage of people with no computer skills.

### Challenges

The 2013 edition of OECD's PIAAC survey measured literacy among adults (18 to 64 years of age), as well as their proficiency in problem solving in technology-rich environments. The results of the survey have in many countries prompted lively discussion on education and skills, one of these results being a strong link between literacy and economic and social standing. Thus, people with high literacy skills are much more likely than others to enjoy good health, be employed, be well paid, and be active participants in political life and in society.

Figure 4 – Positive social and economic outcomes among highly literate adults



The likelihood of high wages, high levels of political efficacy, participation in volunteer activities, high levels of trust, employment, and good health is higher among adults scoring at level 4/5 in the PIAAC survey of adult literacy compared with adults scoring at or below level 1.

■ Odds ratio

Source: OECD, PIAAC survey 2012

Although Iceland was not covered by this survey, a strong correlation has been shown to exist between the good performance of 15-year-olds in the PISA survey and adult competencies (OECD, 2013); that is, the better the performance in PISA, the greater the competence in later life. Moreover, there is a strong correlation between people's competence and the level of formal education that they have completed. It can be assumed that the same applies in Iceland.

The PISA survey examines the reading, mathematical and scientific literacy skills of 15-year-old students. For many years, Icelandic students performed above the OECD average in reading and mathematical literacy, but below the average in scientific literacy. The survey has been conducted among this group of students every three years since 2000, and the results of the 2012 edition were made public recently.

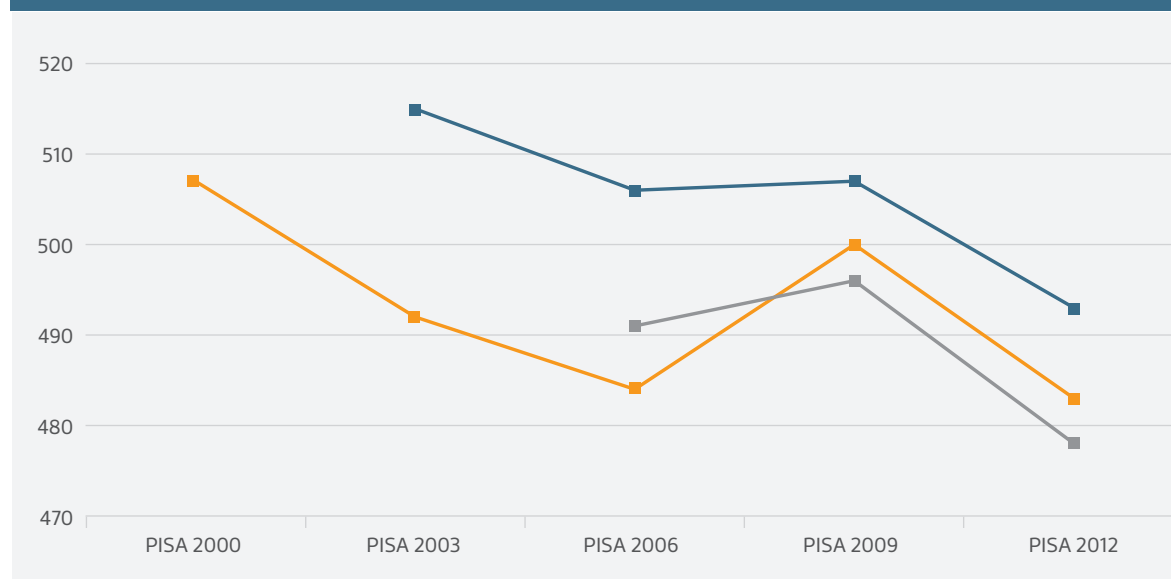
The PISA 2012 results demonstrate a negative trend in the performance of Icelandic students,

as Figure 5 shows clearly. In addition to the deterioration of reading literacy performance as compared to the first measurement in 2000, the comparison with the average of other countries is now less favourable than before. In the first PISA test of reading literacy, Iceland exceeded the OECD average with a score of 507 points, but in the latest test, conducted in 2012, the score fell below the OECD average at 483 points. The difference between 2000 and 2012 is 24 points.

To put this in perspective, OECD's methodology assumes that student performance improves, on average, by 45 points every school year. Therefore, the difference in performance between 2000 and 2012 is the equivalent of the students who passed the test in 2012 having fallen behind their predecessors from 2000 by one-half of a school year.

While performance fluctuations from one year to another must be interpreted with caution, the evolution since the beginning of the century shows that Iceland must seek to improve the level of its

**Figure 5 – Performance of Icelandic 15-year-olds in OECD's PISA survey**



The results of PISA 2012 show that the performance of Icelandic students in reading literacy has deteriorated from the first measurement in 2000.

- Mathematical literacy
- Reading literacy
- Scientific literacy

Source: OECD, PISA surveys 2000 to 2012; Educational Testing Institute.

students in reading, mathematics and science if they are to be on par with their counterparts in other countries. General education levels are another indicator of the capacity of young people in Iceland to pursue employment and further studies. A particularly remarkable fact is the high percentage of young people who never complete an upper secondary education.

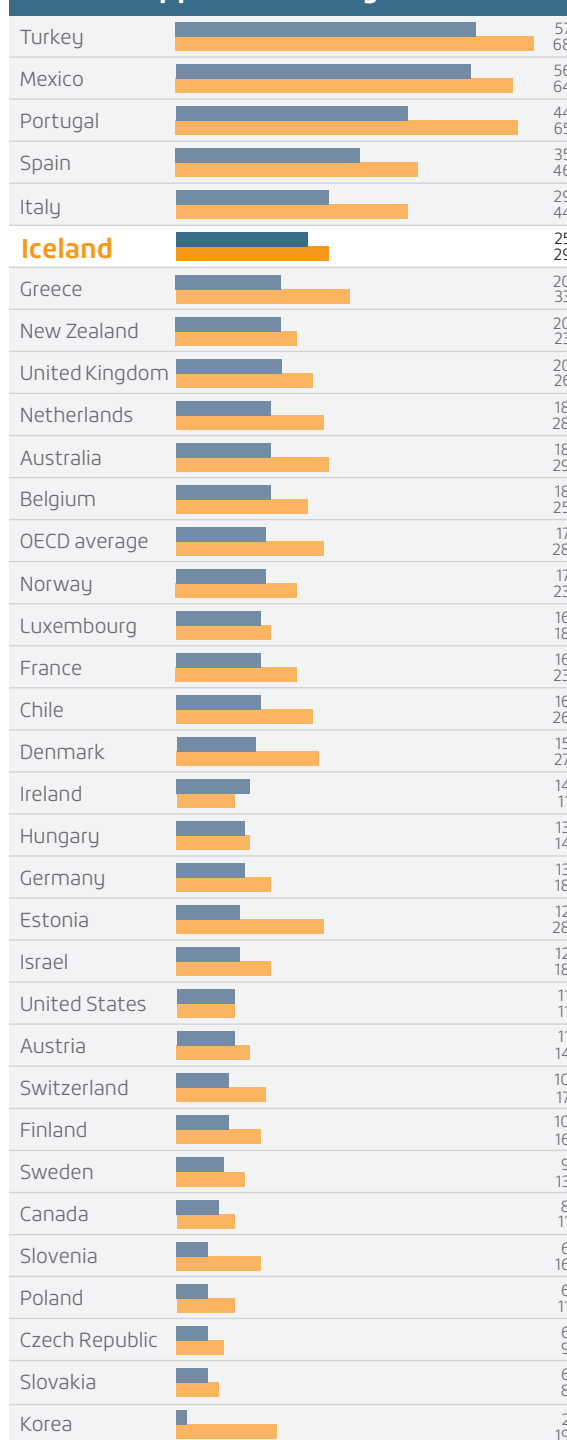
As shown in Figure 6, the percentage of Icelandic adults (between 25 and 64 years of age) with no upper secondary education is the sixth highest among OECD states at around 30 per cent. However, Iceland differs from the other OECD states in one respect: most countries where this percentage is high have improved their situation, which in turn is reflected in an improvement in the education level of the younger generations. This is not the case in Iceland, where the difference between the younger and the older generations is small, a sign of the slow progress achieved in raising the nation's education level.

It has been pointed out that this high percentage of people with no upper secondary education is liable to have serious economic and social consequences. Judging by the experience of other nations, early school leavers are more likely to lack the competence necessary to position themselves in the job market, and run a greater risk of being exposed to unemployment, social problems, risk-taking and poor health. In the long run, the cost to society is high.

Falling performances in the PISA survey and the low upper secondary graduation rates in Iceland are a reflection of a reality which must be taken seriously and responded to immediately.

Changes in the education system, whether for the better or for the worse, manifest themselves over a long period of time and have broad and far-reaching consequences, both for individuals and for the society as a whole.

**Figure 6 – Percentage of people in the age groups 25 to 34 and 25 to 64 with no upper secondary education**



In Iceland, the percentage of adults not having completed an upper secondary education is around 30 per cent

■ 25 to 64 years (%)  
■ 25 to 34 years (%)

Source: OECD, Education at a Glance 2013

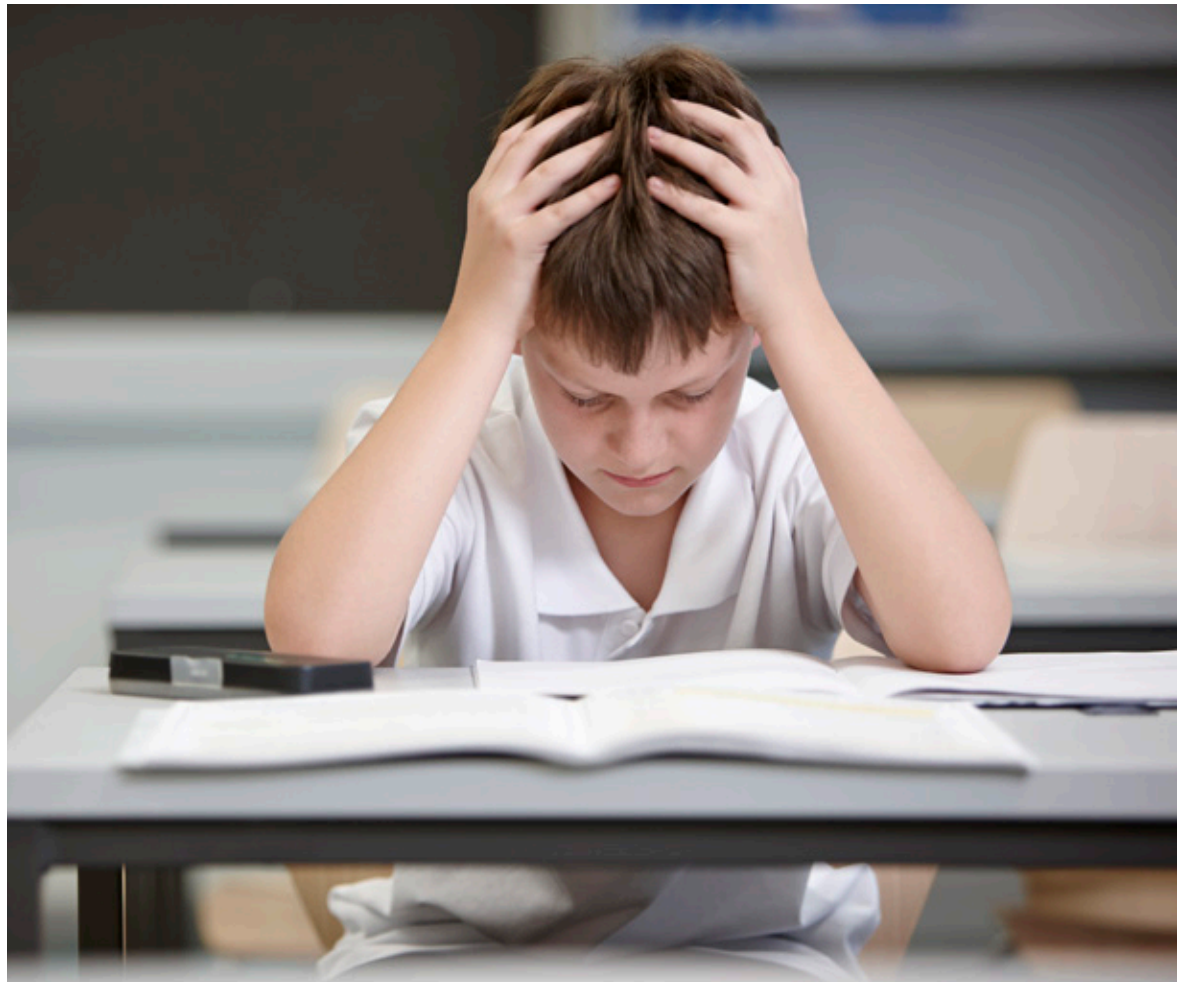
## Reading proficiency on leaving compulsory school

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In order to shed more light on the state of the Icelandic education system, it is appropriate to take a closer look at reading. The PISA survey distinguishes between three forms of 'literacy', i.e. reading literacy or reading, mathematical literacy and scientific literacy. It is assumed that reading literacy is a prerequisite for acquiring the competence to find one's way in society.

In PISA's theoretical framework, reading literacy is divided into five levels of proficiency. Of these, level 2 can be considered as representing the minimum reading proficiency required if students are to succeed later in life. Those performing below that level are not regarded as having no reading

skills whatsoever, but will be more likely to run into problems when entering the next education level, and will find it difficult to assimilate study material and take advantage of instruction, and to become active participants in society. This has often been referred to as having 'no useful reading skills'.

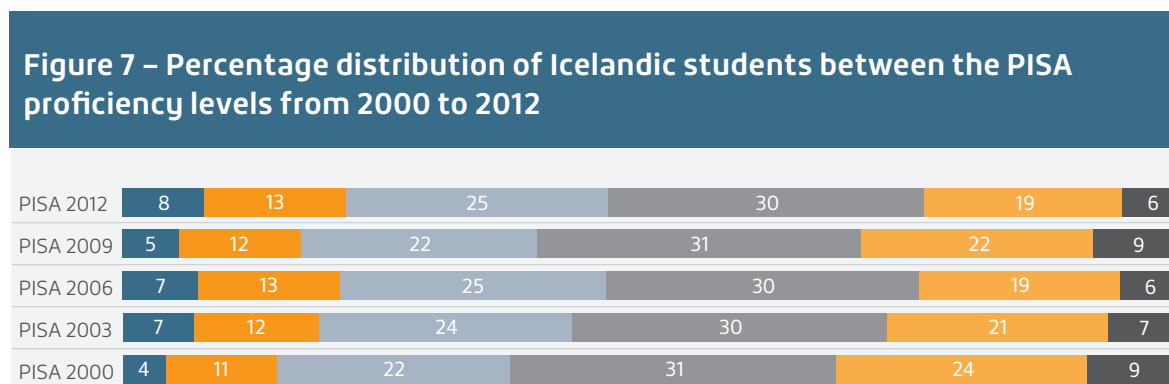




The percentage of those with no useful reading skills has increased from 15 per cent in 2000 to 21 per cent in 2012.

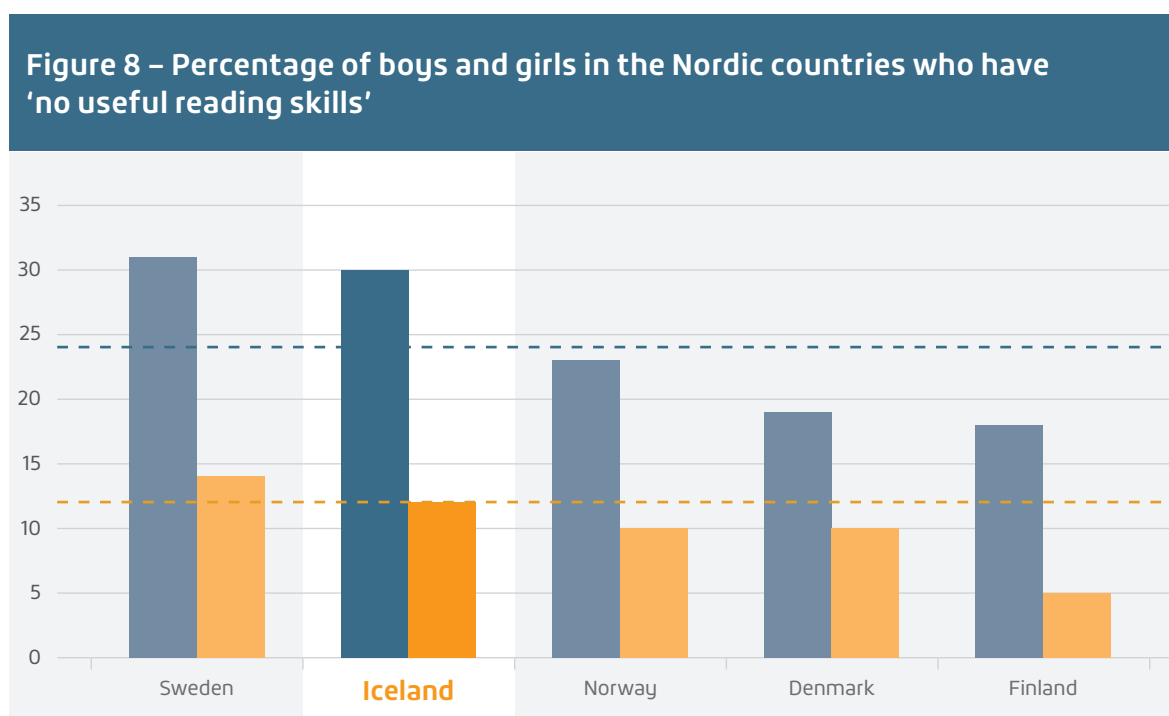
As shown in Figure 7, the percentage of those performing below proficiency level 2 in reading literacy has increased from 15 per cent in 2000 to 21 per cent in 2012. Another cause for concern is that the percentage of those scoring at the two uppermost PISA levels in reading literacy has fallen from 33 per cent in 2000 to 25 per cent in 2012, or by eight percentage points.

Norway and Denmark have managed to reduce the number of those scoring at the lowest PISA level in reading literacy. In Iceland and Sweden, however, the development has been negative, and these two countries now trail behind the other Nordic countries on this measure (see Figure 8). In most countries, a marked gender difference exists when it comes to reading literacy, with boys performing



- Below Level 1 (%)
- Level 1 (%)
- Level 2 (%)
- Level 3 (%)
- Level 4 (%)
- Level 5 (%)

Source: OECD, PISA surveys 2000 to 2012; Educational Testing Institute



Iceland and Sweden now lag behind the other Nordic countries in terms of reading literacy.

- Boys
- Girls
- OECD average

Source: OECD, PISA survey 2012; Educational Testing Institute



less well than girls. This is also the case in Iceland, where in 2009 the percentage of those scoring at the lowest proficiency levels was 24 per cent for boys, but only 9 per cent for girls. In 2012, the situation had deteriorated somewhat, with 29.8 per cent of boys and 12.1 per cent of girls placing below level 2.

Some disparities exist according to place of residence, and in recent years reading literacy has deteriorated more rapidly in most regions outside the capital area than within it (see Figure 9). The West region is the only part of the country exhibiting an improvement in reading literacy between 2000 and 2012.

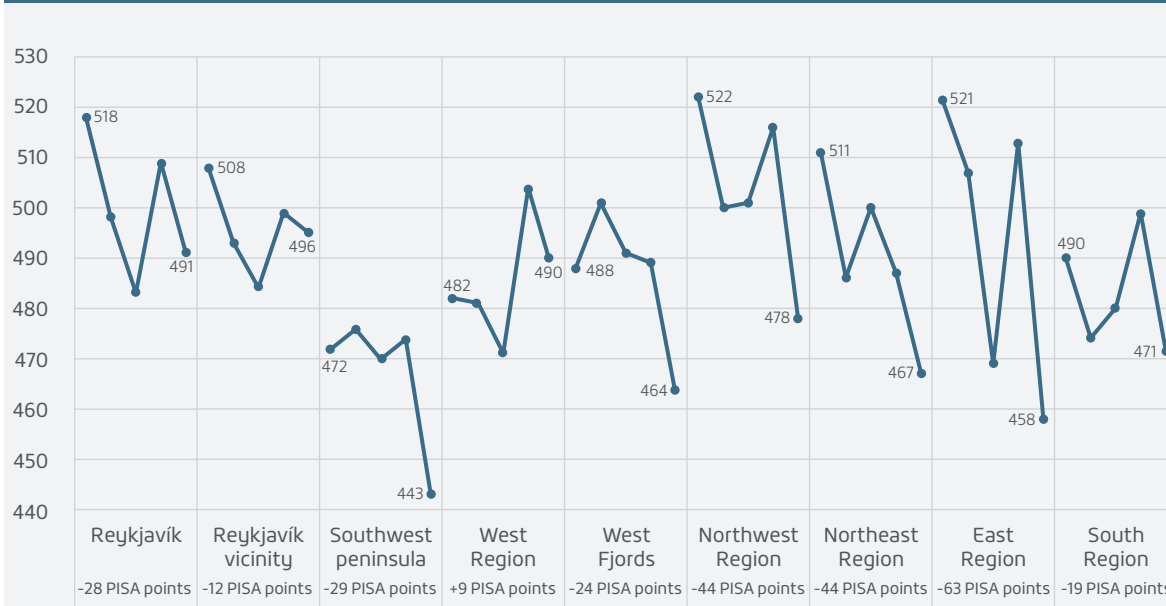
In recent years, the number of pupils with a foreign background has risen considerably in Icelandic compulsory schools. A particular cause for concern is the fact that many of these children do not seem to do well in school, given that their reading literacy

skills are much poorer than those of children whose native language is Icelandic.

As the above observations illustrate, it is imperative for Iceland to pay particular attention to strategies liable to improve reading literacy and reduce the number of students with 'no useful reading skills'. In this respect, the situation of boys is a particular concern. Therefore, the remedies chosen must take into account the different situation of boys and girls. Another important issue is how to improve the performance of students living outside the capital area or having an immigrant background.



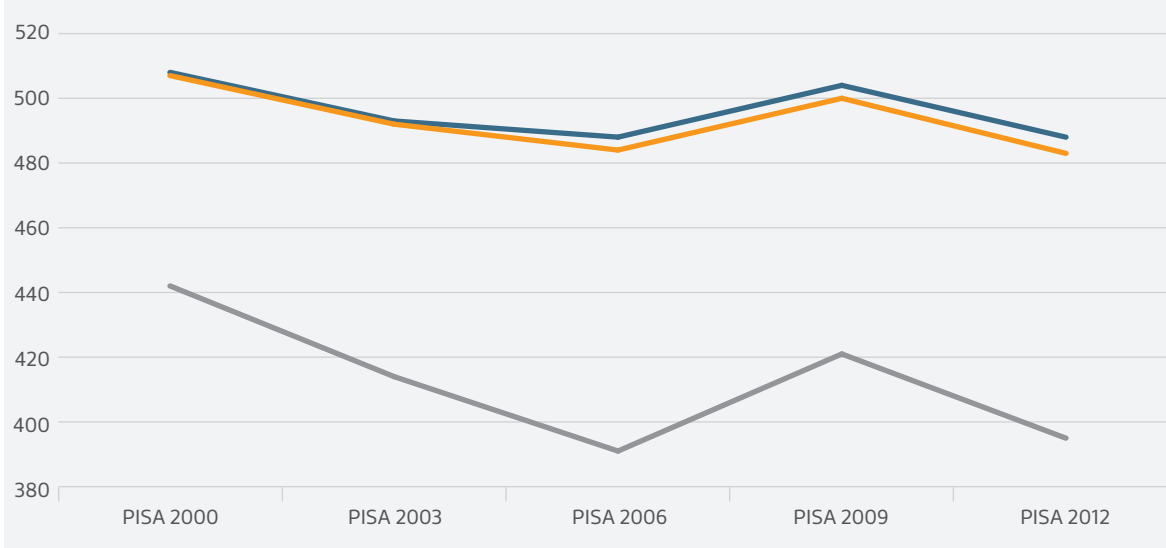
Figure 9 – Average performance in reading literacy by region from 2000 to 2012



Most regions outside the capital area exhibit greater deterioration of performance in reading literacy, and the differences between those regions and the capital area have become more pronounced.

Source: OECD, PISA surveys 2000 to 2012; Educational Testing Institute

Figure 10 – Evolution of reading literacy among native and immigrant students from 2000 to 2012



In recent years, the number of pupils with a foreign background has risen considerably in Icelandic compulsory schools. A particular cause for concern is the fact that many of these children do not seem to do well in school, given that their reading literacy skills are much poorer than those of children whose native language is Icelandic.

■ Native  
■ Entire country  
■ Immigrant

Source: OECD, PISA surveys 2000 to 2012; Educational Testing Institute.

## Duration of upper secondary school studies

Iceland differs from the main comparison countries in that a very low percentage of students graduate from upper secondary school on time. Only about 44 per cent of those having enrolled at an upper secondary school in the autumn of 2003 graduated within the specified timeframe (usually four years in Iceland), and two years later only a total of 58 per cent had graduated.

**Figure 11 – Percentage of students graduating from upper secondary school within the specified timeframe**

Japan	92.8	
Slovakia	88.1	
Israel	87	
Ireland	86.8	
United States	85.5	2.7
Poland	79.5	
Slovenia	76.2	
Estonia	76.1	10
Canada	72.2	
Sweden	72.1	7.1
Austria	70.9	
Finland	69.9	10.4
Belgium	69.4	15.9
Average	68.8	14.6
Hungary	67.9	
United Kingdom	61.3	18.7
Netherlands	61.3	
Denmark	59.3	13.3
France	58.9	22.6
New Zealand	58.8	5.2
Spain	57.4	25.1
Norway	56.7	14.9
Mexico	54	
Luxembourg	45.1	29.2
<b>Iceland</b>	<b>44.2</b>	<b>14.1</b>

■ Graduation within the specified timeframe  
 ■ Graduation within the specified timeframe plus two years

Source: OECD, Education at a Glance 2013

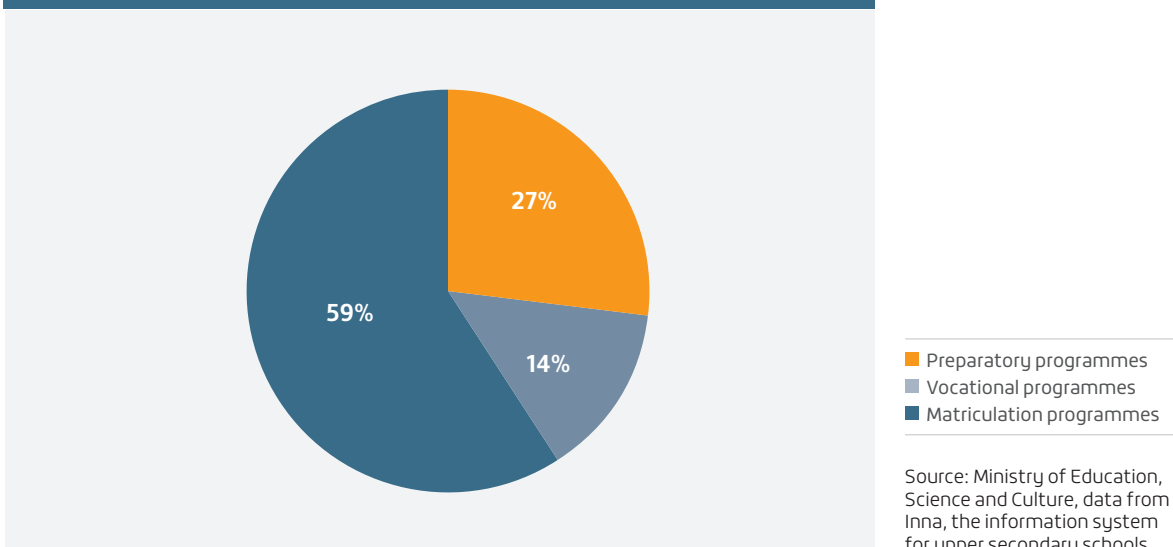
An analysis of student progress has shown that study duration varies considerably depending on the programme of first enrolment. The paths of 4,161 students having enrolled in 2007 were examined. The distribution of these students between programmes was as shown in Figure 12.

Around 27 per cent of the students enrolled in a preparatory programme and around 60 per cent enrolled directly in academic programmes (leading to the matriculation examination), while only 14 per cent chose a vocational programme. By comparison, about 50 per cent of students in the European Union enrol in vocational programmes.

In the spring of 2013, six school years later, the group was divided as shown in Figure 13. Of 2,441 students having enrolled in academic programmes in the autumn of 2007, 1,879 had completed the matriculation examination, or 76.9 per cent. This group spent on average 4.1 years on the studies (it must be kept in mind that the students were only tracked for six years, until the spring of 2013). Of the 1,720 enrolled in other programmes, 395 completed the matriculation examination, or 23 per cent. Students in this group spent 4.7 years on their studies. A fact that stands out is that almost 70 per cent of the 1,124 students who enrolled in preparatory programmes had not graduated six years later. Around 55 per cent of those enrolled in vocational programmes had not graduated at the end of the sixth school year.

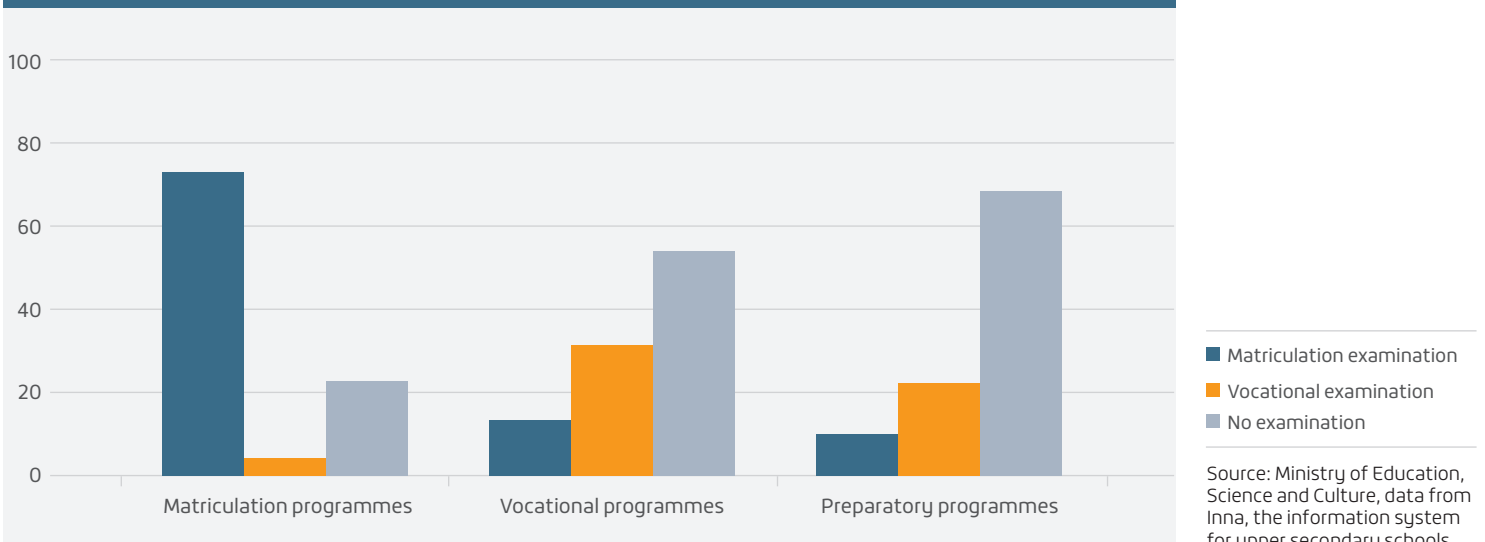
Approximately 70 per cent of those who enrolled in preparatory programmes and around 55 per cent of those who enrolled in vocational programmes had not graduated six years later.

**Figure 12 – Enrolment in upper secondary programmes of students leaving compulsory school, autumn 2007**



The term 'matriculation programme' designates programmes leading to the matriculation examination. Vocational programmes consist in preparation for specific lines of work, such as trades or certain health professions, and usually include practical training. Enrolment in preparatory programmes is usually limited to students who do not meet the requirements to enrol in other upper secondary programmes.

**Figure 13 – Students who enrolled in 2007, situation six years later**



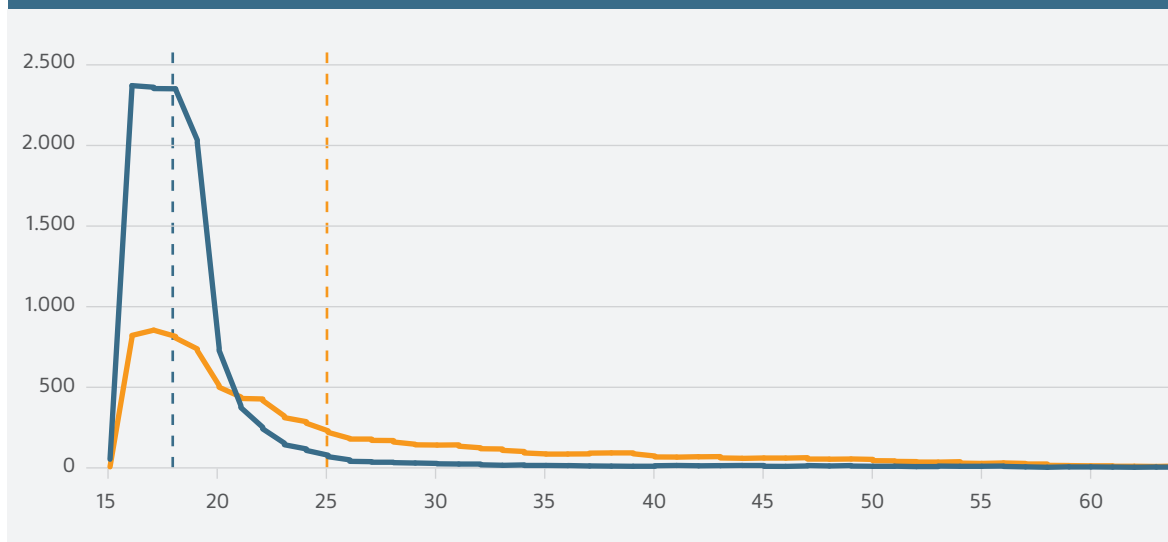
The age distribution of students varies considerably between vocational and academic programmes, given that fewer students in the former group graduate on time. In 2012, students in academic programmes were aged 18.7 years on average, with 4.4 per cent over 25 years of age. Vocational programmes had a very different age distribution: the average age was 25.2 years, with 35.5 per cent in the over-25 age group (Figure 14). This overview of study paths in one year group, coupled with age distribution information, suggests a difference in study duration between academic and vocational programmes. Many early school leavers later enrol in vocational programmes after spending a certain time working. Likewise, some of those who complete the matriculation examination later enrol in vocational programmes at the upper secondary level.

Low upper secondary graduation rates in Iceland can probably be attributed in part to poor reading literacy skills, a situation illustrated by the high percentage (70%) of early school leavers in the

group of students enrolling in preparatory programmes. Many in that group have completed compulsory school with unsatisfactory results, and do not seem to find their way in upper secondary school. Another likely explanation is that students fail to choose programmes suited to their abilities. The above elements are an unequivocal indication of serious shortcomings in the organisation and structure of educational programmes, the counselling provided and students' expectations in regard to both themselves and the studies.

No generally recognised definition of early school leaving exists for all countries and institutions. In the OECD study of upper secondary graduation, referred to above, students were assumed to have dropped out of school if they had not graduated six years after enrolling and were no longer registered as students. In Iceland, 29 per cent of those enrolled had not graduated after six years and were no longer registered as students, while 13 per cent were still registered as students without having completed their education.

**Figure 14 – Age distribution of students enrolled in matriculation or vocational programmes, autumn 2012**



The average age of students is 18.7 years in matriculation programmes, and 25.2 years in vocational programmes.

- Matriculation programmes
- Vocational programmes
- Average age

Source: Ministry of Education, Science and Culture, data from Inna, the information system for upper secondary schools

The percentage of early school leavers at the upper secondary level in Iceland is one of the highest in Europe.

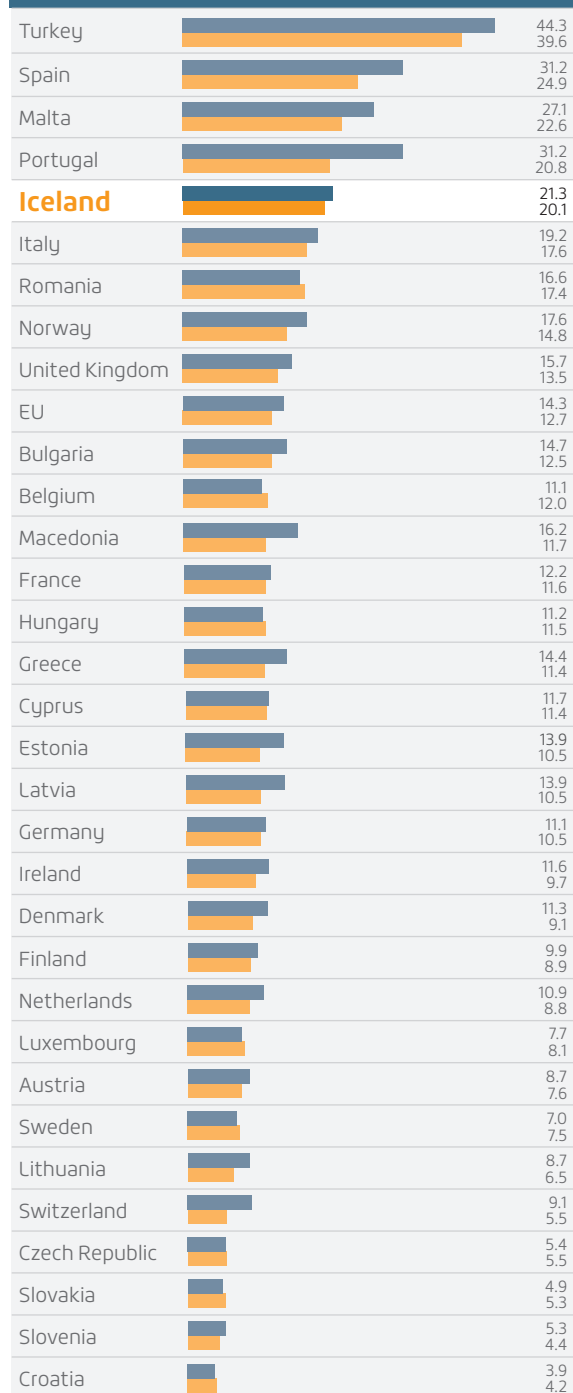
Eurostat, the statistical office of the European Union, collects information from those European countries where labour market surveys include data about early school leavers. In that context, the group of early school leavers is defined as the percentage of persons aged 18 to 24 who have neither completed any further education after completing the lower secondary level nor received any education or training in the four weeks preceding the survey.

Data published by Eurostat indicate that among European countries Iceland has one of the highest percentages of early school leavers at about 20 per cent (see Figure 15).

A comparison with countries with even higher early school leaving rates, such as Spain, Malta, Portugal or Turkey, shows that these countries have achieved a much speedier reduction of early school leaving than Iceland. According to Eurostat data, early school leaving in Iceland dropped by only 1.2 percentage points between 2009 and 2012, justifying the conclusion that highly effective measures are needed if Iceland is to have a chance to meet the goal, pursued by most European countries, of reducing early school leaving to below 10 per cent by 2020.

In Iceland, work participation among young people is high (see Figure 16), making early school leaving and slow student progress more likely. One of the consequences of slow progress by upper secondary students and of high early school leaving rates is that many students return to school after the age of twenty. This is manifested, for example, by the high average age of students enrolled in vocational programmes, around 25 years, but also by the fact that the number of day-time students is 30 to 40 per cent higher than the size of each year group of upper secondary age would suggest. This still does not include those enrolled in distance-learning programmes or evening courses.

**Figure 15 – Early school leavers in the European countries 2009 and 2012**



Percentage of young people aged 18 to 24 who have neither graduated from upper secondary school nor are registered as students. In Iceland, this number was 20 per cent in 2012.

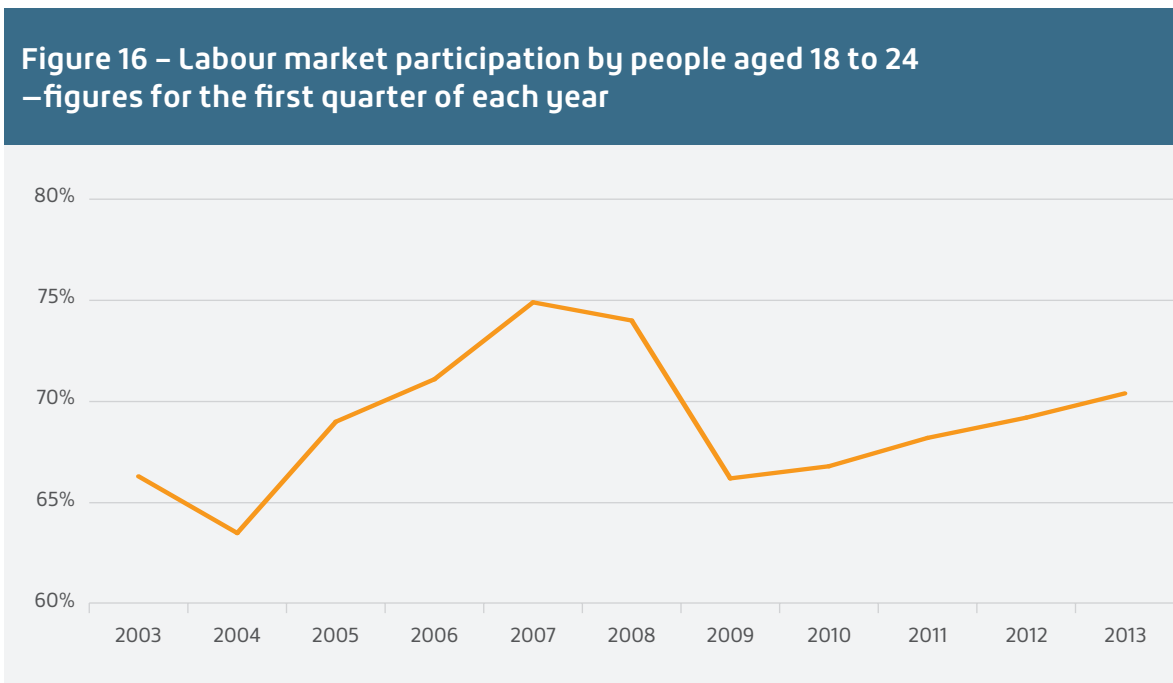
■ 2009 (%)  
■ 2012 (%)

Source: Eurostat Labour Force Survey

The slow progress of Icelandic upper secondary students is a consequence of a number of flaws of the education system, in combination with social factors. Most importantly, large groups of pupils leave compulsory school insufficiently prepared for upper secondary studies and are unable to find suitable programmes and services at that level. Student progress is slowed down by working part-time with school or interrupting studies in order to work. Finally, it is worth mentioning that the majority of those pursuing vocational studies seem to enrol after the age of 20, and the average age of students at graduation is high.

When implementing education reform, many factors need to be considered. However, the experience of other nations shows quite clearly that it is unwise to push through too many changes simultaneously. A more viable strategy is to concentrate on a limited number of key issues that have the highest likelihood of delivering considerable benefits, whether in the long or in the short term.

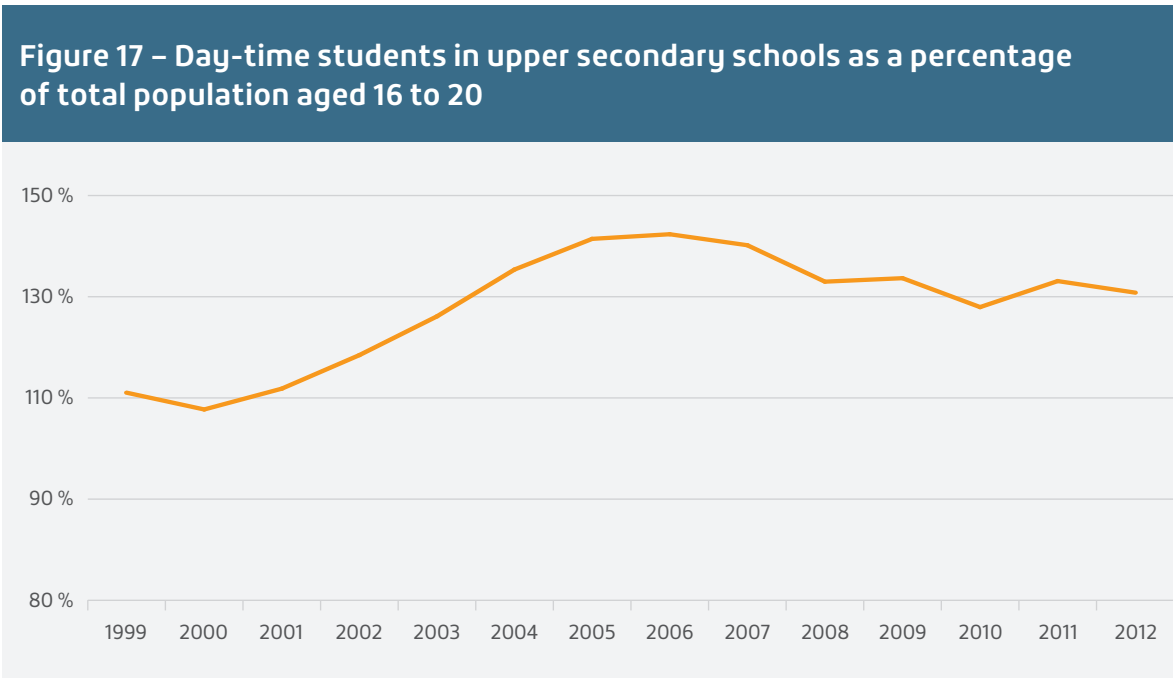
**Figure 16 – Labour market participation by people aged 18 to 24 – figures for the first quarter of each year**



Slow student progress is one of the consequences of working with school or interrupting studies in order to work.

Source: Statistics Iceland

**Figure 17 – Day-time students in upper secondary schools as a percentage of total population aged 16 to 20**



The high proportion of older students explains why the number of day-time students in upper secondary schools is 30 per cent higher than the total population aged 16 to 20.

Source: Statistics Iceland

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## International experience of carrying out reforms

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The Icelandic nation is not the only one desirous to improve its education system; many countries have accumulated considerable experience and knowledge of development and reform work in this domain. They have conducted research into education systems in an international context and gathered large amounts of data, thus making it possible for scholars to compare the systems in order to determine which methods work best and where the challenges lie (UNESCO/IIEP, 2012).

Although reform can be modelled on specific education systems, it is also necessary to keep varying local conditions in mind, and to adopt a strategy appropriate to the culture of each country and the circumstances of its education system. Furthermore, the same priorities do not apply when attempting to improve an education system from fair to good as when working to turn a great education system into an excellent one (McKinsey, 2010).

In this respect, Iceland has many things to learn from other nations, both those who excel in an international comparison and those who have succeeded in improving their position considerably. This includes a number of Asian countries, such as Singapore, South Korea and Japan, but also Western countries such as Finland, Germany, the Netherlands, Poland and some of the Canadian provinces. Frequent references have been made to the results achieved in Ontario, Canada, and the experience gained there will be discussed at some length below.

It is also worth mentioning in particular the improvements seen in Germany, where swift action was taken in response to the poor results of the first PISA survey in 2000. Germans had previously believed their education system to be one of the

best in the world, but the PISA results showed German pupils to be performing below the OECD average in reading. The performance of German pupils in reading literacy and the other PISA subjects has improved very considerably since, with Germany now scoring well above the OECD average in all subjects.

The implementation and basis of education reform cannot be conjured out of thin air; what is needed is a foundation solid enough to withstand the changes brought by the reform. Worldwide, school systems have to a large degree been the object of unceasing experimental and development work over the past few decades. Iceland is no exception to this. While it would be possible to assert that this situation only indicates the sincere intent of governments and educators to achieve reform, it must also be admitted that the work carried out has often been incoherent and insufficiently monitored, and the results achieved have reflected this.

The UNESCO guidelines on improvement in education list eight key elements of successful and lasting education reform. These principles will be illustrated shortly below by means of examples showing how they have been implemented in other countries.

Authorities should have a small number of simple and clear key goals so as not to dissipate their forces and those of society.

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## 1. A small number of ambitious goals, achievable, well-grounded, and publicly stated

Authorities should have a small number of simple and clear key goals so as not to dissipate their forces and those of society. The goals should have a meaning in the public mind and for the education system as a whole, and should be made public. Furthermore, they should be measurable in some way, so that progress can be reported and appropriate responses applied. However, it is important to avoid placing all focus on the measurements, as there is a risk of thereby displacing the real goal, for example by making it a top priority for everyone to pass tests, instead of providing a solid and lasting education. Taken on their own, brilliant results on a test are not worth much unless they correspond well with what precedes and what follows, students' real skills, and varied teaching practices adapted to students' needs and interests.

There is a risk that when pressed, schools will concentrate their efforts on this small number of key goals, thereby neglecting other aspects of their work. For this reason, there should be a continued emphasis on a broad offering of subjects, including arts and crafts as well as physical activity, given

that this is likely to be conducive to a key goal such as literacy. Finally, it is important to remember that the purpose of measurements is to be able to respond in the case of slow implementation of reform, and not to penalise the schools in question.

*In the province of Ontario, two main measurable goals were set for the reform launched in 2003: 75 per cent of elementary school pupils performing at a high level in literacy and numeracy, and 85 per cent of students graduating from high school in a timely way. The former goal is measured through coordinated tests in grades 3 and 6; the latter through reported graduation data. Although the focus was on literacy and numeracy, additional emphasis was also given to physical activity and the arts.*

## 2. Constructive reform for all, in all schools

In the implementation of necessary reform, there is often a tendency to send out negative messages: schools, teachers and students are not doing well, making it necessary for the authorities to intervene. Experience shows that real improvement cannot be achieved through centrally imposed changes or by direct instructions from higher authorities. A programme for education reform should be designed and introduced in a way that makes its benefits clear to educators and motivates them to promote it within each school. Otherwise, even the best intentions may come to nothing.

On the other hand, a positive and motivating stance does not preclude criticism. There is always room for improvement, and both the education system as a whole and individual schools should welcome comments pointing out things that could be improved. Moreover, care must be taken to involve everyone in the reform work, instead of focusing exclusively on low-performing schools. All schools have students who could perform better, and efforts must be made to reduce achievement gaps to a minimum, whether such gaps are related to gender, region of residence, or ethnicity.



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At times there is a tendency to act as though the implementation of a new policy, once developed, can somehow take place automatically.

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### 3. Building a capacity to change

The inputs required to achieve change are knowledge and competencies, financial resources and support, and steadfast motivation. In each school, reform is dependent on having the capacity to implement such changes. That capacity may need to be built alongside preparations for the actual goals.

At times there is a tendency to act as though the implementation of a new policy, once developed, can somehow take place automatically. This is of course not the case: improvement is not a consequence of the change of policy as such, but of how successfully it is implemented. In order to achieve the intended result, it is necessary to boost the interest, capacity and sense of responsibility of those working in schools. It is therefore important to apply positive pressure to build motivation and provide appropriate support. Only thus can a call for improved performance be justified.

A key to this is to give teachers the opportunity to learn how to implement reform on their home turf.

The skills involved are complex and must therefore be built using a variety of methods, while encouraging educators to learn from each other, both within each school and through the cooperation of schools. Professional development should focus on this, without losing sight of the principal objective, which is always to aim for positive change in students and better performances.

*The building of knowledge and capacities in the education system was a major focus of the reform work in Ontario, with extensive support being provided to improve teaching practice by such means as the professional development of teachers, evaluation and planning guidance, and the provision of improved learning resources. New contacts between schools and districts were created with the active participation of teacher and school administrator associations.*

Instead of wasting time organising reform in detail, the focus should be on implementing it rapidly, while at the same time making sure that lessons are learned both from changes that are successful and from any failures.

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#### 4. Wide collaboration within the education system and strong leadership

In order to achieve lasting reform, it is of consequence to build a consensus on that reform among educators at all levels of the school system. Widespread support for the reform agenda, its introduction and implementation is important, even if opinion may be divided on the strategies. There is thus a need for strong proponents of change, both within and outside the school system. Although obtaining society's support for the plans is neither a simple nor a quick task, it is absolutely crucial.

It is clear that the authorities must lead the reform work and its coordination at multiple levels. It is also necessary to find leaders from among teachers, administrators, members of municipal councils, teacher unions, student associations and parent groups to follow up that work. The participation of a large number of people should be encouraged.

Instead of wasting time organising reform in detail, the focus should be on implementing it rapidly, while at the same time making sure that lessons are learned both from changes that are successful and from any failures. Planning must not be a substitute for action. A sharp focus on building leadership contributes both to broad participation in the reform work and to making it sustainable.

Reformers often tend to believe that everyone is bound to share their opinions. Naturally, this is not the case: people have diverging views and understand issues in different ways. A shared vision does not come into existence automatically, but must be created. Therefore, authorities must communicate actively with all those involved, and give them the chance to express their opinions. An equally important task is to communicate with the public by providing information about the reform plans, initiating public debates at regular intervals and maintaining wide support for the agenda.

Any such communication must not be spin or a one-way communication from the authorities, but should take place with the goal of soliciting and taking into consideration different points of view; learning from those aspects that meet with approval and from those which are seen as not producing results. Regularly (and when the occasion arises), appropriate information should be compiled and made available to the media and the public. That information should not only concern the reform programme, but also other aspects of the education system: this is to prevent such aspects from being neglected at a time when the focus is on reform.

The role of teachers and their associations must not be ignored. Education reform will not succeed without the participation of high-quality teachers, and their support is very valuable. It is important to be able to pay good teachers good wages and provide them with satisfactory working conditions, but at the same time the teaching profession must be strong and have society's trust.

*In order to build a consensus on the implementation of reform, Ontario set up a consultation forum chaired by the Minister of Education and with the participation of all principal partners. Prior to the reform effort, teachers had not been seeing eye to eye with the authorities, but by investing considerable resources in the partnership and charging teacher unions with the implementation of certain aspects of the reform, trust between the partners was restored. Another major area of priority was communicating information about the progress of the reform to the public, and establishing cooperation with students and parents.*

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In a well-functioning education system, the partners have access to reliable information providing a perspective and from which conclusions can be drawn.

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## 5. Lessons to be learned through innovation and the use of research and data

In a well-functioning education system, the partners have access to reliable information providing a perspective and from which conclusions can be drawn. Such knowledge is the basis of well-executed changes and innovation. In contradiction with this, many development projects have not been founded on sound knowledge, neither of the situation to be dealt with nor of the solutions that have worked best elsewhere. Proper assessment of the results achieved also occurs too infrequently. Although there is growing knowledge about education reform, that knowledge has not always been put to good use. For example, it is important for educators to take advantage in this context of research and the results of pilot projects in order to improve teaching.

There must be greater emphasis on using research and successful development work to shape school priorities. Student achievement data can also be used more effectively, not for the purpose of penalising schools or judging students, but to learn from them in order to remedy specific problems.

This applies, for instance, to the results of screening tests, coordinated examinations and PISA.

In order to promote accountability for student achievement by schools, municipalities and central authorities, proposals call for a focus on:

- > progress based on students' own capacity and goals;
- > comparisons with other schools and municipalities; and
- > performance relative to the best results achieved at home and abroad.

Last but not least, schools, municipalities and central authorities should pay particular attention to how satisfactory results can be achieved by a greater number of students.

Other countries have put an effort into building sophisticated student information systems, but have also sought to establish collaboration between schools and those involved in education research.

## 6. Focusing on key strategies without neglecting other issues

Experience shows that maintaining focus on a limited number of key goals over a long period of time is very difficult, whether in individual schools or in the education system as a whole. In spite of good intentions, many distracting factors can intervene in a long-term project; political leaders are replaced at regular intervals, and society can undergo profound transformation.

Therefore, it is important to try to predict the factors that are most likely to distract the players from the goals that they have set themselves, and to take measures to prevent key leaders from losing sight of those goals. At the same time, other aspects of schooling and any urgent issues need to be properly channelled, so that they can be dealt with as required.

There is sometimes a tendency to equate increased funding with reform. Additional money can certainly tip the scales in the right direction when it comes to achieving change. It is equally important, however, to use existing resources in the education system even more efficiently.

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## 7. More effective use of financial resources in the education system

There is sometimes a tendency to equate increased funding with reform. Additional money can certainly tip the scales in the right direction when it comes to achieving change, bringing it to people's attention and creating incentives, but such resources must be used judiciously as the need arises. It is equally important, however, to use existing resources in the education system even

more efficiently. Examples of this kind of priority include increased direct support for learning and teaching and the introduction of financial rewards for achievements. Thus, a number of countries have made it possible for schools serving students with special needs to reward their teachers accordingly and to hire teachers with more experience.

## 8. A strong implementation effort

The implementation of measures to reach the desired goals is often a delicate task. Implementation must not be reduced to an inflexible action plan, but should adapt to the circumstances and allow room for any necessary changes.

Two aspects of implementation are of particular importance: one is the need to ensure general support for the implementation, and the other is the ability of education authorities to lead and support the work. Typically, these aspects are not given sufficient attention.

While the development of a new policy involving broad consultation can take a long time, follow-up often receives short shrift. In order to implement changes in an education system, those involved in such projects must receive sufficient support. In many countries this has been achieved by hiring advisers and project managers, as well as by increased cooperation between the different partners: teachers, school administrators and education authorities.

*By approaching reform in this way, education authorities in Ontario achieved considerable results in the period 2003 to 2009. The goals aimed for were that 75 per cent of pupils in grade 3 and 6 of elementary school would perform at a high level in literacy and numeracy, and that 85 per cent of high school students would graduate on time. Through a concerted effort, the percentage of those meeting minimum standards in reading, writing and mathematical literacy was raised from 54 to 67 per cent over the six year period. In the same period, the percentage of those graduating from high school on time increased from 67 to 79 per cent.*

The preceding pages contain an outline of the priorities which have formed the basis for successful education reform in Ontario and a number of other countries.

The following section discusses proposals on how the Icelandic education system could be reformed.

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## Reform in Iceland

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Judging by the experience of other nations, there are many indications that the Icelandic education system can be improved through systematic long-term measures.

The small size of the country makes it easier to rally all stakeholders around a common agenda and coordinate their actions. Furthermore, the inner strengths of the education system and the Icelandic society's modern infrastructure are also factors making it more likely that young people can be educated with the same level of success in Iceland as in the best-performing countries.

We propose a strategy whereby Iceland would follow the example of other nations by setting a small number of clear goals, promoting positive attitudes, and building a capacity to change. To this should be added a broad cooperation effort and measures to promote a unified leadership of the reform. Last but not least, a special focus should be placed on research, the dissemination of knowledge, and support for schooling.

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### Goal with regard to reading

The percentage of those meeting basic standards (PISA level 2) in reading literacy should rise from 79 per cent (2012) to 90 per cent by 2018.

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It is important to create attitudes that are positive toward reading and toward the view that everyone can learn to read successfully. This entails encouraging young people to read a wide variety of material, both at home and in school. Moreover, those involved in the teaching of reading skills should take responsibility for ensuring that on leaving compulsory school, all pupils have acquired certain basic reading and reading comprehension skills. This includes teachers and other school staff, parents and school boards, municipalities and education authorities. At the same time, the education system must allow for flexible approaches to meet students' varying needs, and systematic work must take place to find the methods that deliver the best results.

The factors crucial to improving reading and reading literacy are the subject of a report on the teaching of reading in Europe. While a multitude of elements can impact on the acquisition of reading, international studies and comparisons between countries allow for an analysis of the most important factors (Eurydice, 2011).

The foundations of reading acquisition must be laid already in preschool through systematic linguistic stimulation, regular reading to children, discussions about the books read, and the promotion of interest in reading. In compulsory school, standards must be defined either in the National Curriculum Guide or otherwise, specifying the required reading skills and how they should evolve gradually and in a variety of ways as the pupils advance into the lower secondary level.

The single most effective way of improving reading skills is simply to read. By reading more, and reading more varied material, pupils increase both their comprehension and their desire to read more. Therefore, it is important to incorporate various learning materials into the teaching, including newspapers, magazines, novels, academic publications, and electronic texts. The central role played by the home must not be ignored either. It is important not only that parents read to their children, but also that they encourage and help them to read for themselves and that they set a good example.

A general appeal for more reading is all for the good. However, it is more likely to be heard by those who are already highly literate than by those who have difficulty or little interest in reading. It then becomes relevant to turn to electronic materials and new media, and to present material in a variety of ways more likely to appeal to the younger generations.

Children’s potential reading difficulties need to be diagnosed at an early stage, as this makes it much easier to tackle those difficulties with specific teaching and training methods. Indicators of potential later reading difficulties can be discerned already at the preschool level, and it is imperative to use the time to avert them by cultivating pupils’ phonological awareness.

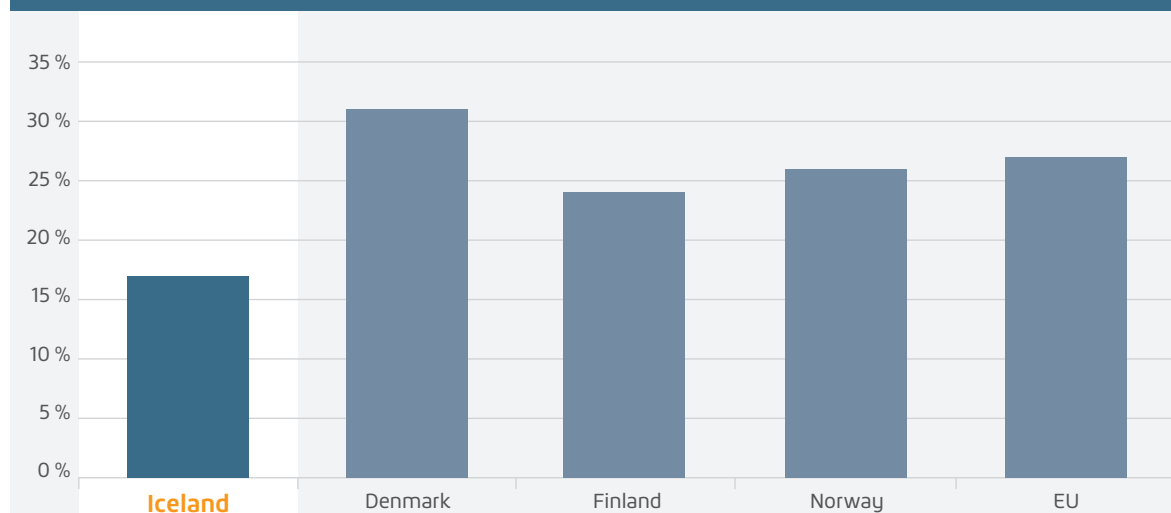
Intervention to remedy reading difficulties is often ill-targeted. According to the PIRLS reading literacy survey (2006), while 44 per cent of pupils in the European countries had access to additional support staff to help with reading difficulties, only 25 per cent had access to the services of a reading specialist. In many cases, there is a long wait for specialist services, such as to help with speech

disorders, but swift response to such problems is vital. Improving teachers’ ability to diagnose and respond to reading difficulties is a powerful way to produce results. In that respect, it can be of help to have clear standards for the reading skills to be acquired at each level.

In order to improve teenagers’ reading skills and their comprehension of more complex and specialised texts, it is important to train their reading skills in a variety of subjects. However, many things indicate that not all teachers are equally well prepared for this task, and schools therefore need to improve the coordination of this aspect from the first to the last year of compulsory education.

Considering the teaching schedules of Icelandic in compulsory schools, the time allocated to Icelandic as a proportion of the total is much lower than corresponding figures in the neighbouring countries. Although the share of Icelandic was increased somewhat in the new National Curriculum Guide for compulsory schools, it is still much smaller than that of the relevant languages in the comparison countries.

**Figure 18 – Time allocated to pupils' mother tongue as a percentage of total lessons taught, in Iceland and in a number of comparison countries, 2011**



The proportion of Icelandic lessons in classes 1 to 7 of compulsory school is much lower than the corresponding figures in the comparison countries.





### Potential remedies

1. To increase the time allocated to Icelandic in the reference timetable of the National Curriculum Guide.
2. To define minimum standards for reading at different stages of compulsory school, including with regard to reading speed, comprehension, vocabulary and writing skills, as stipulated in the National Curriculum Guide.
3. To coordinate regular measurements of reading literacy through the use of analytic tests at all levels from preschool to the end of compulsory school, and to make well-targeted use of the results. To use mandatory coordinated examinations, as well as reading proficiency tests at the upper secondary level, for the same purpose.
4. To provide special support to pupils with a foreign background so as to enable them to acquire equally good reading literacy skills as other pupils.
5. To make it possible for each preschool and compulsory school to respond immediately to indicators of individual pupils' reading difficulties. To provide teachers with training and support for this purpose.
6. To encourage all preschools and compulsory schools to set their own literacy policies in accordance with the National Curriculum Guides and each municipality's school policy.
7. To promote positive attitudes toward reading in society, and to encourage students to read for pleasure outside school hours.
8. To engage parents to kindle interest in reading and support their children's reading acquisition.

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## Goal with regard to student progress

The percentage of students graduating from upper secondary school on time should increase from 44 per cent (2011) to 60 per cent by 2018.

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To attain this goal, the proposals call for an emphasis on three priority areas:

- > Reorganising the duration of studies
- > Implementing measures to tackle early school leaving
- > Improving vocational study programmes

### Reorganising the duration of studies

Iceland differs from other countries in respect of the duration of studies prior to the higher education level (see Figure 19). Only about 44 per cent of those enrolling in upper secondary schools graduate at the age of 20 after completing fourteen years of formal schooling. As a consequence, students who enrol in tertiary education are older than their counterparts in any other OECD country.

The low percentage of students graduating from upper secondary school on time and the huge variation in student progress between programmes indicate that there is a need to review the organisation of upper secondary studies, including the duration and structure of study programmes, not least the vocational ones.

By reorganising the duration of upper secondary programmes and paying greater attention to the differing needs of various groups of students, progress can be made in increasing timely graduation rates. Students spend varying amounts of time in upper secondary schools, both depending on the programme in which they enrol and on whether they choose a class-based or a unit-credit-based school. In addition, students have received varying levels of preparation in compulsory school, and some upper secondary schools select students based on their grades in academic subjects, while others accept all students.

The average duration of studies among those who enrol in academic programmes varies relatively little, and is usually around four years for the majority of students. The unit-credit-based system allows for greater flexibility with regard to the completion of studies. Interestingly, in unit-credit-based schools, 22 per cent graduated in less than four years, while the corresponding figure was only 0.5 per cent for class-based schools. In those upper secondary schools that have experience of operating three-year programmes, most students have chosen to complete their studies in three years, or 70 per cent in Kvennaskólinn and 57 per cent in Menntaskóli Borgarfjarðar.

Kvennaskólinn offers its students a traditional academic programme leading to the matriculation examination, as well as a preliminary programme. Students have the choice between completing their studies in 3, 3½ or 4 years. In addition to reducing the duration of studies, new programmes were established, assessment practices were reviewed, and an effort was made to plan the school year more efficiently. In matriculation programmes, courses in core subjects are defined as from competence level 2, which reduces the overlap with the compulsory school curriculum. Menntaskóli Borgarfjarðar has lengthened the school year in a similar way as Kvennaskólinn and modified its planning, while also reviewing study programmes and assessment practices.

While the vast majority of students who enrol in the academic programmes of class-based schools graduate after four years, the experience from Kvennaskólinn indicates that many of them could complete their studies in three years. In the current system, approximately one-fifth of students in unit-credit-based schools already graduate in less than four years.



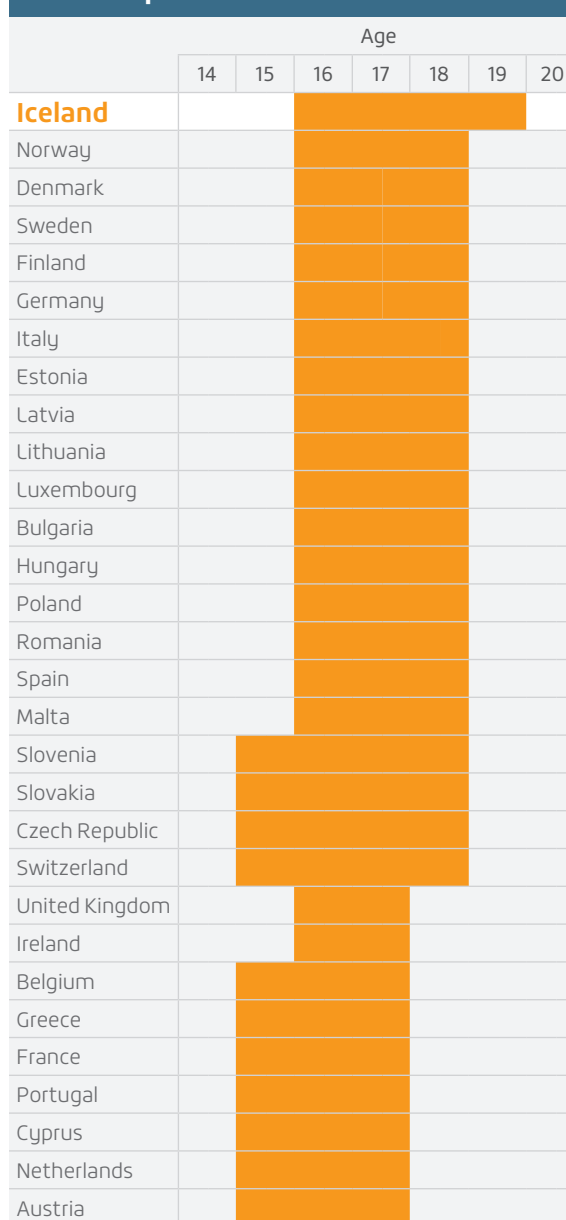
Icelandic students who enrol in tertiary studies have completed fourteen years of formal schooling. As a consequence, they are older than their counterparts in any other OECD country.

Student progress could be improved by restructuring study programmes and reviewing the duration of studies in different programmes. Another option would be to enforce stricter study duration and age limits. Most other countries have rules that stipulate a maximum age for graduation from upper secondary school. In Norway, for example, students must complete their upper secondary studies before the age of 25, after which their studies are reclassified as adult education and transferred to other institutions. In Denmark, the duration of upper secondary studies is three years. Students older than 25 are classified as ‘adults’ and although they can continue their studies in upper secondary school they normally opt for programmes especially intended for adult students. In Sweden, students must start their upper secondary studies at the latest the year they turn 20, and must subsequently graduate within three years. Everyone is then entitled to enrol in continuing education provided by municipalities.

Recent reviews of Iceland’s economy by international organisations (OECD, 2013; McKinsey, 2012) consistently point to the advantages of reducing the duration of studies leading to the matriculation examination by one or two years to bring it closer to the duration of such studies in other countries. The reviews mention that the duration of compulsory school and upper secondary school studies could be reduced by one year each.

Neither the Compulsory School Act nor the National Curriculum Guide for compulsory schools contain any provisions for the shortening of studies at that level. Instead, the practice has been to allow for a flexible transition between compulsory and upper secondary school, thereby making it possible for compulsory school pupils to take a shortcut, either by attending courses in upper secondary schools while still in compulsory school or by enrolling in upper secondary school directly after grade 9, subject to conditions laid down in the National Curriculum Guide for compulsory schools.

**Figure 19 – Duration of academic upper secondary programmes in the European countries**



Source: Eurydice, The structure of the European education systems 2013/2014

Most importantly, compulsory school should be organised in a way that supports action to strengthen reading and reading comprehension. When experience has accumulated of the measures proposed herein, the time will have come to take a closer look at the total duration of studies, from the beginning of preschool to the end of upper secondary school.

Presently, a review is being carried out of the impact of the 'inclusive school' policy on compulsory schools and on specialist services provided by municipalities in preschools and compulsory schools. In addition, Iceland will participate in an OECD comparative survey of the relation between the financial and other resources allocated to compulsory schools and the results achieved. These reviews will no doubt deliver useful information about the state of the compulsory school: how better to allocate financial resources and how well equipped individual municipalities are to provide appropriate services to all pupils, support developmental work and promote high-quality schooling. On the other hand, no studies have been conducted of the impact of children's leaving for upper secondary school a year early on families living in areas where no such school is operated.

Most importantly, compulsory school should be organised in a way that supports action to strengthen reading and reading comprehension. When experience has accumulated of the measures proposed herein, the time will have come to take

### Implementing measures to tackle early school leaving

In 2011 to 2012, the OECD compiled a report on early school leaving in Iceland and possible strategies to prevent it (OECD, 2012a). OECD's experts divided the causes of early school leaving into two groups: institutional causes, those which concern the organisation of the school system and the work carried out in schools, and personal causes, such as learning progress, social background and participation in the labour market.

The experts suggest that greater attention be given to the different learning levels of those students who are beginning their upper secondary education, that study programmes be reduced in

a closer look at the total duration of studies, from the beginning of preschool to the end of upper secondary school, and decide whether and in what way to implement change.

### Potential remedies

1. **To organise academic programmes leading to the matriculation examination based on a standard duration of studies of three years. At the same time, to investigate ways to shorten vocational programmes.**
2. **To review standards regarding the maximum duration of upper secondary studies, having regard to the organisation of adult education.**
3. **To review the structure of vocational education and training programmes.**
4. **To provide a greater choice of exit points from upper secondary school in accordance with the objectives of the National Curriculum Guide.**

number and tailored better to students' needs, and that consideration be given to whether it is too easy for students to exit and re-enter the education system. Also, it must be ensured that vocational education is relevant to labour market needs. Finally, regarding the labour market specifically, the experts point out that wages and social benefits should be revised so that they incentivise completion of upper secondary education.

Similar suggestions can be found in a recent report on early school leaving published by the European Union. The report lists a number of factors in need of special attention:

- > The age at which early school leaving occurs;
- > The relationship between early school leaving and truancy;
- > Differences with regard to early school leaving according to gender, academic performance and achieved education levels;
- > The social background of students or indications of its impact;
- > The migration or minority background and/or mother tongue of the learner.

The report urges measures to collect evidence about these factors and make it available, and points out that policies and analytic work must be followed up with prevention, intervention and support measures for those wishing to return to the education system.

The results of these reports by the OECD and the European Union have already been taken into account in the Ministry's work on a new plan to reduce early school leaving. The reasons for early school leaving in all upper secondary schools are already being systematically recorded, and three schools now participate in a pilot project to screen for students at risk of early school leaving through the use of special surveys. Newly enrolled students are asked to respond to a set of questions with a view to identifying those at risk of early school leaving, provide them with appropriate support, and thus make them more likely to continue their studies.

The results of the survey of the reasons for early school leaving make it clear that the schools will find it difficult to tackle some of the reasons behind student dropout. For example, a relatively large group, or 18 per cent of the total, discontinued their studies because of physical or mental health problems. Cooperation between the welfare, health and education systems is needed to enable schools to better serve the needs of students with various mental health problems. A point worth remarking is that poor attendance was by far the

most frequent reason for the discontinuation of studies or expulsion from school.

The development of a policy in the field of school counselling has just been launched within the Ministry. The aim is to come up with a comprehensive policy and reach a consensus on future action.

In recent years, continuing education has become a realistic option for older students who have left upper secondary education. It has provided them with the support needed to start studying again and to achieve the required results. There is a need to improve the services for older students provided by Lifelong Learning Centres around the country in accordance with the Ministry's lifelong early policy. Moreover, the work of different education providers must be coordinated so as to ensure that education within one system is properly recognised in others, in those cases where students wish to graduate from an upper secondary school.

#### Potential remedies

1. To develop the continuous recording of the reasons for early school leaving in all upper secondary schools.
2. To carry out a screening of the risk factors for early school leaving in all upper secondary schools as well as at the lower secondary level.
3. To establish cooperation between schools and health and social services on intervention measures for students at risk of early school leaving.
4. To provide special support and funding for schools serving students at risk of early school leaving.
5. To collaborate with providers of continuing education on the provision of counselling and support to those who have discontinued their education.

Both those interested in vocational education and those already enrolled find it difficult to see through the complexity and diversity of the competing programmes and course offerings.

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### Changes to vocational education and training

The OECD recently published the results of a review of vocational education and training in Iceland which was carried out in the context of the organisation's Skills beyond School project. The main purpose of the review was to identify the principal factors which could be used to shape an Icelandic policy on vocational education and training. In addition, the Ministry conducted a major policy-making effort in cooperation with interested parties all over the country.

According to the OECD, the challenges which need to be addressed include both the weak management of the pathways open to students and the structure of advisory bodies on vocational education and training. By law, the role of the current Occupational Committee is to act as a coordination platform for the Occupational Councils and to advise the Minister on vocational education and training at the upper secondary level. The review pointed out that the composition of the Committee was not such that it would be likely to produce a good overview of the evolution of vocational education and training, and that it was limited to education at the upper secondary level. As a consequence, the Committee was unable to look into coordination between different levels of the school system, a key issue for the progression from upper secondary to tertiary education.

The review recommended the setting up of a forum (such as a Vocational Education and Training Council), composed of senior officials from the ministries, representatives of the labour market and of schools, which would be responsible for policy-making and the nation-wide coordination of vocational education and training. That forum could decide on priorities in the development of vocational education and training, on the basis of such things as labour market needs, the organisation of basic and advanced vocational education, and the structure of workplace learning. This would be accompanied by the harmonisation and

strengthening of assessment and quality assurance in vocational education. The OECD points to the following problem in relation to the organisation of basic vocational education and training in Iceland:

Both those interested in vocational education and those already enrolled find it difficult to see through the complexity and diversity of the competing programmes and course offerings. According to the OECD, career guidance often has an academic bias and is sometimes missing altogether. Employers are not clear about the competence requirements which the students are expected to fulfil on graduation from vocational programmes.

If vocational education and training is not shaped by labour market needs, there is a risk that it reflects mainly the capacity of education institutions (often biased towards existing and cheaper programmes) and uninformed student preferences.

Workplace training provided as part of upper secondary vocational programmes is of extremely variable length, from three to 126 weeks. However, apprenticeship is not a sufficiently large part of course offerings in upper secondary schools, although it has a strong practical nature and is highly regarded as an element of education in the trades. Workplace learning could be developed in other fields than the traditional trade professions to make use of its strong learning model.

The OECD report highlights the need for a review of post-secondary vocational education and training. While it is not realistic to imagine that a large proportion of students graduating from vocational programmes will continue into tertiary education, the steady increase in the level of skills required in modern labour markets makes it necessary to open pathways for vocational education and training at the tertiary level to the greatest extent possible.



In the view of the OECD, the articulation between upper secondary vocational programmes and vocational education at the higher education level is weak. In some cases, credits earned at the upper secondary level could be evaluated for higher education level credits, but are normally not recognised by universities, which leads to problems for students who wish to continue their education.

At the level of the Ministry of Education, Science and Culture, the public administration of vocational education and training is currently handled by a total of 70 committees, comprising nearly 350 members. This includes the Occupational Councils, the Occupational Committee, the Apprenticeship Committees, and the Journeyman's Examination Committees. The Ministry has entered into contracts with private companies—*Iðuna fræðslusetur ehf.* and *Fræðslumiðstöð rafiðnaðarins ses.*—to handle the administration of many of these committees and councils, in addition to contracts on workplace learning and the recognition of vocational education and training, where some of the tasks come under the heading of public administration. A proposal to review this arrangement is currently being considered.

The Ministry of Education, Science and Culture has decided to enter into formal consultations with the social partners on future policy-making in the field of vocational education and training and the implementation of any changes decided upon. This work will be guided specifically by the following aspects:

1. Vocational study programmes should be re-structured with a view to simplifying the basic programmes, distinguishing between levels, reviewing competence requirements, and shortening the duration of the studies.
2. All vocational education and training should include workplace learning, while the quality assurance, accountability and funding aspects of workplace learning should be reviewed.
3. The legal and institutional basis of post-secondary vocational education and training should be reviewed, and a position should be taken on whether to introduce a separate tertiary vocational education level.
4. The management and administration of vocational education and training should be improved by reassessing the roles of commissions and councils and defining the roles of the different partners.
5. School counselling and career guidance should be strengthened, both at the lower secondary level and in the first year of upper secondary school, and a larger number of students should be encouraged to choose vocational programmes.

## General measures to support reform

Those nations that can be said to have set an example with their reform work have prioritised a certain number of key aspects (McKinsey, 2010; UNESCO/IIEP 2012; Hargreaves and Shirley, 2012). Although the circumstances of each nation are different and reform has been approached in various ways, all education systems have common foundations which must be strengthened if good results are to be achieved. This section will discuss general measures which are necessary to strengthen the foundations of the Icelandic education system and build a capacity to change.

### The education and work of teachers

An extensive analysis carried out by McKinsey (2007) concluded that the two most important factors influencing the performance of an education system were the education and the work of teachers. The same conclusion has been drawn in recent academic writings (Hargreaves and Fullan, 2012).

If we are to succeed in preparing young people for life and work in the 21<sup>st</sup> century, the education and competence of teachers must reflect the education and competence which we want their students to acquire. Therefore it is important to lay down clear standards for teachers' competence, knowledge, skills and attitudes, based on student learning objectives (OECD, 2005).

In Iceland, the total teaching workforce at all school levels below the tertiary numbers approximately 12,000 people: nearly 1,900 in upper secondary schools, about 4,800 in compulsory schools, and more than 5,500 in preschools. At all these school levels, recruitment of new teachers is low. A large percentage of the teaching workforce will reach retirement age in the next 10 years. Already, more than half of all upper secondary school teachers are over 50 years of age (see Figure 20) and even if that age group is a smaller percentage of preschool and compulsory school teachers, the youngest group of teachers is not growing. Thus, 7.1 per cent of preschool teachers were 29 years old or younger in

2012, and among compulsory school teachers this percentage was around 5.6 in the same year.

The Icelandic teaching profession will necessarily undergo a period of rapid renewal in the years to come. This will provide a golden opportunity to draw up a new policy for the education and work of teachers, in accordance with the reform programme. The same applies to teachers' continuing education and professional development.

By the Act on the education and recruitment of teachers and administrators of preschools, compulsory schools and upper secondary schools, No 93/2008, the duration of teacher education programmes was increased to five years, making the possession of a Master's degree a requirement for teaching at all school levels. The Regulation on the content of the education of preschool, compulsory school and upper secondary school teachers, No 872/2009, is very open and provides considerable leeway to higher education institutions to organise new teacher education programmes. However, answers still need to be found to many questions regarding the content of teachers' professional education, the core subjects of teacher training, classroom training, the scope of teacher licences, the specificity of each school level, and teaching certification across levels.

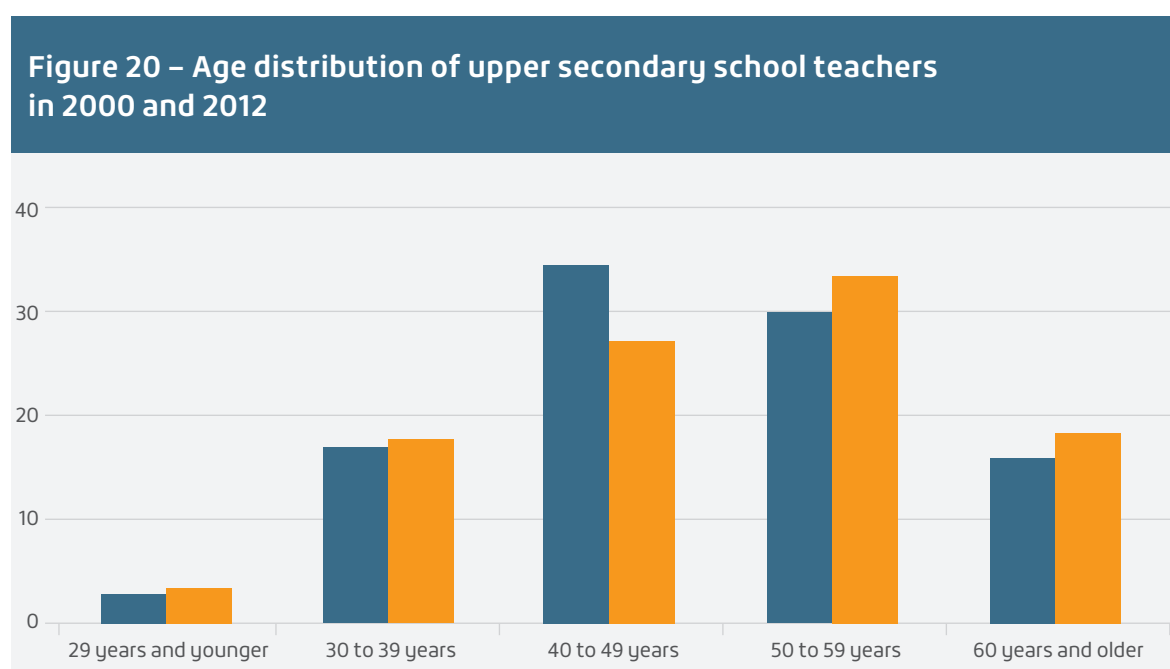


Recently, an expert panel on the continuing education and professional development of teachers was set up. The panel's tasks will be to propose ideas and priorities regarding the training and support that teachers should receive in their work, and develop new teaching methods. The Ministry of Education, Science and Culture has also started consultations with teacher education institutions on the content of teacher education and increased cooperation in this field. A collaboration project is already underway aiming at strengthening the preschool level, including by attracting more students to the preschool teacher training programmes.

An option currently being considered is to set up a formal cooperation committee on teacher education in order to promote the coordination of its organisation and implementation, as well as its connection with teachers' continuing education and professional development. Another proposal under consideration is to review the Regulation in

order to clarify some of its provisions on the content of teacher education and the certification of different groups of teachers. This would include the relative emphasis to be placed on specific subjects, teacher specialisation, and the organisation of classroom training. It is important to connect any such work to the priorities laid down by the expert panel on the continuing education and professional development of teachers.

Plans called for the increased duration of teacher training programmes to manifest itself by such things as longer periods of practical training in the classroom, better structured practice teaching, and real-world research by teacher students into schooling, learning and teaching. Granting limited certification to teacher students after they have completed a defined part of their education could serve to boost practical training and strengthen the links between schools and teacher education institutions.



A large percentage of the teaching workforce will reach retirement age in the next 10 years.

■ 2000  
■ 2012

Source: Statistics Iceland



### Teaching practices and learning materials

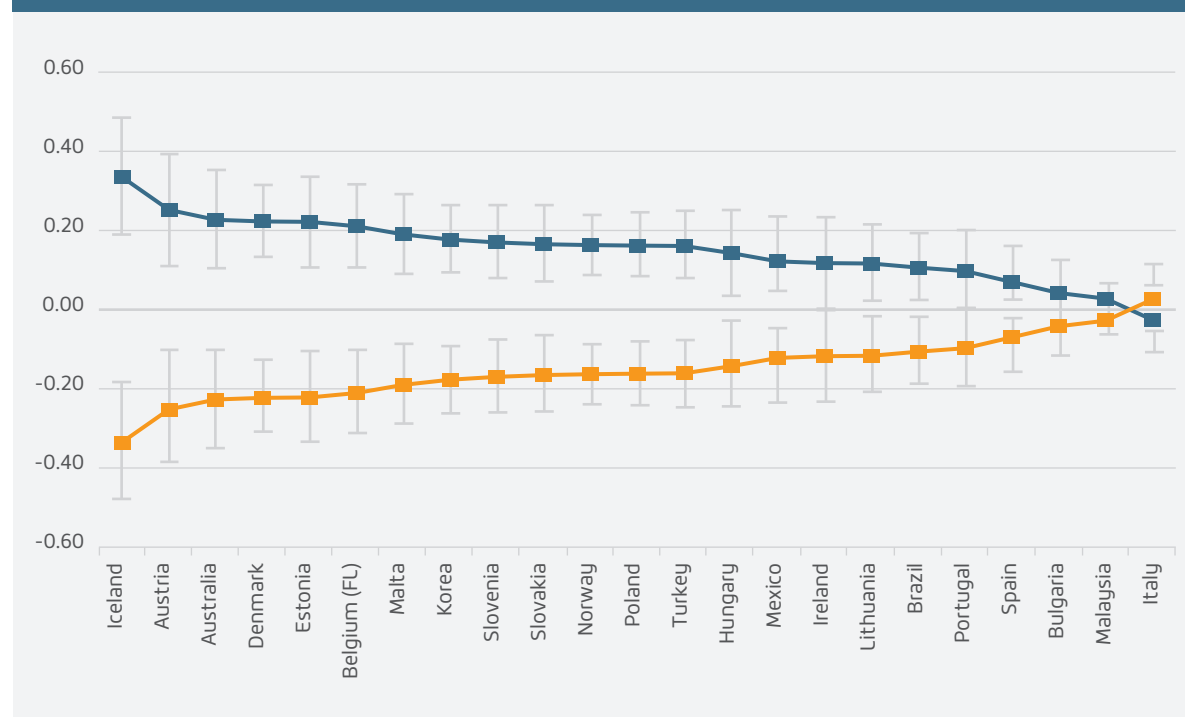
When deciding on key goals for the education and competence of students, it is necessary to examine current teaching and learning practices and the learning materials available. It has become evident that people's life and work will increasingly be filled with digital technology and new and complicated challenges. Learning and teaching must clearly be guided by what follows upon formal schooling.

'New Pedagogy' is a concept created by scholars in an attempt to provide an answer to this urgent problem in the school system (Michael Fullan, 2013). Its basis is the assumption that in a situation where students show no interest in school and see it as boring, the teacher is bound to react. Clearly, the new and irresistible digital technologies must

be incorporated into the teaching. The solution is to introduce, in the immediate future, radical changes to teaching practices and learning materials, based on increased cooperation between teachers and students.

The use of digital technologies for learning and recreation has increased rapidly, although this has happened outside schools for the most part. There is a risk that the response to this technological revolution will consist in attempts to either hold students back or push teachers aside while putting technology first. Neither approach will work, and it is therefore necessary to embark on a fundamental review of teaching practices and the use of diverse learning materials. The knowledge and skills of

**Figure 21 – Teacher attitudes toward teaching practices—constructivism and direct transmission**



Icelandic teachers stand out for their emphasis on guiding students in their own search for knowledge.

■ Constructivism  
■ Direct transmission

Source: OECD, TALIS survey 2008

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It is a considerable challenge for a small island nation to keep up with other nations in the domain of innovation in schooling and the development of learning resources.

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students must be harnessed for the benefit of their teachers and fellow students. At the same time, a wealth of increasingly varied online teaching materials is now available at all times, whether day or night, opening up many new possibilities. The New Pedagogy aims at engaging students to take advantage of these possibilities with their teachers' help, including for the purpose of strengthening various types of reading and reading comprehension.

Although the TALIS survey of the practices and beliefs of teachers, conducted by the OECD in 2008, did not assess teaching practices directly, its conclusions contain some indications of those practices. The survey looked at teachers' attitudes toward teaching practices and compared so-called 'direct transmission', where the teacher transmits knowledge to students, with 'constructivism', where the students are guided in their own process of acquiring knowledge. Interestingly, Icelandic teachers have according to TALIS a much more pronounced preference for constructivist approaches than teachers in the comparison countries (see Figure 21).

In a comparative study of the teaching of mathematics in Finland and Iceland, Lasse Savola (2010) made video recordings of mathematics lessons in the two countries, and analysed the teaching practices using a specific methodology. His purpose was to compare teaching practices in two Nordic countries where one—Finland—has fared well in PISA, and where the performances of the other—Iceland—have exhibited a downward trend. Savola points out that teaching in Iceland has in recent years been characterised by an emphasis on individualised learning, and that this may have stood in the way of a deeper and more substantial discussion of mathematical concepts, and of the provision of strong and direct guidance to students. By contrast, both of these aspects are a more conspicuous feature of teaching in Finland.

The results of the TALIS survey with regard to Icelandic teachers' attitudes, as well as of Savola's analysis of mathematics teaching, only provide indications of Icelandic teaching practices. It is important to examine these results more closely and look into ways to improve teaching.

Available learning resources affect both teaching practices and the possibilities of teachers and students to make use of varied learning and teaching methods. A report on digital learning resources and their application in innovation in Iceland (OECD, 2008) pointed out that it is a considerable challenge for a small island nation to keep up with other nations in the domain of innovation in schooling and the development of learning resources. Development projects rest on the shoulders of a small number of individuals, and assessment, follow-up and support systems are weak. A large proportion of Icelandic teachers do not see the value in using computers for teaching, and are conservative toward change and innovation. The report recommended that Iceland make a point of learning from other countries and take advantage of the ideas and experiences of others in the development and use of learning resources.

The report also pointed out that the market for educational content in Iceland is very small and oligopolistic. In order to promote a more varied use of information and communication technologies in learning and teaching, the report recommended that public entities, such as the National Centre for Educational Materials, cooperate with private companies on reform projects and the systematic use of these technologies.

All too often, reform is reduced to an endless succession of pilot projects without a basis in research, and no attempt is made to learn from previous projects before launching a new one.

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### Evaluation and research

When deciding on goals, it is important to have clear and measurable criteria of performance, and the right tools to measure that performance. A 2010 report by McKinsey pointed out that countries go to different lengths in terms of establishing standards and measuring performance with standardised tests. Every country which has seen a need to improve schools' performance in basic skills, such as reading, has established clear standards and coordinated measurements to meet those standards. In Germany, for example, common standards were introduced for certain subjects in grades 4 and 10 of compulsory school, as well as for graduation from upper secondary school. The standards were modelled on international benchmarks and used to measure the same performances as the PISA survey. The standards were followed up with examinations administered to a sample of students from all federal states of Germany, but each state also has to organise its own tests.

In Ontario, a similar strategy of standardised tests was implemented. Reading and mathematics tests are conducted in grades 3 and 6. In the first two years of high school, students take examinations in mathematics and reading, and in addition all 17-year-old high school students take a comprehensive reading test. The tests are administered by a special institution and a particular emphasis is on communicating the results to school boards, schools and parents, so that they can be taken into account in any assessment of the reform work.

The external evaluation of the quality of schooling and study assessment are both necessary elements of any work to follow up education reform in Iceland. National coordinated examinations in Icelandic and mathematics have been administered in grades 4, 7 and 10 of compulsory school, and in grade 10 an examination in English is added. As the examination questions have been published and are only used once, the results do not

lend themselves to a year-on-year comparison. However, by adapting the tests to the competence standards of the National Curriculum Guide and the required reading literacy competences, they can be used to evaluate the success of the reform measures and provide students, teachers and administrators with information about their performances compared to others. The purpose and benefit of the examinations must also be evident.

In a similar fashion, the external evaluation of schools can be useful for the review and assessment of reform. It is important in the beginning to establish criteria for the assessment of the measures to be laid down, and to solicit the help of independent foreign experts in this respect.

The UNESCO/IIEP report on education reform emphasises the need for quality research into the state and performance of the system, and into the changes that need to be made to improve performance. Such research promotes innovation. Disciplined innovation starts from previous experience and knowledge and draws lessons from what has been accomplished. All too often, reform is reduced to an endless succession of pilot projects without a basis in research, and no attempt is made to learn from previous projects before launching a new one. By organising each project as a thoughtful experiment and studying the outcomes, it is possible to improve both the policy and its implementation.

A report published by the Ontario Ministry of Education (Zegarac and Franz, 2007) discussed the importance of research and data for education reform. The report stated that as a consequence of the need to succeed, there had been a shift toward a culture of evidence-based policy and practice, not only at the Ministry, but extending to the school board, school and classroom, in a relatively short period of time.

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The process of merging the Educational Testing Institute and the National Centre for Educational Materials has now started, and the new institution is expected to play an important role in providing better support services for the education system, strengthening quality assurance and assessment, collecting data on the education system, and providing evidence-based reporting.

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This widespread use of research, evaluation and indicator data gave rise to a shared 'language' that crosses all barriers within the education system.

This made place for a more informed discussion and ensured that each decision was based on reliable data. Leaders received encouragement and the ownership of student outcomes was shared by all those involved in policy-making: administrators, educators, parents and communities. A positive stance toward demanding and using sound data and research results was the key to the success of the reform effort system-wide.

A review of research in the domain of education and schooling (Rannís and Ministry for Education, 2005) stated that a large number of players were involved in research into education in Iceland. Apart from higher education institutions, this includes ministries, municipalities, administrative bodies serving schools, and research institutions such as the Educational Testing Institute. In addition,

schools conduct various studies and reviews of their internal operations. Finally, interest organisations and related bodies often carry out research and investigations in the field of education.

The abovementioned review of research in education recommended the setting up by all these parties of a joint forum to discuss priorities in education research, research funding, the reporting of results, and their use. This would make it possible to hold consultations between researchers, schools and the public authorities on priorities and the use of research to assess performance. The Icelandic Educational Research Association and the School Development Association have in recent years put in a good effort to raise the profile of education research and the results of pilot projects.

In order to follow up education reform, it is important to have access to pools of data making it possible for schools and municipalities to assess their position in comparison to others and monitor the success of reform measures.

### **Support services strengthened in a new institution**

The process of merging the Educational Testing Institute and the National Centre for Educational Materials has now started, and the new institution is expected to play an important role in providing better support services for the education system, strengthening quality assurance and assessment, collecting data on the education system, and providing evidence-based reporting. It will also be responsible for curriculum development and learning resources, and will handle administrative tasks in relation to vocational education.

No significant changes are foreseen as regards the tasks of the Educational Testing Institute in relation to coordinated examinations and surveys

conducted in compulsory schools, although the arrangement of the examinations may change in accordance with new priorities. The main task of the National Centre for Educational Materials, which is to provide compulsory schools with learning materials, will remain unchanged, and this is where future policy on learning materials will be shaped. The aim is to increase the use of digital resources and broaden the choice of learning materials. The planning of the new institution's implementing phase is expected to take place during the first half of 2014, and will include the drafting of a bill, to be presented to the Althing in the autumn. This should allow the institution to become operable at the beginning of 2015.

## Conclusion

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Few aspects of life have greater significance for humans than education. The education received by our children in schools shapes both their lives and how they fare in their quest for maturity. The quality of that education is a matter of concern for us all, and of consequence to society as a whole and to democratic and economic development.

Politicians, labour market organisations, parents and, not to forget, educators, are becoming increasingly concerned about education reform. A variety of compelling interests are at stake, paving the way for polarising opinions and heated debates. It is imperative to reach a consensus on the principal goals and to work toward those goals through a common and concerted effort.

This White Paper lays down the goals that by 2018, 90 per cent of Icelandic compulsory school pupils should meet minimum reading and reading comprehension standards, up from 79 per cent currently, and that 60 per cent of upper secondary students should graduate on time, up from 44 per cent currently. A prerequisite for attaining these goals is for a wide agreement to be reached, and for the large number of players in the field of education to be prepared to contribute to their success.

It is necessary for authorities to send a clear message on the reform, including on the increased emphasis on Icelandic in the National Curriculum Guides and the prioritisation of reading and reading literacy, the reorganisation of the duration of programmes through the shortening of upper secondary studies, and the restructuring of vocational programmes. The necessity of implementing these measures has been argued for by reference to data, international comparisons and the experience of other nations. Opinion may be divided on some of the priorities, which then will need to be debated further, but it is important for any such discussion to be supported by facts and sound arguments. This White Paper is intended as a contribution to that discussion.

Many of the proposals herein still need to be developed in detail. This applies not least to general reform in the domains of teacher education, teaching practices, learning resources, quality assurance and assessment, and education research and school development. These are areas that require a long-term perspective and an effort to learn from the nations which perform best in terms of education.

A broad consultation with interested parties will follow the publication of this White Paper. This will include all those with a stake in education and a desire to contribute to its development. The proposed strategy is to set up working groups on specific areas of reform, and to build on the consultation to plan long-term and short-term measures on which a consensus can be reached. A priority will be to reach out to the staff of schools and to the communities, and to give them the necessary space and appropriate support to take on the reform agenda. All parties involved will come up with ideas on possible solutions, which will need to be tested, evaluated and reported. In that context, an important role will be reserved for pilot projects, the professional development of teachers, evaluation, and research.

The changes to the Icelandic education system which have been discussed above are substantial in nature and will take a long time to implement. Therefore, it is necessary to reach a consensus on how to sustain the reform work over a longer period than one electoral term. The intention is to recruit the help of foreign experts capable of supporting decisions on further measures and advising

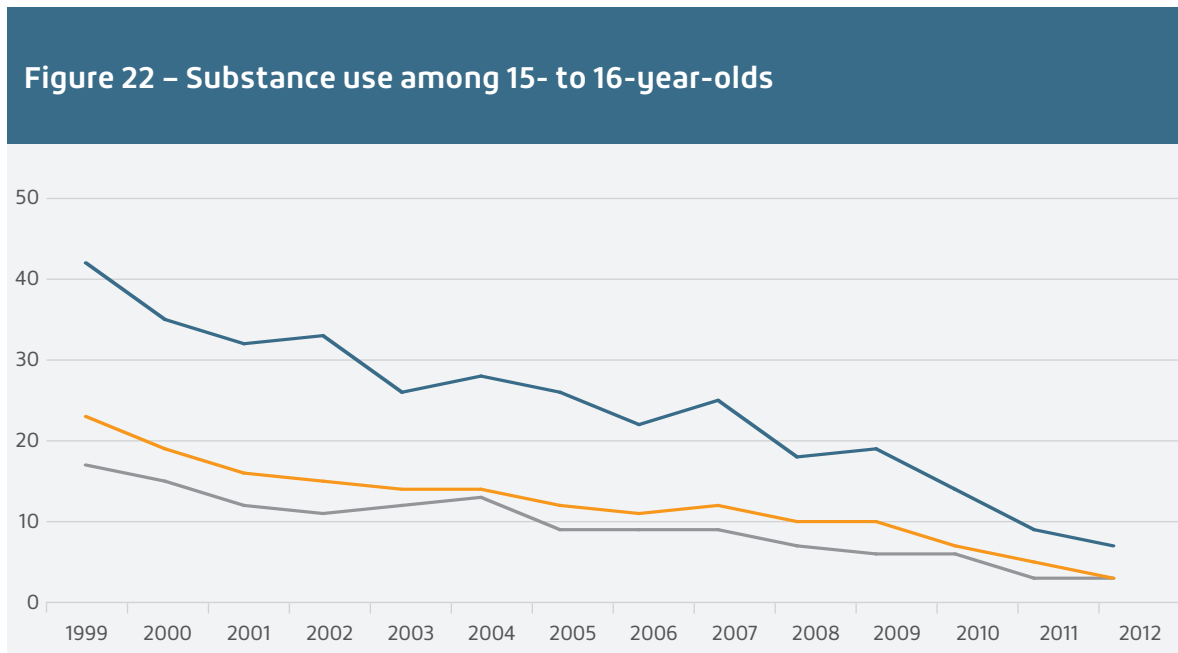
Iceland is capable of improving the education of its young people so as to ensure that they enjoy the same opportunities as their counterparts in other countries to live and work in a modern society and take on future challenges in an effective and creative manner.

on their implementation. Their role will also be to provide an independent assessment of the results of any implemented measures.

The experience of other nations shows that reform can deliver good results within only a few years if a consensus is reached on its goals and the work to be carried out to achieve them. This is illustrated by the fact that a number of countries with education systems that are many times larger and more complex than the Icelandic one have succeeded in constantly improving the performances and learning progress of their students. Such successes are not achieved automatically but are the result of a concerted effort by many parties over a long period of time.

Iceland has also demonstrated its ability to improve the position of young people through

well-targeted and coordinated measures. Thus, substance use among 15-year-olds in Iceland has been reduced very considerably. As seen in Figure 22, the consumption of alcohol, tobacco and cannabis has fallen continuously since 1998, and the percentage of teenagers using these substances is now only a fraction of what it used to be. This was achieved by gathering a broad group of people to work together on a clear goal over a long period of time, relying on research, and immediately assessing the results of all measures. By using a similar approach, Iceland will be able to improve the education of its young people so as to ensure that they enjoy the same opportunities as their counterparts in other countries to live and work in a modern society and take on future challenges in an effective and creative manner.



Consumption of alcohol, tobacco and cannabis has fallen continuously since 1998, and the percentage of teenagers using these substances is now only a fraction of what it used to be.

- Consumed alcohol in the past 30 days
- Daily smokers
- Used cannabis at least once

Source: Rannsóknir og greining

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Ministry of Education, Science and Culture  
June 2014

Published by: Ministry of Education, Science and Culture  
Sölvhólgötu 4  
101 Reykjavík  
Telephone: 545 9500  
Fax: 562 3068  
E-mail address: [postur@mrn.is](mailto:postur@mrn.is)  
Website: [eng.menntamalaraduneyti.is](http://eng.menntamalaraduneyti.is)

Layout and text processing: Jónsson & Le'macks

Cover design: Jónsson & Le'macks

Printing: Litróf, 'environmentally-certified printers'

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