



Comparative study of Nordic teacher-training programmes

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TemaNord 2009:520

© Nordic Council of Ministers, Copenhagen 2009

ISBN 978-92-893-1845-7

Print: Kailow Express ApS

Copies: 200

Printed on environmentally friendly paper

This publication can be ordered on www.norden.org/order. Other Nordic publications are available at www.norden.org/publications

Printed in Denmark



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Foreword

Following a recommendation from the Nordic Council, the Nordic Council of Ministers for Education and Research decided to conduct a study of the differences and similarities between teacher-training programmes in the Nordic Region.

More or less all of the research into teacher training in the Region has been conducted at national level. Despite the fact that the programmes have both similarities and differences, there had been no comparative research focusing on the Nordic teacher training programmes.

This is, therefore, the first comparative study of the teacher-training programmes in all of the Nordic countries. The main objectives have been to provide the basis for information exchanges and to encourage mutual inspiration. The Nordic Council of Ministers also hopes that the report will contribute to the broader debate about teacher training.

The report compares programmes according to four main themes:

- Regulation
- Student characteristics and recruitment
- Structure
- Terms and conditions of employment

As well as mapping out the differences and similarities in the Region, the comparative study of Nordic teacher training also reflects the status of the Nordic Region within Europe. The analyses of the main themes have, therefore, been supplemented with pan-Nordic analyses of the challenges faced by all of the countries.

In the light of the analyses contained in the report, recommendations are also made for further studies of Nordic teacher training. We hope that the report will provide a basis for inspiration and learning, and will contribute to the debate about the future development of the Nordic teacher-training programmes.

Halldór Ásgrímsson
Secretary General

Editors' preface

The Danish Evaluation Institute (EVA) and the Danish School of Education (DPU) have conducted a comparative study of Nordic teacher-training programmes.

The study focuses on the differences and similarities between the programmes, with reference to their structure and organisation, to the legislative framework, and to recruitment and the capacity to supply qualified teachers.

We expect the report to contribute to the debate about the future of Nordic teacher-training programmes. We also hope that it will serve as a framework for the discussion of other comparative studies that may prove relevant in the future as we strive to obtain a deeper understanding of the differences and similarities between the programmes in the Region.

The study was commissioned by the Nordic Council of Ministers and conducted between July and November 2008.

Age Csonka
Executive Director of EVA

Lars Qvortrup
Dean of DPU

1. Summary

The purpose of this comparative study of Nordic teacher-training programmes in Denmark, Finland, Iceland, Norway and Sweden is to illuminate the complex, multi-faceted picture of education in the Region.

The study starts by comparing programmes in four main areas: the way in which the teacher-training programmes are regulated; student characteristics and recruitment; the structure of the programmes, including the weighting of subjects and academic elements; and, finally, the terms and conditions on the job market. The comparisons are then supplemented with pan-Nordic analyses of some of the challenges that emanate from the descriptions. Finally, the report proposes a number of potential further studies.

Nordic teacher-training programmes are organised in very different ways.

The teacher-training programmes in the Nordic Region are organised in very different ways. Nordic programmes are organised in very different ways, most obviously in terms of their duration and the institutions at which they are based. There are also differences between whether the training for students aiming to teach years 1–9 (10) consists of a bachelor programme (first cycle, C1), a master's programme (second cycle, C2) or whether it fits into the cycle system at all.

The Finnish, Icelandic, Norwegian and Swedish programmes are research-based. The Danish programme for years 1–9 (10) is development-based, but has is also linked to research. The programmes in Finland, Iceland, Norway and Sweden are based at universities and colleges covered by the same legislation as universities. In Denmark, the programme for years 1–9 (10) is based at university colleges and is subject to separate legislation, while the programme for years 10–12 consists of a research-based master's programme.

Fall in applications

In general, the number of applicants to teacher-training programmes in the Nordic Region has fallen in recent years. Several subject areas in all of the Nordic countries suffer from a shortage of teachers. This is particularly true of mathematics and other natural-science subjects. Several national initiatives have been launched to attract more students in general and deal with shortages in specific subject areas. In recent years, Finland has to some extent diverged from the other Nordic countries, in the sense that recruitment to teacher-training programmes remains stable and is considered satisfactory.

In both Denmark (for years 1–9) and Norway, the entry level for students was perceived to be relatively low, whereas it was considered to be quite high in Finland. This may partly be due to both the special admission tests and the popularity of the programme. No information was available about entry levels for Sweden and Iceland.

The proportion of student teachers who complete their studies differs between the Nordic countries. It was generally relatively large in Iceland and Sweden, but low in Norway and Denmark (for years 1–9).

Differences in structure and weighting of subjects and elements

Differences in the structure of the teacher training programme and weighting of subjects and academic elements

The programmes also differ in terms of the extent to which they are governed by specific regulations. Denmark, Iceland and Norway have specific statutory objectives for training for years 1–9 (10), while the objectives are considerably broader in Finland and Sweden.

The length of the programmes also varies. In Denmark (for years 1–9) and Norway, they last for four years and are on bachelor level (first cycle, C1). In Finland and Denmark (for years 10–12), the programmes last five years and are on master's level (second cycle, C2). This will also be the case in Iceland from 2011. In Sweden, the length of the programme is determined by which age group graduates aim to teach.

Programmes aimed at teaching in years 1–9 (10) have very different structures, but the same basic elements: main subject, pedagogic subject and teacher training. The scope and number of the main subjects varies greatly. Denmark focuses on developing competences in specific subjects, as does Norway, but sometimes as part of a much broader curriculum. Finland and Iceland focus on broader competences. In Sweden, the question of broad or specific competences depends on the individual students' choice of subject specialisation or level of education.

In general, all of the Nordic programmes stress the importance of subject-related didactics, and all of the programmes have integrated subject-related didactics into the main subjects. However, the scope of the pedagogic subjects varies. In Finland, pedagogic subjects make up a large part of the programme, while Denmark and Norway have fewer pedagogic subjects. All of the countries stress the significance of the link between theory and practice, and all incorporate teaching practice into their programmes.

General shortage of trained teachers

Overall, teacher unemployment is relatively low in the Nordic countries – indeed, several suffer from teacher shortages. The chances of securing a teaching post in Norway and Denmark are particularly good because many current teachers are approaching retirement over the next few years. Shortages of trained teachers in several of the Nordic countries

have forced many schools to employ teachers who lack the requisite competences.

An OECD study conducted in 2006 shows that Danish teachers enjoy both the highest starting pay and the best basic salary after 15 years' service. This is the case both for teachers who take years 1–9 (10) and for those who teach 10–12, calculated in relation to purchasing power parity. As far as the OECD average and the EU19 average for starting salaries are concerned, Iceland, Finland and Sweden are below average. Finland has the Region's highest final salary for years 1–9 (10) and for years 10–12. It should be noted that all of the Nordic countries are below the average final salary for the EU19 countries both for primary and lower-secondary level (grundskole), and for general and vocational upper-secondary level (ungdomsuddannelse).

The Finnish teacher-training programme stands out from the others in that it is considered highly attractive. In general, the other Nordic programmes are not particularly well regarded. In the long term, falling numbers of applications and increased demand for teachers may become a social problem.

The challenges faced

The report identifies three main challenges facing teacher-training programmes in the Nordic Region. The first is adapting the programmes to the Bologna Process. At present, the programmes are being adapted at different rates and according to different levels of ambition. Another challenge is to reconcile the organisation of the programmes with Nordic efforts to improve pupil performance. In this context, the report suggests that improving the quality of the lecturers who work on teacher-training programmes would make a significant difference, and that many relevant initiatives have already been launched to forge closer links between theory and practice and to make didactics a higher priority. Thirdly, the programmes face a number of social challenges stemming from greater diversity and heterogeneity in the composition of the pupil population, new forms of regulation and calls for research- or evidence-based knowledge about "what works" when it comes to improving pupil performance.

Need for pan-Nordic analyses and data
Need for greater knowledge that transcends the Nordic teacher-training programmes

At the end of the report, proposals are presented for four further studies on the following subjects: recruitment to teacher-training programmes; the research base for teacher-training programmes; internationalisation; and the development of teaching competences on teacher-training programmes. These studies would look in-depth at the similarities and differences, identify causal relationships and provide relevant input into discussions about the future development of the Nordic programmes.

With the exception of Finland, all of the Nordic programmes are facing recruitment problems. At the same time, the report shows that there are no significant differences between the programmes in terms of job opportunities, teaching hours per staff member or salaries. It is therefore important to obtain more knowledge about the factors that underpin the attractiveness of the Finnish programme.

The trend in both the Nordic Region and Europe as a whole is moving in the direction of research-based teacher-training programmes. In order to determine how these might be strengthened in the future, it is therefore important to study the knowledge bases for the Nordic programmes.

The fierce international competition in the education sector means that in future it will be relevant to conduct studies of the development potential and limitations of the Nordic programmes. This will help to enhance the programmes' quality and boost mobility for both students and graduate teachers.

International research suggests that the quality of any given school system depends on the quality of its teachers. Several studies show that Finnish pupils generally perform better than pupils in the other Nordic countries. It would therefore be interesting to analyse whether the structure and/or content of the Finnish teacher-training programme tends to produce better teachers than other Nordic programmes.

2. Introduction

The main purposes of this comparative study of Nordic teacher-training programmes are to create the basis for exchanges of information and to encourage mutual inspiration and learning among the Nordic countries. As a result, it focuses on illustrating the differences and similarities in several areas related to the programmes. The study also looks at the differences and similarities in the ways in which the Nordic countries deal with the challenges facing their teacher-training programmes.

The comparative study conducted by DPU, EVA and their partners in the other four Nordic countries focuses on the following subject areas:

- The rules and regulations (legislation, etc.) that form the framework for the programmes
- Recruitment to the programmes
- The structure, organisation and content of the programmes
- The programmes' potential to supply trained teachers to all parts of society, and for all subjects

Each sub-category's analysis is supplemented with pan-Nordic analysis of how the countries have responded to some of the challenges faced by teacher-training programmes in recent years. Problem-oriented comparative analyses have looked at how the countries have faced up to three types of challenge, each of which transcends national borders in the Region:

- Challenges that stem from internationalisation, e.g. the Bologna Process and particular EU initiatives
- Challenges that stem from pupil-performance targets
- Challenges that stem from the issues faced by Nordic schools

These challenges are related to significant welfare questions about the populations' levels of knowledge and competency, and have been a contributory factor behind many of the reform initiatives of recent years.

This study therefore combines comparative and problem-oriented analysis. It is hoped that the two complementary analyses will provide a solid and hopefully inspiring basis for discussion, and lead to a broad debate about the development of teacher-training programmes within the institutions themselves, among politicians and in society as a whole.

In the light of the study's analyses, the report will also make recommendations for further analyses and studies. The Nordic Council of Ministers hopes that these analyses will create an even stronger foundation

for exchanges of information and ideas about the best ways for the Nordic programmes to cope with current and future challenges.

EVA and DPU worked with the following participants on the project:

- Director of Projects Tine Holm, Higher Education, EVA
- Professor Jens Rasmussen, The Danish School of Education, Århus University
- Special Adviser Signe Ploug Hansen, Methodology, EVA
- Special Adviser Anne Kjær Olsen, Day-care, EVA
- Evaluation Officer Grith Zickert, Higher Education, EVA
- Evaluation Officer Mark Noppen, Higher Education, EVA
- Evaluation Assistant Dina Madsen, Higher Education, EVA
- Assistant Professor Hans Dorf, The Danish School of Education, Århus University

The partners in the other Nordic countries are:

- Professor Sven-Erik Hansén, Åbo Akademi University (Finland)
- Professor Kaj Henrik Sjöholm, Åbo Akademi University (Finland)
- Dean Anna Kristín Sigurðardóttir, University of Iceland, School of Education (Iceland)
- Senior Associate Professor Ragnhildur Bjarnadóttir, University of Iceland, School of Education (Iceland)
- Professor Gjert Langfeldt, University of Agder (Norway)
- Associate Professor Tobias Werler, University of Agder (Norway)
- Associate Professor Ilmi Wilbergh, University of Agder (Norway)
- Dean Björn Åstrand, Umeå University (Sweden)

Input was also submitted by a reference group set up by the Nordic Council of Ministers.

Defining which programmes to include

The study covers programmes for teachers at primary and lower-secondary level, as well as upper-secondary level (general/vocational) (i.e. the first 12 years) in the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden). However, teacher-training programmes for primary and lower secondary (1–9 (10)) have been weighted more heavily and treated in greater depth than the other programmes. The study does not cover alternative educational paths such as meritlæreruddannelser ((accelerated) primary and lower-secondary programme with award of credit for prior learning) and net-based teacher-training programmes. The alternative paths to qualification in each Nordic country are listed in section 3.2.

National studies as basis for analysis

The descriptive, comparative study is based on national analyses drawn up by EVA/DPU (Denmark) and its partners from the other four Nordic countries. In order to ensure uniformity and thereby serve as a relevant foundation for comparative study, during the initial phase of the study EVA and DPU drew up guidelines that stipulated which elements were to be included in national analyses. They also outlined the data upon which the analyses were to be based, and stipulated how the data in each section should be presented and described.

It is important to realise that the national analyses, and therefore the comparative analyses, constitute a descriptive study based on accessible and existing data – so in the interests of reliability, only authoritative sources have been used. Each country was charged with evaluating available sources and determining their suitability. Whenever data was not available, the countries were obliged to state this in their responses.

Terminology

The study attempts to use uniform terminology to describe what are, essentially, different systems in different countries. The subjects in which students specialise have been dubbed “main subjects” in English. The older and recognised designation “master’s programme”, which is used in several Nordic countries, is synonymous in this report with “two-year master’s programmes”. It will often be cited as follows: master’s programme (second cycle, C2). Specifically, in order to clarify the comparative elements in the teacher-training programmes, we have tried to use the same terms in all cases. For example, Iceland designates its teacher training programmes as B.ed and M.ed, but this study sticks to the more generally used terms BA or MA when discussing the level of education in more than one country. Similarly, the terms BA and MA are not used in the same way in Sweden as they are in this report. The Swedish system is based on each examination being taken on basic (corresponding to C1), advanced (C2), or researcher level (C3). However, a teacher who has successfully completed an examination on advanced level has not necessarily graduated as a Master (MA); in other words, the levels are not directly transferable. The study also uses ECTS points for Sweden, even though the Swedes use högskolepoäng (HP), which are, in quantitative terms, directly comparable with ECTS points.

3. Regulation

This chapter outlines the regulatory frameworks for the teacher-training programmes in the Nordic countries, i.e. the basis upon which the individual countries regulate their programmes. It also covers external national quality-assurance systems, the way the programmes are organised and the types of institutions at which they are based.

The analyses and comparisons in this section are based on regulatory documents, e.g. legislation and executive orders in the individual countries.

3.1 Chapter summary

National trends

Most of the Nordic countries have made wide-ranging and ongoing efforts to reform teacher training. Almost all of the Nordic programmes have been reformed over the last 10–15 years, some of them several times. A number of programmes have also been evaluated within the last five years (Denmark in 2003; Sweden, 2004 and 2008; Norway, 2004 and 2006). The reform debates are largely characterised by questions about the programmes' research basis, their adaptability to the Bologna Process, and the EU's stipulation that they should be second-cycle programmes. The context for this debate is that the Nordic programmes, except in Finland, find it difficult to attract enough students.

Regulatory framework

Regulation of the programmes differs according to whether they are part of the university system (and therefore subject to university legislation) or not. Programmes subject to university legislation enjoy a greater degree of freedom than those governed by other legislation. The Danish programme for the primary and lower-secondary school (years 1–9) and the Norwegian programme, which is subject to framework plans, are the most heavily regulated in the Region.

Organisation

Teacher-training programmes in the Nordic countries are organised in very different ways. The Danish programme is a four-year professional bachelor degree (first cycle, C1) for all primary and lower-secondary school years (1–9 (10)). The Finnish programme is a five-year master's programme (second cycle, C2) for both the early primary and lower-secondary years (1–6) and the older years (7–10). In Iceland, the pro-

gramme for all primary and lower-secondary years is now a three-year bachelor (first cycle, C1), which from 2011 will become a five-year master's (second cycle, C2). In Norway, the general teaching programme covers all primary and lower-secondary years (1–10), while the practical/pedagogic programme provides qualifications for years 5–10 and for upper-secondary level (10–12). The Swedish programme covers all years from pre-school to post-compulsory schooling (0–12), and students choose their own profile and specialisation.

In Denmark and Iceland, training for primary and lower secondary consists of first cycle (C1) programmes, as is also the case in Sweden for teachers working with the youngest year groups. In Finland, primary and lower-secondary school training consists of a second cycle (C2) programme. This will also be the case in Iceland from 2011. In Denmark and Finland, training for the older years consists of second-cycle (C2) programmes. This is also the case in Sweden for the year groups in primary and lower-secondary schools, as well as for upper-secondary. It is not possible to plot the Norwegian teacher-training programmes in the cycle system. The general teaching programme is a vocational qualification somewhere between BA (first cycle, C1) and MA (second cycle, C2), while the PPU programmes can be on BA (first cycle, C1), vocational programme or MA (second cycle, C2) level.

Approval and quality assurance

New Danish legislation requires all existing teacher-training programmes to be approved on the basis of criteria for quality and relevance. In future, all new programmes will have to be positively accredited before they are offered. Quality assurance plays a key role in the Finnish university system, and is carried out at national level by the Finnish Higher Education Evaluation Council (FINHEEC). In Norway, all colleges and universities must have a satisfactory quality-assurance system that is regularly evaluated by the Norwegian Agency for Quality Assurance in Education (NO-KUT). Systematic quality control for Swedish colleges is carried out by the Swedish National Agency for Higher Education (SNAFHE), which has developed fixed procedures for evaluating subjects, programmes and the individual institutions' internal quality-assurance work.

The Finnish, Icelandic, Norwegian and Swedish teacher-training programmes are research-based. The Danish one is development-based but is linked to research. The programmes in Finland, Iceland, Norway and Sweden are based in universities and colleges covered by the same legislation. The Danish programmes are run by university colleges, which are subject to special legislation.

Formal competency requirements for lecturers and graduates

The competency requirement for lecturers on Nordic teacher-training programmes is currently a minimum of an academic degree at MA level (C2).

In Denmark, Iceland and Norway, the competency requirement for primary and lower-secondary school teachers (1–9 (10)) is a bachelor or professional bachelor's degree. This is also the case in Sweden for the younger age groups in primary and lower-secondary schools. In Finland, the competency requirement is a master's degree (MA). This is also the case in Sweden for the oldest years in primary and lower-secondary schools.

The competency requirement for teachers in upper-secondary schools in Iceland and Norway is a bachelor or master's degree with subsequent specialisation in pedagogy. In Denmark, the requirement is a master's degree (second cycle, C2) with subsequent specialisation in pedagogy. A master's degree is required in Finland and Sweden.

The competency requirement for teachers on Nordic vocational programmes is either a vocational degree, a bachelor degree or a master's degree, all of which must be supplemented by a 6–12-month specialisation course in pedagogy.

3.2 Scope of the national analyses

The tables in this section outline which teacher-training programmes are included in the comparative study, and which are not.

The following programmes are included in the comparative study:

Table 1: List of teacher-training programmes included in the comparative study, by country

Country	Included programmes
Denmark	<p>The professional bachelor programme for primary and lower-secondary school teachers (the teacher-training programme), which covers teaching in years 1–9 (10)</p> <p>Professional postgraduate teacher training on general upper-secondary programmes (a specialist course in pedagogy – a university programme that, along with the academic competency, grants the right to teach on upper-secondary programmes) that are designed for teaching years 10–12</p> <p>Pedagogic training of teachers at vocational colleges (general/vocational professional postgraduate teacher training), which is aimed at teaching years 10–12 in the vocational colleges</p>
Finland	<p>Class teacher (1–6)</p> <p>Subject teacher (7–12)</p> <p>Vocational teacher (10–12)</p>
Iceland	<p>General teaching programme</p> <p>Super-secondary programme (specialist course in pedagogy) and vocational teacher programme</p>
Norway	<p>General teaching programme (ALU) (1–6)</p> <p>Practical pedagogic programme (PPU) (7–12)</p>
Sweden	<p>Teacher-training programmes directed at the following:</p> <p>Pre-school teaching</p> <p>The pre-school class</p> <p>Primary and lower-secondary schools' early or later years</p> <p>The upper-secondary school</p> <p>Work in after-school centres</p> <p>Vocational teaching</p>

Source: The national reports

Table2: An overview of the programmes not included in the comparative study

Country	Not included programs
Denmark	<p>Meritlæreprogrammer ((accelerated) primary and lower-secondary teacher-training programme with award of credit for prior learning), which provides people with another educational background the option to train as a teacher for years 1–9 (10)</p> <p>E-based distance learning (only available from certain colleges)</p>
Finland	<p>Training in basic art teaching aimed at children and young people, which gives students the ability to express themselves and to apply for vocational training and education on a higher level in the artistic area in question (Finlex, 633/1998)</p> <p>Training for teachers and tutors (Finlex, 986/1998)</p> <p>Training for pre-school teachers (Finlex, 272/2005)</p> <p>Training for pre-school teaching in a group that does not include pupils in elementary education (Finlex, 327/2000)</p> <p>Training for driving instructors (Finlex, 358/2003)</p> <p>Training for teaching at vocational colleges (Finlex, 357/2003)</p>
Iceland	<p>Part of a diploma programme for teachers in individual subject areas for the older years in primary and lower-secondary schools, and also for post-compulsory schooling</p> <p>The Icelandic College of Arts and Crafts trains teachers in practical/aesthetic subjects, as well as and drama and design, which confers the right to teach these subjects in, for example, primary and lower-secondary schools and post-compulsory schooling</p> <p>Diploma in pedagogy (for BSc or BA graduates) in one subject</p> <p>Physical education programme (BEd or BSc) that confers the right to teach in primary and lower-secondary schools, as well as post-compulsory schooling</p>
Norway	<p>Three-year subject-teaching programme, which qualifies students for specialist/subject teaching in older and higher classes</p> <p>Vocational training that qualifies students, after a three-year course of study and a craft apprenticeship, for vocational teaching in older classes</p> <p>Five-year integrated teacher training with a master's degree and specialisation, which qualifies graduates for further education and research-related activities</p> <p>BA-level subject-teaching programme for students from bilingual backgrounds</p> <p>Pre-school teacher programme, currently offered as a bachelor's degree, which qualifies graduates to work in nursery schools.</p> <p>Part-time studies and ICT-based educational opportunities</p>
Sweden	<p>A small number of students gain teaching qualifications in alternative ways, i.e. by having credited previous studies that correspond to or are almost identical with courses offered by the teacher-training programme. Once their studies have been validated, these students are entitled to study the "general teaching area" (90 ECTS including internship and exam work)</p>

Source: The national reports

3.3 National trends in regulation

This section describes the central themes in the latest and/or imminent reforms and the relevant history of reform initiatives in the Nordic countries.

To a certain degree, the reforms of teacher-training programmes across the Region have been characterised by the same themes and problems, but the solutions have differed significantly. Common themes have been the relationship between theory and practice; research-based teaching; specialisation; and the Bologna Process.

Theory and practice

In all of the countries except Finland, the problem of creating a coherent link between theory and practice has underpinned many of the reforms of recent years. The 2006 reform of the Danish professional bachelor's degree for primary and lower-secondary teachers places particular emphasis on the connection between theory and practice. It sets targets for teaching practice and stipulates that it should be linked to the programme's other subjects throughout the period of study. The teaching practice must be prepared, done and discussed afterwards in collaboration with the pedagogic subject area and the relevant teaching subject(s). The reform of the Icelandic programme stresses that all courses must be linked to subject areas, research and practice. In Norway, an evaluation conducted in 2006 ascertained that there was insufficient coherence between theory and practice. Students on a fragmented programme therefore had to create their own coherence and meaning, which was considered irresponsible. In Sweden in 2000, teaching practice changed to on-the-job training, in order to strengthen the link between theory and practice. Students are given the opportunity to consider specific professional issues in a school environment, work with them in practice, and then bring those experiences into play in connection with the programme.

Research base

Previously, Danish primary and lower-secondary school teachers were trained at colleges of education. From 2008, this training takes place at university colleges. The Danish programme is not research-based, but development-based and linked to research. Unlike the other Nordic countries, it is not subject to university legislation and the regulations about providing research-based training. Rather, it comes under the University Colleges Act, which is designed to guarantee a developmental knowledge base in the professional degrees. The executive order for the programme stresses that, as far as possible, it must incorporate the results of relevant national and international research, as well as experimental and development work. In addition, the educational institutions must prepare the student to take part in research and development work.

Until the early 1970s, Finland's teacher-training programmes were run by colleges of education. In 1971, they were transferred to the universities, and at the same time the scope of pedagogy in subject-specific programmes was increased. The programmes are designed to inculcate a professional culture based on research and science, which enables teachers not only to apply research results, but also to analyse and develop their own work.

The programme at the University of Iceland, Department of Education (IUP), is research-based. All courses must be linked to a subject, research and practice.

The programmes in Norway are based on college of education and university programmes, and are research-based. The former offer a general teaching programme (ALU), which qualifies students to teach years 1–10, while the latter provide practical/pedagogic programmes (PPU) targeted at the older years, including post-compulsory schooling. Resolving the conflict between the two educational paths was the aim of the 1990s reforms, i.e. it attempted to reconcile “the ability to teach” with “mastery of a subject”.

Swedish teacher training has been an integrated part of higher education since the 1970s. This means that the overarching legislation for higher education, including the College Act and the High School Order, also applies to teacher training, which is research-based.

Specialisation

Reforms directed towards increased specialisation have been introduced in the countries that have maintained an all-round teaching programme for primary and lower-secondary schools (years 1–9 (10)). One recurring theme of the Danish reforms has been the question of the programme’s specialisation in relation to selected subjects and age groups. The 2006 reform adjusted the number of main subjects from four down to either three or two, and introduced age-related specialisation, at starter and medium level (1–6) and at medium and final level (4–10), in Danish and mathematics.

The Finnish training programme is specialised in relation to age – it is divided into class-teacher and subject-teacher programmes – and has been for many years. Class teachers take years 1–6 in primary and lower-secondary schools, as well as in pre-school. Subject teachers teach years 7–9 in primary and lower-secondary schools, as well as in upper secondary. Pedagogy is the main subject for class teachers, while for subject teachers it their main/teaching subject. However, class teachers have the opportunity to qualify as, for example, subject teachers or special education teachers by supplementing their training with minor subjects. Subject teachers and special education teachers can qualify as class teachers in a similar manner.

The reform of the teacher-training programme at IUP in Iceland placed heavy emphasis on increased specialisation in individual subject areas.

In Norway, the 2003 Framework Programme for Teacher Training created opportunities for individual study programmes to be specialised in terms of subject, age and teaching functions.

In Sweden, students can compose their programme with a view to specialisation in pre-school, the early years of primary and lower-secondary school, or the later years of primary and lower-secondary school and upper-secondary school.

The Bologna Process

Reforms in teacher training in the Nordic countries in recent years have often been direct consequences of adapting higher education to the Bologna Process. This has been the case in Finland, Iceland and Sweden. Denmark has adapted to a lesser extent, while the debate on adaptation has started in Norway.

In 2001, as a minor adaptation to the Bologna Process, the Danish programme was transformed into a four-year professional bachelor programme, one aim of which is to qualify students for further education at master's level (second cycle, 2). However, it only grants direct access to further study at the Danish School of Education, although credits from some studies at other universities may be transferred to parts of the teacher-training programme at the start of a master's programme (C2). The 2006 Act introduced ECTS points for the programme subjects, although the programme cannot yet be described as modular. The objective for the individual subjects are formulated in terms of competences and are related to the previous Danish qualifications framework.

From a Finnish perspective, the Bologna Process may be viewed as a form of national analysis and evaluation of the teacher-training programme, rather than a structural reform. Adaptation to the Bologna Process has been governed by the Ministry of Education through legislation, seminars, projects, etc. The two-part exam system (BA/MA) was introduced in 2005.

In Iceland, teacher training is being revised at national level, based on the new act that came into force in 2008. The new programme differs from the old one in several significant areas. For example, from 1 June 2011, all new teachers and other professionals trained in pedagogy must hold a five-year master's degree (300 ECTS points). Heavy emphasis is placed on quality enhancement and greater continuity in the teacher-training programme.

The latest reform in Norway (2003) was a consequence of the "quality reform" process in higher education, which introduced "management-by-objectives" thinking into teacher training. It also responded to the Bologna Declaration by means of organisational initiatives. The reform introduced a modular structure into teacher-training programmes.

The latest significant changes in Sweden (2007) can be attributed to the Bologna Process. Examination descriptions have been revised accordingly, and a clearer focus on expected learning outcomes has been introduced, including detailed descriptions of the learning outcomes students are expected to achieve in order to pass the examination.

3.4 Regulatory framework

This section provides an overview of the relevant current legislation, with regard to the degree to which the programmes are regulated by national legislation, and to what extent the individual institutions are able to determine their form and content. It reveals that the degree of control is largely determined by whether the programmes are part of the university system or not. Programmes that are subject to university legislation typically enjoy a greater degree of freedom than those that are not. However, it should be noted that all teacher-training programmes in Norway, irrespective of the nature of the institution, are subject to framework plans.

Table 3 presents an overview of regulatory documents relevant to teacher training in the five Nordic countries. In this context, regulatory documents include acts of parliament, executive orders, framework plans and similar national legislation.

Table 3: Overview of national regulatory documents for the Nordic teacher-training programmes

Country	Overview of national regulatory
Denmark	<p>Professional bachelor degree for teachers in primary and lower-secondary schools:</p> <p>Lov om uddannelsen til professionsbachelor som lærer i folkeskolen (Act on the professional bachelor degree for teachers in the Folkeskole, no. 579 of 9.06.2006)</p> <p>Bekendtgørelse om uddannelsen til professionsbachelor som lærer i folkeskolen (Executive Order on the professional bachelor degree for teachers in the Folkeskole, no. 219 of 12.03.2007)</p> <p>Bekendtgørelse om ændring af bekendtgørelse om uddannelsen til professionsbachelor som lærer i folkeskolen (Consolidation Act on the professional bachelor degree for teachers in the Folkeskole, no. 895 of 09.07.2007)</p> <p>Professional postgraduate teacher training for general upper-secondary schools (pædagogikumuddannelsen):</p> <p>Lov om pædagogikum i de gymnasiale uddannelser (Act on professional postgraduate teacher training for general upper-secondary schools, no. 475 of 17.06.2008, which comes into force 1 August 2009)</p> <p>Bekendtgørelse om undervisningskompetence i de gymnasiale uddannelser (Executive Order on teaching competences for upper-secondary schools, no. 1743 of 13.12.2006). New order issued in January 2009</p> <p>Pedagogic training for teachers in vocational colleges:</p> <p>Bekendtgørelse om den pædagogiske uddannelse af lærere ved erhvervsskolerne (pædagogikum) (Order containing provisions pertaining to the pedagogic training of teachers at vocational colleges, no. 677 of 12.07.1996)</p>
Finland	<p>Class-teacher and subject-teacher programmes:</p> <p>Universitetsloven (Universities Act, Finlex, 645/1997)</p> <p>Statsrådsforordning om universitetseksamer (Government Decree on University Degrees, Finlex, 794/2004)</p> <p>Pedagogic training for vocational teachers:</p> <p>Lov om erhvervspædagogisk læreruddannelse (Act on pedagogic training for vocational teachers, Finlex, 356/2003)</p> <p>Statsrådsforordning om erhvervspædagogisk læreruddannelse (Government Decree on pedagogic training for vocational teachers, Finlex, 357/2003)</p>

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Iceland	Lov om universiteter (The Higher Education Institution Act, 63/2006)
	Lov om offentlige universiteter (Act on Public Universities, 85/2008)
	Act on Accreditation of Higher Education Institutions according to Article 3 of Higher Education Act, no. 63/2006, no. 1067/2006
	Act on teacher education and certification in pre-schools, compulsory schools and in upper secondary schools, 87/2008
Norway	Lov om universiteter and højskoler (Act relating to universities and university colleges, 2005)
	Framework Plan for AMU (2003)
	Framework Plan for PPU (2003)
	Regulations governing the framework plan for the general teaching programme (2005)
Sweden	Regulations governing admission to universities and university colleges (2005)
	Högskolelag (Higher Education Act, no. 1992:1434)
	Högskoleförordning (Higher Education Ordinance, no: 1993:100)
	Examination description
	The annual regulation letters

Source: The national reports

The Danish programme for primary and lower-secondary schools is subject to detailed regulation. *Læreruddannelsesloven* (the Teaching Programme Act, 2006) describes its general purpose and overarching frameworks, including:

- duration
- subjects
- scope of the subjects
- rules governing students' choice of subjects
- the scope of the professional bachelor project and teacher training
- institutional base.

The executive order stipulates the purpose of the programme and describes its structure and individual subjects in detail. It also lays down general conditions for content, e.g. that individual institutions must make sure that students on common core subjects work on leading a class and address issues related to co-operation between the school and the home. In addition, the regulations cover:

- integration of information and communication technology
- incorporation of research results
- progression through the programme
- evaluation and documentation
- the interaction between common core subjects and main subject
- access requirements for main subjects
- compulsory attendance and participation
- examinations and assessment.

The newly adopted Danish Lov om en fælles pædagogikumordning for alle lærere i gymnasiale uddannelser (Act on professional postgraduate teacher training for general upper-secondary schools, 2008) stipulates the actual content of theoretical professional postgraduate teacher training, and sets rules for final examinations in accordance with the university's current curriculum. The order containing provisions pertaining to pedagogic training at vocational colleges (i.e. general/vocational professional postgraduate teacher training) stipulates the purpose and structure of the programme. The institution offering the theoretical part of the programme sets out detailed rules in the curriculum. The following must be included:

- A description of professional postgraduate teacher-training and one or more graduation models
- In-depth regulations about the content and structure of the theoretical part
- Guidelines for the school's planning and running of the practical part
- In-depth regulations about examinations and tests

The universities in Finland are autonomous and determine the content of their own programmes. No detailed plan exists for the Finnish teacher-training programme. Rather, universities and colleges that offer teacher training determine their own profile. The general frameworks for teacher training are determined by university legislation.

The two biggest Icelandic programmes are run by the state universities. Lov om offentlige universiteter (the Higher Education Institution Act, 2008) stipulates the form of the regulation and outlines rules for students and staff conditions. It does not specify the content of the studies. Individual institutions are currently allowed to determine their programme's form and content. However, this is set to change, as the Ministry of Education is drafting new guidelines for the content of teacher-training programmes.

In Norway, higher education is regulated through Lov om universiteter og højskoler (Act relating to universities and university colleges, 2005), and the framework plans are to a great extent decentralised. This entails a relatively high degree of autonomy for the institutions and for the teacher-training programme. Regulation is indirect, via control of the programme's financial framework. The relative freedom of individual institutions leads to major differences in programme content.

In Sweden, the examination description is laid down in national legislation and constitutes a central part of programme regulation. The programmes are not regulated at national level in terms of their content or organisation. In addition to the examination descriptions, the legislation also stipulates that each institution must have a special body responsible for both the teacher-training programme and associated research and researcher training.

3.5 Organisation

The organisation of teacher-training programmes varies greatly from country to country. In Denmark, teacher training is a four-year professional bachelor's degree for all primary and lower-secondary age groups (1–9 (10)). In Finland, it is a five-year master's degree, both for the younger years of primary and lower-secondary schools (1–6) and for the older ones (7–10). In Iceland, training for all age groups consists of a three-year bachelor degree, which from 2011 will become a five-year master's degree (MA). In Norway, the four-year general programme covers primary and lower-secondary level (1–10), while the practical/pedagogic programme covers the oldest age groups (7–10) and the post-compulsory programme (10–12). Swedish teacher training consists of one single programme for all ages, from pre-school to post-compulsory (0–12), in which students' choices of subjects determine the graduate teacher's own profile and specialisation.

In Denmark and Iceland, the primary and lower-secondary training consists of first-cycle programmes (C1). This is also the case in Sweden for teachers up to and including the youngest age groups. In Finland, teacher training for primary and lower-secondary schools consists of a second-cycle programme (C2), as will also be the case in Iceland from 2011. In Denmark and Finland, the programme for the older years consists of second-cycle programmes (C2). This is also the case in Sweden for primary and lower-secondary schools' older age groups, as well as for upper-secondary schools. As previously mentioned, it is not possible to fit the Norwegian programmes into the cycle system.

Teacher training for teachers of years 1–9.

Table 4 presents an overview of the way in which the Nordic countries organise training for teachers of years 1–9.

Table 4: Organisation of teacher-training programmes for teachers of years 1–9

	Denmark	Finland	Iceland	Norway	Sweden
Level	Professional BA	BA + MA	BA BA+MA (2011)	BA	Either BA or MA
Organisation	Integrated	Integrated	Integrated	Integrated	Integrated
School years	1–9 (10)	1–6 and 7–9	1–9 (10)	1–10	1–9
ECTS points	240 ECTS points	300 ECTS points	240/300 ECTS points	240 ECTS points	180–240 ECTS points
Institution	University college	University	University	College, univer- sity college, university	College, university
Cycle	C1	C2	C1 C2 (2011)	C1	C1 or C2

Source: The national reports

Danish teacher training consists of an all-round programme in which theoretical, pedagogic and practical elements are organised as an inte-

grated process. It is a four-year professional bachelor's degree based at university colleges.

Finnish teacher training consists of a five-year master's programme, during which the students sit a bachelor examination after three years (Bachelor of Education), and then a master's examination (Master of Education) two years later. Students must pass the master's examination in order to gain a teaching qualification. All teacher-training programmes include the module "Pedagogic Studies for Teachers" (60 ECTS points). This is a university programme, the core of which consists of general and subject-specific didactics.

In Iceland, the training for primary and lower-secondary school teachers has been a three-year university programme at bachelor level in recent decades. From 2011, teacher training will consist of a five-year master's programme (MA). The programme integrates theoretical, pedagogic and practical elements at both bachelor and master level.

The Norwegian general teaching programme lasts four years and is split into two parts, each of which lasts two years. The content of the first part is compulsory, but the second part is optional. The institutions are free to determine the allocation of the modules during the programme. Students are able to pass the bachelor degree after three years, but do not gain a teaching qualification until after year four. The programme is offered at colleges, university colleges and universities, and different modules can be taken at different institutions.

Although Sweden has just one teaching examination, it has different programmes for different age groups and types of teaching. The shortest study time is three years (vocational teacher), the longest is five-and-a-half years (social studies in the upper-secondary school). As mentioned, students have a great deal of freedom of choice. There are no prescribed study paths – instead, students determine their own programme profile by choosing a focus (*inriktning*) that leans towards either a particular subject or type of job. A profile can also be determined by the choice of specialisation. The programmes are based on integrated teaching in general educational areas, while the area of focus (*inriktning*) includes on-the-job teaching and exam work. The teacher-training programme runs at universities and colleges. Colleges may have active research environments, but they are not entitled to offer researcher training. Special colleges like the Royal College of Music in Stockholm also offer teacher-training programmes. Teacher-training programmes are integrated into colleges or universities in a variety of ways. Most of the old teacher-training colleges still operate as more or less cohesive units, but as the current training programme only includes one examination, it is not possible to identify a clear profile for the respective teacher-training programmes. In other words, it is not possible to say that pre-school teachers are only trained at colleges, or that upper-secondary teachers are only trained at universities. Teacher training for teachers of years 10–12

Table 5: Organisation of teacher-training programmes for teachers of years 10–12

	Denmark	Finland	Iceland	Norway	Sweden
Level	MA + professional post-graduate teacher-training	MA	BA + specialist course in pedagogy	BA, MA + specialist course in pedagogy	MA
Organisation	Consecutive	Integrated	Consecutive	Integrated and consecutive	Integrated
School years	10–12	10–12	10–12	10–12	10–12
ECTS points	300 ECTS points + 60 ECTS points	300 ECTS points	180 ECTS points + 60 ECTS points	Min. 180 ECTS points + 60 ECTS points	240–330 ECTS points
Institution	University	University	University	University	College, university
Cycle	C2+	C2	C1+	C1+ and C2+	C2

Source: The national reports

In Denmark, the upper-secondary programme consists of a master's degree (MA) from a university, followed by supplementary professional postgraduate teacher training. The professional postgraduate teacher-training programme is a specialist course in pedagogy. At present, the professional postgraduate teacher training takes the form of a paid educational post for master's graduates with a degree in one of the upper-secondary subjects. For master's graduates with only one subject, and for graduates who are not required to supplement their degree with a minor subject, the programme lasts for one year. The current programme is not quantified in terms of ECTS points. However, the new common professional postgraduate teacher-training programme for the upper-secondary sector, which comes into force on 1 August 2009, is prescribed to 60 ECTS points. The new postgraduate programme also involves a transition from employment in a probationary post to a permanent appointment. The theoretical part of the professional postgraduate programme will be taught at a university, while the practical part is provided by the place of employment.

In Finland, the subject-teacher programme qualifies graduates for teaching positions in the oldest age groups in primary and lower-secondary schools (7–9), as well as upper-secondary schools (10–12).

In Iceland, the upper-secondary programme is organised consecutively, and is divided into a bachelor programme in humanities (BA – first cycle, C1) or natural science (BSc – first cycle, C1), followed by a specialist course in pedagogy.

In Norway, the practical/pedagogic programme is organised consecutively, and consists of a minimum of a three-year bachelor programme followed by an additional one-year course. Individual institutions are allowed to determine the split between the pedagogic and vocational/didactic modules.

The Swedish programme for teachers of years 10–12 is outlined above.

Table 6: The vocational colleges. Organisation of teacher training for teachers of years 10–12

	Denmark	Finland	Iceland	Norway	Sweden
Level	Vocational programme, BA or MA + professional post-graduate teacher training, qualifying the graduate to teach years 10–12	Vocational programme + pedagogic studies	Vocational programme + specialist course in pedagogy	Vocational programme + BA (three-year vocational programme, or vocational programme + training college + PPU)	BA or MA
Organisation	Consecutive	Integrated	Consecutive	Consecutive	Integrated
School years	10–12	10–12	10–12	10–12	10–12
ECTS points	Varies + 30 ECTS points	Varies + 60 ECTS points	Varies + 60 ECTS points	240 ECTS points	180–330 ECTS points
Institution	University college	Vocational college, university	University	College, university college, university	College, university
Cycle	C1+ or C2+	C1 or C2	C1+		C1 or C2

Source: The national reports

In Denmark, the programme for vocational teachers is based on a vocational or an academic programme (BA, MA). General/vocational professional postgraduate teacher training is a sandwich course that allows students to switch between theoretical and practical elements. The programme is prescribed to 30 ECTS points, and the overall duration corresponds to 18 weeks (full time), although it is spread over 18 months. The theoretical part of the general/vocational professional postgraduate teacher training is taught at a university college (Danmarks Erhvervspædagogiske Læreruddannelse (DEL)), while the practical part is provided by the place of employment.

In Finland, pedagogic studies for teachers on the Finnish-language vocational-teacher programme are offered at vocational colleges. Swedish-speakers take the course at the Swedish-language university. All institutions are governed by a legislative framework, within which they are free to organise their own teacher-training programmes. However, these must include pedagogic studies corresponding to 60 ECTS points.

The Icelandic qualification for teachers in vocational colleges is a consecutive programme that consists of a master craftsman's qualification followed by a specialist university-level course in pedagogy, worth 60 ECTS.

In Norway, vocational and subject-teacher training falls within the frameworks of the practical/pedagogic programme. It consists of a minimum of a three-year subject-based programme followed by an additional one-year course. Individual institutions are allowed to determine the split between the pedagogic and vocational/didactic modules.

The Swedish vocational examination is not structured in the same way as the general examinations. The vocational teacher examination can be taken at both bachelor (first cycle, C1) and master's level (second cycle, C2).

3.6 Approval and other forms of quality assurance

This section describes the external quality-assurance procedures for teacher-training programmes in the Nordic Region, e.g. the accreditation of new and existing programmes, auditing, external examiner institutions and ministerial approval.

Recent Danish legislation stipulates that existing programmes aimed at years 1–9 (10) must be accredited according to pre-determined criteria before they are allowed to continue. All new courses will be subject to the same procedure. Quality enhancement plays a major role in Finnish university programmes, and is done at national level by the Finnish Higher Education Evaluation Council (FINHEEC). All Norwegian colleges and universities must have a satisfactory system of quality assurance that is regularly evaluated by the Norwegian Agency for Quality Assurance in Education (NOKUT). Sweden has developed systematic quality assurance under the supervision of the Swedish National Agency for Higher Education, which sets fixed procedures for the evaluation of subjects and programmes, and for internal quality-assurance work.

The table below presents an overview of approval and quality assurance for Nordic teacher-training programmes.

Table 7: Approval and quality assurance

	Accreditation			Quality-assurancesystem	External-examinesystem	Evaluation/audit	Authorisation of teachers
	Institution	Programme	Subject				
Denmark	No	Yes	No	Yes	Yes	Evaluation	No
Finland	No	(Yes)	No	Yes	-	Audit	No
Iceland	No	Yes	No	Yes	-	Evaluation	No
Norway	Yes	Yes	No	Yes	Yes	Evaluation	No
Sweden	No	No	No	Yes	-	Evaluation	No

Source: The national reports Accreditation

Denmark, Iceland and Norway have introduced accreditation for both new and existing programmes. The Finnish Ministry of Education grants permission to set up new programmes. Evaluations by the Swedish National Agency for Higher Education fulfil a similar function.

In Denmark, the Minister of Education is responsible for approving a university college's range of teaching programmes for years 1–9 (10), and also for approving the existing programmes after they have been accredited. There are two types of accreditation: of new programmes, and of existing ones. Accreditation of new programmes is done on the basis of an academic assessment of the need for and the relevance of the pro-

gramme and its range. Approval is granted on a fixed-term basis in order to meet demand in a particular geographical area. Accreditation of existing programmes evaluates the entire range of teacher-training programmes available during a given period. This work is carried out by external academic experts, and employs criteria based on considerations of quality and relevance. In the area covered by the Ministry of Education, the Danish Evaluation Institute (EVA) is responsible for all accreditation. In the area covered by the Ministry of Science, the work is done by ACE-Denmark's Academic Secretariat.

In Iceland, the same rules about state approval apply to both teacher-training programmes and universities. Universities receive approval on the basis of their subject areas and sub-departments. The Ministry of Education approves teacher-training programmes in the light of an external evaluation. This approval must be granted before the university can offer the programme.

Norwegian institutions are usually accredited by NOKUT. This is also the case for study programmes lasting longer than one year. Accredited institutions are allowed to make their own decisions about setting up and ceasing to offer courses included in teacher-training programmes. The general teaching programme, which is a separate degree that incorporates a BA, cannot be offered without permission.

Sweden has no explicit system for the accreditation of teacher-training programmes, but the Swedish National Agency for Higher Education serves a similar function, as it has the right to withdraw an institution's permission to set examinations. An institution may be granted up to one year to implement changes recommended by the Swedish National Agency for Higher Education. Should it fail to do so, the right to hold exams may be rescinded and the programmes cancelled. The Swedish National Agency for Higher Education conducts evaluations of the quality-assurance system at each institution, as well as evaluations of disciplines and areas. The evaluations are conducted at national level by external bodies.

Quality assurance

All of the Nordic countries have introduced quality-assurance systems for teacher-training programmes as per the European standards for quality assurance in higher education. In countries with accreditation processes for institutions and programmes, the accreditation criteria require institutions to introduce a quality policy and to implement an internal, institution-based quality-assurance system.

Institutions in Denmark must have in place a quality policy and an internal quality-assurance system that provides ongoing opportunities to assess programme objectives and make sure they are achieved. In Finland, quality-assurance work is done on an ongoing basis and takes into account current legislation and regulations, as well as the internal proc-

esses and policies at the individual universities and colleges. Iceland's quality-assurance methods are based on the universities' internal quality-control systems, which in turn are based on the Higher Education Institution Act.

External examiners

Each higher education programme in Denmark has a group of external examiners whose task is to contribute to overall quality assurance. In Norway, the external examiners help to ensure the objectivity of the exam evaluations, and the university and high-school sector work together on a common grading scale. The Databasen for statistik om højere uddannelse (the Higher Education Statistics Database, DBH) can also be used to compare each institution's grades with the national average. No information was available about external examination systems in Finland, Iceland and Norway.

Evaluation/auditing

In 2003, EVA in Denmark conducted an evaluation of teacher training based on the 1997 Act. The current programme, which came into force in 2007, will also be evaluated. A reference group set up by the Minister of Education has been commissioned to draw up an evaluation plan.

The Finnish Higher Education Evaluation Council (FINHEEC) conducts external evaluations of colleges, areas of education, policies, etc. Its current focus is on auditing the universities' and colleges' quality-assurance systems at departmental level.

Iceland has a three-year plan for external evaluation, as per the legislation on universities. The Ministry takes the initiative to conduct external evaluations of higher education programmes or institutions, and is responsible for approving new degrees.

In Norway, the Network Norway Council evaluated PPU in 2004, and NOKUT conducted an external evaluation of the general teaching programme in 2006.

In Sweden, the National Agency for Higher Education is responsible for quality assurance, which it does through evaluations of the quality of the teaching in a certain subject, as well as through evaluation of the respective institutions' quality-assurance work. Each subject, programme and quality-assurance system is assessed every six years.

Authorisation

At present, none of the Nordic countries has introduced licenses for individual teachers, but Sweden has proposed such a system and set up a committee to study its viability.

3.7 Formal qualification requirements for lecturers on teacher-training programmes

At present, the minimum qualification requirement for lecturers on Nordic teacher-training programmes is an academic degree at master's (MA) level. However, as the programmes become increasingly research-based, the clear trend is for the number of research-trained teachers (PhDs) on the programmes to rise. This is certainly the case in Finland, and is also expected to occur in Iceland in the future. In Norway, NOKUT has recommended that teacher-training programmes should consist of a minimum of 20% PhDs. In its 2008 evaluation, the Swedish National Agency for Higher Education recommended that at least 30% of lecturers on teacher-training programmes should have research qualifications.

3.8 Formal qualification requirements for graduate teachers in different parts of the school system

In Denmark and Iceland, the qualification requirement for teachers in primary and lower-secondary schools (1–9 (10)) is a bachelor or professional bachelor's degree. In Iceland, the requirement will be a master's degree (second cycle, C2) after 2011. In Norway, a successfully completed general teaching programme and, from 2008, 60 ECTS points in Norwegian, mathematics and English, is required for teaching years 8–10. This is also the case in Sweden for teachers of younger age groups in primary and lower-secondary schools. In Finland, the qualification requirement is a master's degree (second cycle, C2) for the oldest years in primary and lower-secondary schools, while in Sweden the requirement is an exam at an advanced level that corresponds to C2.

In Iceland and Norway, the qualification requirement for teachers in upper-secondary schools is a bachelor or master's degree with a subsequent specialist course in pedagogy. In Denmark the requirement is a master's degree with a subsequent specialist course in pedagogy. A master's degree is required in Finland and Sweden.

The qualification requirements for teachers on Nordic vocational programmes may be a vocational degree, a bachelor degree or a master's degree, all of which must be supplemented by a specialist course in pedagogy lasting 6–12 months.

4. Student characteristics and recruitment

This chapter deals with the students, i.e. how many apply for teacher training in the Nordic countries, and their demographic make-up. The main focus is on recruitment and the students' backgrounds. The chapter also describes the admission requirements for the programmes, drop-out/retention rates and the time taken to complete the course of study.

4.1 Chapter summary

Recruitment and recruitment patterns

In general, the number of applicants to Nordic teacher-training programmes has fallen in recent years. Finland differs from the other Nordic countries in that levels of recruitment are stable and considered satisfactory. However, there remains a shortage of teachers in several subject areas, especially mathematics and natural-science subjects.

During the period 2003–2007, Denmark and Iceland suffered the biggest drops in applications courses for teachers taking years 1–9 (10) – 35% and 45% respectively. In Iceland, the fall is partly explained by the fact that students have greater choice – there are now more university programmes to choose between than ever before.

Norway has also been hit by a significant drop in the number of applications to the general teaching programme. On the other hand, interest in the subject-teacher programme has increased. Geography is also a factor, as most applications are for institutions in major cities, while more remote institutions have experienced sharp falls. The low number of applications may lead to an increasing shortage of teachers, a problem that some of the other Nordic countries are also expected to face.

Norway is markedly different from Denmark and Iceland in the sense that a significantly lower proportion of applicants stipulate teacher training as their first priority. In Norway, this group constituted 35% of total applicants in 2007, compared to 46% in Denmark and 68% in Iceland.

In Sweden, the number of applicants fell by 4% in the period 2003–2007. However, this figure does not reflect the major variations in the different study paths.

Several initiatives have been launched to increase the number of applications to teacher training. In Denmark, the meritlærerprogrammer ((accelerated) primary and lower-secondary teacher-training programme with award of credit for prior learning) was set up in 2002. The Ministry

of Education is also currently setting up a supplementary teacher-training programme, one aim of which is to increase the recruiting base. In Iceland, a new university programme has been introduced for teachers.

4.1.1 Admission requirements and entry levels

The Nordic countries generally require applicants to have successfully completed post-compulsory schooling in order to be admitted to training programmes for teachers taking years 1–9 (10). When the number of applications exceeds the number of places, it is usually students with the best grade-point average that are accepted. In both Denmark and Sweden, specific grade-point average requirements apply in a number of specialist subjects. Finland is the only country to have admission examinations. The individual universities determine the number and form of these examinations.

In Denmark, there has recently been a fall in the grade-point average requirement for programmes for teachers taking years 1–9 (10). In addition, the entry level is often considered not to be particularly high. The majority of those admitted to teacher training in Denmark have an ordinary upper-secondary qualification. This is also the case in Finland, although the special entrance examinations organised by the institutions, combined with the popularity of teacher training and the large numbers of applications, mean that the entry level for teacher training is considered to be relatively high. The entry level in Norway is considered low, particularly for the general teaching programme, but also for the practical/pedagogic programme. No information is available about entry levels in Sweden and Iceland.

Students' backgrounds

The typical student on Nordic programmes for teachers taking years 1–9 (10) is a woman aged 25+. Women do not dominate to the same extent on programmes for teachers taking years 10–12.

Based on the available data, it is not possible to reach any general conclusions about the number of students from other ethnic backgrounds on programmes for teachers taking years 1–9 (10). However, it seems that a smaller proportion of people from other ethnic backgrounds apply for teacher training than for higher education in general.

Completion time, retention rates and drop-out points

In Iceland and Sweden, a sizeable proportion of students complete their teacher-training programmes. Those who do drop out typically do so in the first year of their studies, usually to change to a different course. However, drop-out rates are relatively high in Norway and Denmark – again, usually in the first year. One explanation for the high drop-out rate in these two countries is that it may be a consequence of falling entry requirements. The high drop-out rate, combined with the fall in applica-

tions, may lead to an increased shortage of teachers in these two countries in the next few years.

4.2 Recruitment patterns 2003–2007

This section takes a closer look at recruitment to Nordic teacher-training programmes in the period 2003–2007.

The number of applications to programmes for teachers taking years 1–9 and 10–12 in Sweden are considered together, as the two areas cannot be clearly delineated. Finland is not included in the table, as data only exists for 2005 and 2007. However, the national report from Finland shows that applications to teacher training are satisfactory and relatively stable – e.g. the class-teacher programme had 6,296 applicants in 2007, but only 892 (14%) were admitted.

The table below shows the total number of applicants; the number of applicants who made teacher training their first priority; and the numbers admitted to teacher-training programmes for teachers taking years 1–9 (10) in Denmark, Iceland and Norway.

Table 8: Number of applicants and admissions to teacher-training programmes for teachers taking years 1–9 (10) in Denmark, Iceland and Norway, 2003–2007

Year	Denmark			Iceland			Norway		
	Applicants	Applicants with teaching as first priority	Admissions	Applicants	Applicants with teaching as first priority	Admissions	Applicants	Applicants with teaching as first priority	Admissions
2003	9,924	4,872	4,314	711	-	-	10,276	3,887	3,032
2004	9,299	4,663	4,175	620	443	300	10,404	3,934	3,048
2005	8,373	4,047	3,810	480	325	223	9,517	3,453	2,265
2006	7,358	3,559	3,479	419	291	263	9,716	3,659	2,308
2007	6,337	2,954	2,896	392	266	334	8,736	3,063	2,013

Source: The national reports

In general, Denmark, Iceland and Norway are all characterised by a decline in the number of applicants. Iceland differs from Denmark and Norway in that the number of admissions has not fallen in line with the fall in the number of applicants.

As shown in the table above, the number of applicants to programmes for teachers taking years 1–9 (10) in Denmark has fallen by 36% – from 9,924 applicants in 2003 to 6,337 in 2007. The number fell by 1,015 applicants between 2005 and 2006, and by 1,021 from 2006 to 2007. In the same period, the number of admissions fell by 33% – from 4,314 in 2003 to 2,896 in 2007. Applicants who chose teacher training as their first priority accounted for between 46% and 50% of the total applicants. This figure has

fallen slightly in recent years, from 49% in 2003 to 46% in 2007, and fell by a total of approximately 39% over the period 2003–2007.

In Iceland, the number of applicants fell by 45% between 2003 and 2007. However, there are still more applicants than there are places. In 2004, there were more than twice as many applicants as places, while in 2007 there were only 17% more applicants than places. One explanation for the decline in applicant numbers is that the range of available university programmes has expanded in recent years. The number of applicants who chose teacher training as their first priority fell by approximately 37% in the period 2004–2007. This group constitutes between 67% and 71% of the total number of applicants. From 2004 to 2007, the proportion of applicants who chose teacher training as their first priority fell from 71% to 68%. The number of admissions in the period 2004–2007 varies considerably. From 2004 to 2005, the number fell by approx. 26%, but rose by 11% between 2004 and 2007.

In Norway, the number of applicants in the period 2003–2007 fell from 10,276 to 8,736, down approx. 15%. The fall in the number of applicants should be seen in relation to the fact that this period saw an overall increase in the number of applicants to higher education. Applicants who chose teacher training as their first priority accounted for between 35% and 38% of the total number of applicants in the period 2003–2007. The number of admissions also fell in the period 2003–2007. There were 3,032 admissions in 2003, while in 2007 the number was 2,013, a fall of approximately 37%. Although applications to the general programme have declined rapidly in recent years, the number of applicants to the subject-teacher and pre-school programmes has increased during the same period. This suggests that the general programme has lost much of its former attractiveness, but that its decline has benefited the more specialised programmes.

No national statistics were available for the number of applications to training programmes for teachers taking years 10–12. Admissions, however, have remained stable. In Iceland, the number of applications to programmes for years 10–12 fell significantly – by 40% in the period 2003 to 2006. In 2003 there were 327 applicants, while in 2006 the number was 195. However, between 2006 and 2007, the number of applicants rose from 195 to 279, an increase of 43%, which would suggest that the tide is turning.

Table 9: Number of applicants and admissions to teacher-training programmes for teachers taking years 1–12 in Sweden, 2003–2007

Year	Applicants	Applicants who stipulated teacher-training as their first choice	Admissions
2003	18,491	14,263	10,979
2004	19,370	14,937	10,584
2005	19,613	15,276	10,733
2006	18,317	13,875	10,252
2007	17,721	11,640	9,816

Source: The Swedish national report

In Sweden, the number of applicants in the period 2003–2007 fell from 18,491 to 17,721, a fall of approx. 4%. However, applicant numbers rose by 6% during the period 2003–2005, while there was a fall of approx. 10% in the period 2005–2007. In Sweden, the proportion of applicants whose first choice was teacher training fell by approximately 19% in the period 2003–2007. In relation to the total number of applicants, those who stipulated teacher training as their first choice accounted for between 65% and 78%. In 2003 this proportion was 77%, while in 2007 it was 65%.

Sweden has a teacher shortage in several subjects – particularly mathematics and natural sciences – and is currently making efforts to solve the problem. The number of admissions fell by 11% in the period 2003–2007. In general, there was approximately one applicant per place, although there were major differences between the various programmes. For example, there were approx. four applicants for each place on the pre-school programme, but significantly fewer for other programmes. However, a strong expansion in the number of places on teacher-training programmes in recent years has led to a decline in the ratio of applicants to places.

4.3 Admission requirements and entry level

This section will look in greater depth at the formal admission requirements for Nordic teacher-training programmes. It also describes trends in the students' entry level in terms of their grade-point average and educational background. The formal admission requirements are illustrated in relation to the following points:

- Qualifying examination
- Grade-point average (according to the ECTS scale)
- Specific level requirements (e.g. mathematics)

Admission requirements

A degree of similarity exists between the individual Nordic countries' admission requirements. Table 8 provides an overview of the requirements for programmes for teachers taking years 1–9 (10).

Table 10: Admission requirements for the teacher-training programmes for teachers taking years 1–9 (10)

	Denmark	Finland	Iceland	Norway	Sweden
Educational background	Post-compulsory schooling qualification	Post-compulsory schooling qualification or three-year advanced vocational programme	Post-compulsory schooling qualification	Post-compulsory schooling qualification	Post-compulsory schooling qualification
National minimum requirement (grade-point average, etc.)	No*	No	No*	Yes: minimum 35 school points	Yes
Requirement for level and/or grade-point average in certain subjects	Yes: requirement for grade-point average and levels, in relation to admission to the main subjects	-	-	Yes: requirement for grade-point average in Norwegian and mathematics	Yes: requirement to have passed all subjects in the chosen teaching programme
Alternative admission paths	Yes: quota 2 (overall assessment of the applicants' qualifications)	Yes: admission after assessment of prior learning ('real competences')	Yes	Yes: potential admission after assessment of prior learning (at the institution's discretion)	-
Admission examinations	No	Yes	No	No	No

Source: The national reports

* If there are more applicants than places, then applicants are admitted on the basis of their grade-point average.

Overall, admission to a Nordic training programme for teachers taking years 1–9 (10) requires a post-compulsory schooling qualification. In cases where the number of applicants exceeds the number of places, students are usually admitted on the basis of their grade-point average.

In addition, in Denmark and Sweden, specific grade-point average requirements apply depending on the student's choice of specialist subject. Sweden offers eight different subjects within each programme, while Denmark offers two to three. Norway requires a grade-point average in two subjects – Norwegian and maths – as well as an overall grade-point average.

Finland is the only country to hold admission tests. The individual universities determine the number and form of the examinations. Norway is currently considering introducing applicant interviews as part of its admission procedure.

Entry level

A study in Denmark revealed a decline in the grades needed for admission to the programme for teaching years 1–9 (10). In 1990, the average grade needed, as calculated on the 13-point scale, was 8.2. By 2004 this figure had fallen to 8.0.

At the same time, the number of students with grades of 7.5 or lower has risen from 18% to 25%, while the proportion with a grade of 8.5 or over has fallen from 26% to 20%. The level of the student teachers' competences can therefore be said to be falling marginally.

The majority of those admitted to the Danish teacher-training programme have a general upper-secondary qualification. However, between 1990 and 2004, this proportion has fallen by almost 20% – from 73.4% to 53.8%. An increasingly large proportion of those admitted have a vocational upper-secondary qualification or a vocational-academic qualification. In 2004, 13.8% had a vocational upper-secondary qualification, compared to 6.5% in 1990. In 2004, 15.5% had completed a vocational-academic qualification, compared to 7.1% in 1990.

In Finland, the majority of student teachers have a general upper-secondary qualification, i.e. the national leaving certificate. The special admission tests, which are organised by the institutions themselves, combined with the popularity of the teacher-training programme and the high numbers of applicants, mean that the entry level for the programme is considered relatively high.

In Norway, the entry level is low, particularly for students on the general teaching programme, but also for those on the practical/pedagogic programme. As early as the late 1980s, student teachers' study skills were generally assessed to be low. It was hoped that the entry level would rise with the introduction of new admission requirements – i.e. a minimum grade-point average of 3.5, which must incorporate scores of 3.0 or higher in Norwegian and mathematics. However, a recent report shows that 22% of applicants to the general teaching programme have lower grades than the minimum requirement. This presents a problem with regard to future teacher shortages in Norway. The new requirements may also lead to a fall in the number of applications for teacher-training programmes, as at present a relatively large number of applicants do not fulfil these requirements.

No information is available about entry levels in Sweden and Iceland.

4.4 Students' backgrounds

The typical student on Nordic programmes for teachers taking years 1–9 (10) is a woman aged 25+. Women do not dominate to the same extent on programmes for teachers taking years 10–12.

Based on the available data, it is not possible to reach any general conclusions about the number of students from other ethnic backgrounds on programmes for teachers taking years 1–9 (10). However, it seems that a smaller proportion of people from other ethnic backgrounds apply for teacher training than for higher education in general.

Gender

Table 11 presents the gender differences on training programmes for teachers taking years 1–9 (10) in 2007.

Table 11: Gender differences on teacher-training programmes in 2007 (%)

Level	Year	Women	Men
Year (1–9)	Denmark	65	35
	Norway	71	29
	Iceland	84	16
	Sweden*	76	24
	Finland	-	-

Source: The national reports

* The figures from Sweden cover programmes for years 1–9 and for years 10–12.

Finland does not generate data about gender in teacher training. However, figures show that the proportion of male students on the Finnish-speaking programme for class teachers was approximately 23% in 2007. This suggests that the Finnish programmes are also characterised by a preponderance of female students.

As the table shows, women are heavily represented on the programmes for teachers taking years 1–9 (10). The proportion varies, from 65% in Denmark to 84% in Iceland. The split between men and women on Nordic teacher-training programmes has remained relatively constant in the period 2003–2007.

In general, the gender split on Swedish teacher-training programmes is 76% women, 24% men. However, studies have identified differences between programmes. The proportion of female students on pre-school and first-grade programmes is even higher – 91% of those admitted in 2007 were women. However, the teaching programme aimed at years 7–9 was characterised by a preponderance of male students – 67% were men.

On the programmes for teachers taking years 10–12, the gender split was generally more even. In Norway, the proportion of women was 60% in 2007, compared to 71% on the programme for years 1–9. The corresponding figures for Iceland were 67%, compared to 84%.

No data is available about the gender split on Danish programmes for teachers taking years 10–12.

Ethnic background

In Denmark, the proportion of people with an ethnic background other than Danish in the primary and lower-secondary programmes was 6% in

2005 and 7% in both 2003 and 2004. It has not been possible to procure figures for programmes for teachers taking years 10–12.

In Norway, the number of students from an ethnic background other than Norwegian admitted to the teacher-training programme was 4.5% in 2003. The average figure for higher education in Norway varies from 7.5 to 8.6% – i.e. teacher training is characterised by a lower than average representation of people from other ethnic backgrounds.

In Sweden, the number of students from ethnic backgrounds other than Swedish admitted to all programmes in 2004/2005 was approximately 12%. In 2006/2007 the corresponding figure was 16%. For teacher training, the figure was 16% in 2005/2006, but this fell to 13% in 2006/2007.

Corresponding data is not available from Finland and Iceland.

Average ages

In Denmark in 2006, the average age of students at the beginning of the programme for teachers taking years 1–9 (10) was 25.5. This figure has fallen slightly, from 26.4.

No national figures are available for average student ages in Iceland. However, the Department of Education at the University of Iceland, which is responsible for the majority of the teacher-training programmes, records the ages of all students. A typical student who commences a teacher-training programme on bachelor level (C1) is 25–29. The exact figure varies according to the programme. The average age on master's (C2) and PhD level (C3) is higher.

In Norway in 2007, the average starting age was 27.9 on the general teaching programme. This figure has remained relatively stable in Norway – in 1985 it was 28.4, while in 2007 the figure was 27.9.

It has not been possible to procure figures about the average starting age of students in Sweden. On the other hand, national reports suggest that approximately half of those admitted to a teacher-training programme are under 25, and approximately 12% are over 40.

National studies about the average starting age of student teachers in Finland were not available.

4.5 Completion time, retention and drop-out rates

This section looks in greater detail at completion times and drop-out rates. The description that follows is based on Denmark, Norway and Sweden, as no corresponding national studies have been made in Finland and Iceland.

Overall, there is great variation between the Nordic countries in relation to the proportion of student teachers who complete their teacher-

training programmes. Norway and Denmark have the highest drop-out rates (approx. 35%), while Iceland has the lowest (approx. 20%).

In Denmark, the drop-out rate for teachers at primary and lower-secondary school level is a significant problem. A new study of the Danish professional programmes conducted by the Danish Institute of Governmental Research (AKF) shows that completion rates in the period 1990–2006 fell from 85% to 70% for women, and from 79% to 55% for men. In 2006, the average completion rate for all students was 65%. The study also showed that of those who interrupted their programmes, only 32% were studying something else 15 months later. Of all the professional programmes in Denmark, teacher training has suffered the biggest drop in completion rates. Explanations for this include a fall in academic requirements; the relatively high starting age; lack of coherence between theory and practice; insufficient dialogue during lectures; and not enough personal feedback from lectures.

Iceland does not collate national figures for drop-out rates, so the following is based on IUP. The drop-out rate increased during the period 2002–2006. In 2002 it was approximately 6%, but rose to approximately 20% by 2006. The highest drop-out rate is found among distance-learning students. However, the drop-out rate for teacher-training programmes is lower than for the university as a whole. The general impression is that the majority of those who drop out do so during the first semester.

Within the timeframe of this study, it was not possible to elicit national figures for completion and drop-out rates in Norway. As a result, the following description is based on a variety of studies. The drop-out rate on the general teaching programme is relatively high (35%). Studies show that students tend to drop out in the initial phase of the teacher-training programme. One in five students drops out during first year. Just over half of those who drop out go on to study something else.

Of those who complete their studies, only 40% do so in the prescribed time (four years), while 22% take an extra year. The completion percentage is higher for women (50.9%) than for men (42.5%).

A 2006 study shows that the students' grade-point average at the time of admission has the greatest bearing on the probability of completing a teacher-training programme. The higher the grade-point average, the greater the likelihood that the programme will be completed. It also revealed that parents' educational backgrounds play a role in relation to drop-out rates. Students are more likely to complete teacher training if they have parents with academic backgrounds. Another factor is the institution itself. Students with low grade-point averages who opt for teacher-training programmes at a university are more likely to drop out than those who take a programme at a college.

The drop-out rate on teacher-training programmes in Sweden in the period 2001–2005 was approx. 23%. Studies show that 57% of those who drop out do so in first year. It is estimated that approximately four out of 10 of these go on to take higher education in another subject, and two out of 10 go on to work as teachers.

5. Structure of the teacher-training programmes

This chapter describes the purpose of the Nordic teacher-training programmes, the organisation of the subjects, the institutions at which they are based, their content and the links between theory and practice. The comparison will be based on “the four pillars” upon which the programmes are built – main subject, subject-specific didactics, pedagogic subject and teaching practice.

5.1 Chapter summary

Overall purpose

Denmark, Iceland and Norway have specific statutory objectives for the training programmes for teachers taking years 1–9 (10). Finland and Sweden have broader statutory objectives, partly because their teacher-training programmes are integrated university programmes and must therefore comply with the overall objectives of university and college legislation. However, both Finland and Sweden have drafted supplementary outlines of the overall objectives for their teacher-training programmes.

All of the Nordic programmes, except Denmark’s, are described on the basis of their learning outcomes, as per the European objective of specifying outcomes for all programmes. In Denmark, learning outcomes will be integrated at the first possible opportunity.

Denmark is currently engaged in integrating learning outcomes into a revision of the executive order for the programme for years 1–9 (10).

Structure and content

The Nordic training programmes for teachers of years 1–9 are structured very differently. What they have in common is that they all consist of the following three basic elements: main subject, pedagogic subject and teaching practice. However, they are not necessarily defined as separate areas.

The programmes vary from 180 to 330 ECTS points. In Denmark and Norway, the programmes last for four years and are on bachelor level (first cycle, C1). In Finland, the programme lasts for five years on master’s level (second cycle, C2), which will also be the case in Iceland from 2011. In Sweden, the length of the programme depends on the target age group – the programme for those who wish to teach younger pupils is shorter than the programme for older pupils. With a few exceptions, most

of the Nordic programmes for years 1–9 (10) are integrated programmes. With regard to the compulsory and optional parts of the programmes, the students' opportunities to organise their own programmes vary between the countries.

The scope, placing and content of the main subjects

The scope and content of the main subjects varies greatly. Danish training focuses on the development of specific competences in specific subjects, while the Finnish and Norwegian general and class-teacher programmes focus on broader competences that enable the teacher to teach many subjects.

Iceland offers a large number of optional subjects, of which a minimum of eight must be taken. With regard to its focus on broad competences, Iceland is very much like Finland. This is also the case in Sweden – optional subjects are chosen in relation to the school age group in which the student specialises, but the student is also expected to be able to teach several subjects at these levels.

The scope, placing and content of subject-specific didactics

In general, all of the Nordic programmes stress the importance of subject-specific didactics and have integrated didactics into the main subjects. The purpose of stressing subject-specific didactics is to equip students with the necessary competences required to become good teachers of their main subjects.

The scope, placing and content of the pedagogic subjects

The scope of the pedagogic subjects varies between the Nordic countries. In Finland, the pedagogic subjects are worth a minimum of 120 ECTS points for class teachers, and 60 ECTS points for the subject-teacher programme (if the main subject is pedagogics, this figure is 120 ECTS points). The Danish and Norwegian teacher-training programmes are prescribed to 33 ECTS points and 30 ECTS points respectively.

The scope, placing and content of teaching practice

The structure and form of teaching practice varies between the countries. Denmark places highly specific requirements on teaching practice, and it is inserted at regular intervals throughout the programme. In Finland, teaching practice takes place at practice schools affiliated to the universities. In Iceland, each term may include an element of teaching practice, but this is not organised in the same way in all of the main subjects. Teaching practice is always a part of a longer programme. In Norway, teaching practice is also regularly integrated throughout the whole study process, although the institutions develop their own implementation plans, which means there are major variations. In Sweden, everybody associated with the teaching, both in the general programme area and in the selected focus area, participates in on-the-job teaching. Except for a

few minor variations, the purpose of teaching practice is more or less the same across all of the Nordic teacher-training programmes – i.e. to build up pedagogic competences through practice and the application of didactic and academic knowledge.

Link between theory and practice

All of the Nordic teacher-training programmes stress the importance of establishing links between theory and practice. In Denmark, this is done by strengthening teaching practice in such a way that it provides students with practical skills for preparing, running and evaluating their teaching. The objective is that practice should be incorporated into the teaching, and that theory should be linked to the teaching practice. A written bachelor project has also been introduced, which must be based on a subject related to the pedagogic subject. In Finland, theory and practice are linked by requiring students to apply their research-based knowledge in specific teaching situations. Iceland establishes the link through the students' participation in teaching practice, e.g. by involving them in both the planning stages and the actual teaching. The students are required to apply their academic knowledge to the observation and study of teaching practice. The Norwegian teacher-training programme contains framework plans for linking theory and practice through assignments and documentation requirements. Sweden does not have a national framework for linking theory and practice, so local variations occur.

5.2 Overall purpose of the teacher-training programmes

Table 12 shows whether the teacher training in all five Nordic countries has an overall purpose, whether learning outcomes are described for the programmes, and whether these are related to first- (C1) and second-cycle (C2) levels.

Tabek 12: Overall purpose of the teacher-training programmes

	Overall purpose	Description of learning outcomes	Description of learning outcomes related to C1 and C2
Denmark			
Primary and lower secondary	Yes	No	No
Upper secondary	Yes	No	No
Vocational programme	Yes	No	No
Finland			
Primary and lower secondary	Yes	Yes	Yes
Upper secondary	Yes	Yes	Yes
Vocational programme	Yes	Yes	No
Iceland			
Primary and lower secondary	Yes	Yes	Yes
Upper secondary	-	Yes	Yes
Vocational programme	-	Yes	No
Norway			
Primary and lower secondary	Yes	Yes	No
Upper secondary	Yes	Yes	No
Vocational programme	Yes	Yes	No
Sweden			
Primary and lower secondary	Yes	Yes	Yes
Upper secondary	Yes	Yes	Yes
Vocational programme	Yes	Yes	Yes

Source: The national reports

Note that Denmark does not have an actual programme for training teachers for upper-secondary schools. Upon successful completion of a master's degree (second cycle, C2), graduates who have also taken a specialist course in pedagogy are entitled to teach in upper-secondary schools. Source: the national reports

It is worth noting that Denmark does not have an actual teacher programme. After completing a Master's programme (Second cycle, C2), you can be granted competence to teach in the upper secondary school by a specialist course in pedagogy.

As the table shows, Denmark, Iceland and Norway have specific statutory objectives for primary and lower-secondary programmes. Finland and Sweden have broader objectives, partly because their teacher-training programmes are integrated university programmes and comply with the overall objectives of university and college legislation. Sweden has supplemented the overall objectives contained in its university and college legislation with specific statutory objectives for teacher training.

With the exception of Denmark, all of the Nordic countries have drawn up descriptions of their learning outcomes. In Denmark, these descriptions will be drawn up when the executive order for training programmes for teaching years 1–9 (10) is revised.

5.3 Content

The Nordic training programmes for teachers in primary and lower secondary schools are structured very differently. What they have in common is that they all consist of the following three basic elements: main subject, pedagogic subject and teaching practice. However, they are not necessarily defined as separate areas, which makes direct comparison difficult.

The programmes vary from 180 to 330 ECTS points. In Denmark and Norway, the programmes last for four years and are on bachelor level

(first cycle, C1). In Finland, the programme lasts for five years on master's level (second cycle, C2), which will also be the case in Iceland from 2011. In Sweden, the length of the programme depends on the target age group – the programme for those who wish to teach younger pupils is shorter than the programme for older pupils.

More specific differences between the individual basic elements are described in the following section.

Compulsory and optional subjects for teaching years 1–9 (10)

The split between compulsory and optional elements of the programme varies greatly between the countries. Students have the choice of a number of optional subjects/courses.

In Denmark, the training programme for teaching years 1–9 (10) is prescribed to 240 ECTS points and can be divided up into five blocks of varying sizes:

- Main subject (144 ECTS points)
 - 72 ECTS points: Danish, mathematics, common-core natural sciences (one of which is compulsory), English, history and physical education
 - 36 ECTS points: visual arts, biology, Danish as a second language, French, geography, home economics, Christian studies/religion, material design, music, social studies, special-needs education and German
- Teaching practice (36 ECTS points)
- Pedagogic subject (33 ECTS points)
 - General didactics
 - Psychology
 - Pedagogics
- Other common core subjects (17 ECTS points)
 - Christian studies/philosophy of life/citizenship
- Bachelor assignment (10 ECTS points).

As regards freedom of choice in Danish teacher training, one main subject (*linjefag*) and all other subjects are compulsory, and have defined national learning outcomes. Students have a choice of two or three other main subjects (*linjefag*). The first one is compulsory – students choose between Danish (beginner and intermediate level, or intermediate and final level), mathematics (beginner and intermediate level, or intermediate and final level), and common core natural sciences as an introduction to nature/technology and physics/chemistry. The remaining main subject(s) (*linjefag*) are chosen freely. If the student opts for both age groups in Danish or mathematics, this is prescribed to 108 ECTS points. This is also the case if students choose both nature/technology and physics/chemistry, meaning that there is only room for one more main subject (*linjefag*) with a weighting of 36 ECTS points.

Overall, Finnish teacher-training programmes consist of major and minor subjects. The major for the class-teacher programme is pedagogics, while for the subject-teacher programme it is usually a specialist subject. Both programmes are prescribed to 300 ECTS points. The compulsory part of both the class- and subject-teacher programmes varies. This is due to the fact that the programmes offer considerable freedom of choice, even though there are a number of overarching areas in which students must choose subjects. Minimum ECTS requirements also apply within the different areas. The individual universities determine the range of subjects within these areas.

The overarching areas in the class-teacher programme consist of:

- Pedagogics (min. 120 ECTS points, of which 60 ECTS points must be within the area “pedagogic studies for teachers”)
- Primary and lower-secondary school subjects and whole subjects (min. 60 ECTS points)
- Minor subject (min. 25 ECTS points)
- Communications studies and optional studies (min. 35 ECTS points)
- Bachelor assignment (min. 6 ECTS points)
- Thesis (min. 20 ECTS points).

The overarching areas in the subject-teacher programme consist of:

- Major subject (120–150 ECTS points, of which the bachelor assignment accounts for 6–10 ECTS points, and the thesis for 20–40 ECTS points)
 - Minor subject (25–90 ECTS points)
- Pedagogic studies for teachers (min. 60 ECTS points)
- Communications studies and optional studies (min. 35 ECTS points).

Iceland does not have national descriptions of its programme structure. The following description is based on the teacher-training programme at the Department of Education at the University of Iceland.

The teacher-training programme on bachelor level (first cycle, C1) is prescribed to 180 ECTS points and consists of:

- Major subject – specialisation (66 ECTS points)
 - choice of 14 subjects)
- Teaching practice (24 ECTS points)
- Other common core subjects
 - General basic courses – methodology, writing, etc. (20 ECTS points)
 - General didactics (20 ECTS points)

- Optional subjects (20 ECTS points – 5 subjects at 4 ECTS points each)
- Pedagogic subject
 - Pedagogic psychology (10 ECTS points)
 - Pedagogic philosophy/sociology (10 ECTS points)
- Bachelor assignment (10 ECTS points).

At master's level (second cycle, C2), the programme is prescribed to 120 ECTS points and consists of:

- Research methodology (10 ECTS points)
- Pedagogic psychology/sociology/philosophy (20 ECTS points)
- Specialisation in subject/topics (60 ECTS points – choice of different subjects)
- Optional subject (10 ECTS points)
- Thesis (20 ECTS points).

In Norway, each institution develops its own range of subjects, which are adapted to local needs and resources. The structure of the general teaching programme therefore varies from place to place. It is prescribed to 240 ECTS points and consists of:

- Optional subject in a school-relevant subject (120 ECTS points – including a minimum of 60 ECTS points in primary and lower-secondary subjects)
- Major subjects – Norwegian and mathematics (60 ECTS points)
- Pedagogic subject (30 ECTS points)
- Other common core subjects (30 ECTS points)
 - Religion, life and ethics
 - Basic reading, writing and arithmetic skills and teaching practice.

All subjects on the Norwegian practical/pedagogic programme for teaching years 7–12 are compulsory. This is a consecutive programme taken as a supplement to a bachelor (first cycle, C1) or master's (second cycle, C2).

Unlike the other Nordic countries, students in Sweden put together large parts of the teacher-training programme themselves. The programme's value varies from 180 to 330 ECTS points depending on the area of focus (*inriktning*). The teaching in the general programme area and the teaching practice are compulsory, and prescribed to 105 ECTS points. The general programme area covers all generic teaching competences and is spread over three semesters.

The great degree of freedom of choice in Sweden means that, at least in principle, there are 397 examinations, depending on the focus areas (*in-*

riktning) and specialisations chosen. However, students must devote a minimum of 75 ECTS points to their focus area (inriktning) and specialisation.

Teacher training for post-compulsory schooling

In this report, training for teachers in post-compulsory schooling (years 10–12) in Norway and Sweden is considered part of the programme for primary and lower-secondary schools, as it is not possible to make a distinct delineation between the two areas in these countries.

In Denmark, there are two programmes for post-compulsory schooling: professional postgraduate training for upper-secondary programmes, and the pedagogic programme for teachers in vocational colleges. The current programmes are structured as advanced pedagogic courses that supplement successfully completed teacher-training programmes. The structure of the two supplementary courses is different, even though both consist solely of compulsory subjects. Under the current curriculum, posts on general upper-secondary and higher-preparatory level are probationary, and graduates are employed by the institution where the teaching practice takes place. Vocational upper-secondary schools and vocational colleges appoint graduates and then send them on professional postgraduate programmes in pedagogics. From 1 August 2009, the new professional postgraduate programme comes into force, and will apply to newly appointed teachers in both the vocational upper-secondary and the general upper-secondary area. Professional postgraduate teacher training lasts one year and presupposes a full-time post at a teaching institution.

In Finland, the programme for teachers at vocational schools differs from the other teacher-training programmes in that it is taught at a vocational college. The programme is prescribed to 60 ECTS points, all of which are compulsory. The Swedish-language vocational teacher programme in Finland is run by the Swedish university.

In Iceland the teacher-training programme for teaching at upper-secondary level is prescribed to 60 ECTS points, of which 30 are compulsory. The programme presupposes that students have a bachelor degree either in a humanities subject (BA – first cycle, C1) or a natural-science subject (BSc – first cycle, C1), which is taught in primary and lower-secondary schools, or as part of post-compulsory schooling.

5.4 Scope, placing and content of the main subjects

This section compares the frameworks for the main subjects (linjefagene) on the Nordic teacher-training programmes. In general, it shows that the scope and content of the main subjects varies greatly. Danish training focuses on the development of specific competences in specific subjects, while the Finnish and Norwegian general and class-teacher programmes focus on broader competences that enable the student to teach all of the

subjects taught to the younger years. Iceland offers a large number of optional subjects, of which a minimum of eight must be taken. With regard to its focus on broad competences, Iceland is very much like Finland and Norway. This is also the case in Sweden – optional subjects are chosen in relation to the school age group in which the student specialises, but the student is also expected to be able to teach several subjects at these levels.

The scope, number and placing of main subjects

The main subjects' scope and number varies greatly between the Nordic programmes. The table below provides an overview of differences and similarities:

Table 13: The scope and placing of main subjects

		Number	ECTS	Placing
Denmark	Primary and lower-secondary school	2–3	144	Depends on the institution and executive order
Finland	Class teacher	1	85/95	The bachelor and master's parts
	Subject teacher	2	120–160	
Iceland	BA	1	80	Depends on the institution
	MA		70 (60+10)	
Norway	General teacher	Varies	Minimum 160	Depends on the institution
Sweden	Primary and lower-secondary school Post-compulsory schooling			

Source: The national reports

In Denmark, students choose main subjects corresponding to 144 ECTS points. The first main subject is compulsory and corresponds to 72 ECTS points. At this stage, students choose between Danish (beginner and intermediate level), Danish (intermediate and final level), mathematics (beginner and intermediate level), mathematics (intermediate and final level) or common core natural sciences. Students then choose either a main subject at 72 ECTS or two main subjects at 36 ECTS each. The placing of the subjects within the programme depends upon the institution and is stipulated in the curriculum.

Overall, the teacher-training programmes in Finland are based on a major subject and a minor subject. The major in the class-teacher programme is pedagogy, whereas on the subject-teacher programme it is usually the main subject. The individual universities draw up the curricula for teacher-training programmes. The following description of the structure of the class-teacher programme is based on the typical example of the Swedish-language programme at Åbo Akademi University.

The class-teacher programme at Åbo teaches primary and lower-secondary subjects, as well as whole subjects, which accounts for a mi-

nimum of 60 ECTS points (for class-teacher students accepted directly onto the programme). For students accepted onto the basic programme at bachelor level, this part accounts for 70 ECTS points, divided between a compulsory and an optional part. The compulsory part is worth 50 ECTS points and covers the subjects “ideas and action”, “culture and identity”, mathematics, Swedish (or Finnish) and literature. In the optional part, worth 20 ECTS (10 ECTS for students accepted directly on to the master’s part), students choose four of the primary and lower-secondary main subjects, at least one of which must be an arts and crafts subject. In addition, a subject relevant to teaching years 1–6 is included as a compulsory minor subject. Students who continue to master’s level then have the opportunity to teach years 7–9.

Upon admission to the subject-teacher programme in Finland, students choose a major subject and, usually, a minor one. At some universities, students choose to apply for the subject-teacher programme after one or two years of study, while elsewhere they apply for it at the start of their degree. The pedagogic part of the programme is taken either in parallel at the faculty of education, or in collaboration with the education faculty and the subject faculties. Major subjects must correspond to a minimum of 60 ECTS points. However, as a rule, students must take at least 60 ECTS points at bachelor level, and at least 60 ECTS points on master’s level.

In Iceland, students have a choice of 14 basic subjects, each prescribed to 80 ECTS points. Examples include “infant teaching”, “general teaching in primary and lower-secondary schools” (class teacher) or “foreign language” (e.g. Danish or English). These can usually be divided up in such a way that students are able to specialise as infant teachers, class teachers or subject teachers.

Two of the subjects (“infant teaching (indskoling)” and “general teaching in primary and lower-secondary schools”) are interdisciplinary. “Infant teaching” is interdisciplinary, as all subjects at this level are integrated. “General teaching in primary and lower-secondary schools” is also interdisciplinary, and is targeted at intermediate-level class teachers. Within this study path, students take four main subjects: Finnish/Swedish (20 ECTS points), mathematics (20 ECTS points), social studies (10 ECTS points) and natural science (10 ECTS points). In addition, students choose an optional subject from any other study path (20 ECTS). Each institution is empowered to determine, develop and offer its own subjects.

Norway does not have national guidelines for the structure of the general teaching programme. However, all Norwegian teacher-training programmes have in common a number of compulsory subjects. Each institution offers a range of subjects that are adapted to suit local needs and resources, which means that the structure of the teacher-training programmes varies from place to place. However, there are a number of compulsory subjects prescribed to 120 ECTS points, including the main

subject (80 ECTS points). The compulsory main subjects are Norwegian, mathematics and “religion, life and ethics” (RLE). Students are also taught basic reading, writing and arithmetic teaching. Usually, this is done in first year, within the compulsory part of the general programme. In the optional part, students are able to choose to specialise in either the earlier or later years of primary and lower-secondary school.

During the optional part of the teacher-training programme, students must choose 120 ECTS points in various subjects relevant to working in schools. A minimum of 60 ECTS points must be in subjects related to primary and lower-secondary schools. The institutions themselves decide which subjects to offer in the optional part of the teacher-training programme.

In Sweden, there is no differentiation between the main subjects and the other basic elements of the teacher-training programme. Instead, it is stipulated that students must have a minimum of 60 ECTS points in one or more programmes directed at specified class levels, as well as 30 ECTS points in their specialisation.

For the programme targeting years 1–6, the minimum requirement is 210 ECTS points, but no requirements are placed on the students’ choice of main subjects. However, students must take the subject “basic reading, writing and arithmetic teaching”.

For courses training teachers for years 7–9 and 10–12, the requirement is a minimum of 270 ECTS points. No overarching requirements are placed on the students’ choice of main subjects or subject combinations. However, students who wish to teach social studies or Swedish in years 10–12 must take a minimum of 120 ECTS points within these subjects.

There are no rules governing when specific teaching should be provided within the courses of study or specialisations chosen. As a rule, classes in general teaching are in the first semester, followed by the subject teaching and specialisation.

5.5 Scope, placing and content of the subject-specific didactics

In general, all of the Nordic programmes stress the importance of subject-specific didactics and have integrated didactics into the main subjects. The purpose of stressing subject-specific didactics as an important part of their training is to equip students with the necessary competences required to become good teachers of their main subjects.

As shown in the table below, none of the Nordic teacher-training programmes contain a precise definition of the scope of subject-specific didactics in terms of ECTS points. Little information is available about the content and placing of subject-specific didactics, so it is therefore not possible to make any pan-Nordic comparison.

Table 14: Scope, placing and content of the subject-specific didactics

	ECTS	Placing	Content
Denmark	Not specified	Integrated into the main subject	The learning outcomes are integrated into the subject descriptions
Finland	Not specified	No national regulation	Integrated into the teaching in the study paths and specialisations
Iceland	Not specified	Integrated into the main subject	Development of teaching competences in the main subjects
Norway	Not specified	Integrated into the main subject	No descriptions exist of the learning outcomes in subject-specific didactics
Sweden	No national regulation	Integrated into the teaching in the study paths and specialisations	No descriptions available of learning outcomes in subject-specific didactics

Source: The national reports

Research into teacher-training programmes suggests that optimum pupil performance is the product of the teachers' ability to combine academic knowledge with didactic knowledge and competences. In the longer term, it would therefore be interesting to analyse the similarities and differences in the degree of prominence that the Nordic countries afford to subject-specific didactics, and the ways in which they are integrated into the teacher-training programmes.

5.6 Scope, placing and content of the pedagogic subjects

The table below shows the variation between the Nordic countries in terms of both the number and scope of pedagogic subjects:

Table 15: The scope, placing and content of the pedagogic subject

	Total ECTS points	Placing
Denmark	33	Depends on the institution's curriculum.
Finland	Class teacher Subject teacher	Minimum 120 60/120
		The right of universities to organise their own teacher-training programmes means that the scope of the pedagogic subject and its placing vary from one university to the other. Teaching in the pedagogic subject is done in parallel with the other subjects. On the class-teacher programme, pedagogy is studied as a main subject, which is prescribed to a minimum of 120 ECTS points. Subject teachers who take their major subject as their teaching subject study pedagogy as a minor subject. On the bachelor part of the programme, the pedagogic subject must account for a minimum of 25 ECTS points, on the master's level 35 ECTS points.
Iceland	50	At IUP, the pedagogic subject is taken on different years of the Bachelor of Education programme for primary and lower-secondary schools.
Norway	30	Usually spread over the first two years of study.
Sweden		No quantifiable national regulation of this area is available.

Source: The national reports

The scope of the pedagogic subject varies between the Nordic countries. In the Finnish programme for class teachers, they account for at least 120 ECTS points, covering pedagogic studies for teachers (60 ECTS points), a bachelor project (6 ECTS points), a master's project (20–40 ECTS points) and teaching practice (20 ECTS points). On a subject-teacher programme where the student's major is also the teaching subject, the pedagogic subject is prescribed to 60 ECTS points. This includes a bachelor project (6–10 ECTS points), master's project (20–40 ECTS points) and teaching practice (20 ECTS points). If the main subject is pedagogy, the pedagogic subject is prescribed to 120 ECTS points, which includes pedagogic studies for teachers (60 ECTS points), a bachelor project (6–10 ECTS points), a master's project (20–40 ECTS points) and teaching practice (20 ECTS points). The Danish and Norwegian teacher-training programmes prescribe the pedagogic subjects to 33 and 30 ECTS points respectively.

The table above indicates that the scope of the pedagogic subjects in Denmark and Norway has been reduced to make room for more in-depth academic focus. Weighting the pedagogic subjects in this way provides more time for general teaching competences, but allows less time for strengthening the academic side of the programme. This can be viewed as a dilemma in relation to the decision to prioritise pedagogic subjects in teacher-training.

5.7 Other common core subjects

“Other common core subjects” differ according to the structure of the individual countries' teacher-training programmes, and therefore cannot be described in isolation without looking at the content structure of the programmes as a whole. For information about which common subjects are included in the individual countries' teacher-training programmes, please refer to section 5.3.

5.8 Organisation, scope and content of teaching practice

This section describes the organisation, scope and content of teaching practice in the Nordic programmes. All of the Nordic programmes include teaching practice as part of their studies. In terms of both the scope and the form of the teaching, considerable differences exist between the countries, as shown in Table 16.

Table 16: Organisation, scope and content of the teaching practice

	ECTS points	Weeks	Location of teaching practice	Placing
Denmark	36	24	State and private schools	All main subjects chosen in all four years of study. Students spend a period of 7–9 consecutive weeks on a school placement in either the third or fourth year.
Finland	Varies: 16–20	Number of weeks not stated	Practice schools	Class teacher: three periods of teaching practice (each prescribed to 5 ECTS points) for the bachelor examination, and a period prescribed to 5 ECTS points for the master's examination. Subject teacher: one period of teaching practice prescribed to 5 ECTS points (for the bachelor examination) and three periods each prescribed to 5 ECTS points for the master's examination.
Iceland	24	12	Partner schools The home-schooling system	In each term
Norway	-	20–22		Third to fourth year
Sweden	Minimum 30	20		2–4 periods during the study period. One day a week throughout most of the period of study.

Source: The national reports

Of all the Nordic countries, Denmark allows the most time for teaching practice in relation to the total length of the training programme – 15% of the total programme. The corresponding figure for Finland is 5–7%.

The Nordic countries differ in terms of the way in which the teaching practice is structured. Denmark places very specific requirements on teaching practice, which is placed at regular intervals throughout the programme. The aim is to enable students to achieve both practical/pedagogic and analytical competences in relation to their own and others' teaching methods.

In Finland, teaching practice takes place in practice schools, which are independent units linked to the universities. The five-year programme includes four periods of teaching practice. The purpose of the teaching practice is to develop both competences in the subject taught and didactic skills.

In Iceland, each term may include an element of teaching practice, but this is not organised in the same way in all of the main subjects. Teaching practice is always a part of a longer programme. Schools apply to become teaching-practice centres. The university then chooses suitable partner schools on the basis of their particular strengths and their approach to specified subjects. The purpose of the teaching practice is that students develop their own approach by assessing their own experiences of practical work, including teaching, planning, preparation, reflection, and working with colleagues and parents, etc

In Sweden, everybody associated with the teaching, both in the general programme area and in the selected focus area, participates in on-the-job teaching. Except for a few minor variations, the purpose of teaching practice is more or less the same across all of the Nordic teacher-training programmes – i.e. to build up pedagogic competences through practice and the application of didactic and academic knowledge.

In Norway, teaching practice is also integrated regularly throughout the whole study process. Some students finish after three years, others after four. As a result, teaching practice takes place in all of the semesters. The institutions themselves are responsible for developing the teaching practice, which in reality means that there is great variation in how it is organised. The purpose of the teaching practice is to equip students with professional competences both through practical experience and through reflecting upon academic and didactic knowledge.

In Sweden, all students do on-the-job teaching, which has replaced teaching practice. The intention behind this change is to stress the link between theory and practice so that students learn about the totality of their chosen profession, both at the teacher-training institutions and in the schools. On-the-job teaching takes place in connection with the teaching in the ordinary programme area (15 ECTS points) and the selected study path (15 ECTS points). There are major differences in the organisation of on-the-job teaching, as responsibility for this lies with the individual institutions – some opt to spread it over the whole study programme, others concentrate it in a single period towards the end.

5.9 Links between theory and practice

This section describes and evaluates the link between the theoretical subjects (main subject, subject-specific didactics and pedagogic subject) and practice.

All of the Nordic teacher-training programmes stress the importance of establishing links between theory and practice. In Denmark this is done by strengthening teaching practice in such a way that it provides students with practical skills for preparing, running and evaluating their teaching. The objective is that practice should be incorporated into the teaching and theory linked to the teaching practice. A written bachelor project has also been introduced, which must be based on a subject related to the pedagogic subject. In Finland, theory and practice are linked by requiring students to apply their research-based knowledge to specific teaching situations. Iceland establishes the link through the students' participation in teaching practice, e.g. by involving them in both the planning stages and the actual teaching. The students are required to apply their academic knowledge to the observation and study of teaching practice. The Norwegian teacher-training programme contains framework plans for linking

theory and practice through assignments and documentation requirements. Sweden does not have a national framework for linking theory and practice, so local variations occur.

The most recent reform of the Danish teacher-training programme places explicit emphasis on strengthening the link between main subject, subject-specific didactics, pedagogic subject and practice. The 2003 evaluation of the previous teacher-training programme pointed out certain deficiencies in the relationship between theory and practice. This led to a recommendation to strengthen co-operation that transcends the main subject, pedagogic subject and practice, especially with regard to content. The weighting of the link between theory and practice in the 2006 Act can be seen as a response to this recommendation. Specifically, the Act seeks to ensure that teaching practice creates a link between theory and practice that provides students with practical skills in preparing, running and evaluating class teaching. It also introduced a professional bachelor project, which must be linked to one of the main subjects and be related to the pedagogic subject. In addition, the Act stipulates that the institution's curriculum must organise the programme in a manner that serves to establish co-operation between students and lecturers in the main subjects, the pedagogic subject and teaching practice.

The link between theory and practice plays a central role in Finnish teacher training. Theory provides a basis for the development of didactic actions. In the teaching situation, research is communicated at the same time as it is converted into practice. Previously, when the teacher-training programme was placed in universities, its focus was on practical, empirical and action-oriented learning. The current programme seeks to integrate academic training with professional knowledge.

In Iceland, all courses aim to integrate practical experience and theoretical knowledge. Practical experience is gained by participating in teaching practice, planning lessons and teaching, observing classes and studying teaching practice. Theoretical knowledge covers knowledge about practice, about theories/research that are capable of illustrating practice and its links to contemporary society, about research methodology, pedagogic concepts and knowledge associated with school subjects.

Norwegian teacher training incorporates framework plans that govern the link between theory and practice. They stipulate that the purpose of teaching-practice assignments and documentation is to help create cohesion in the teacher-training programme. However, the Norwegian national report points out that the link between theory and practice is weak. This may be because practical experience is almost never incorporated into the institutions' teaching of theory, which makes didactic reflection on teaching practice difficult. In addition, there is no well-developed system for transferring knowledge from theory to practice, as teachers and pupils are not encouraged to propose models for their own teaching. However, a lack of systematic co-operation between schools and institu-

tions means that their co-operation is largely left to the individual institutions, and is therefore dependent on personal initiatives and voluntary efforts.

The lack of a strong foundation for research and development in the co-operation means that there is almost no development that involves both the schools and the teacher-training institutions. In addition, students have indicated that they do not feel that they receive enough feedback about the teaching practice, and therefore it does not feel like a full and valid part of the overall teacher-training programme.

The Swedish national report points out that the relationship between theory and practice in teacher training can be viewed in many different ways. In general, however, the report identifies three basic ways of working on the relationship, even though the lack of any national structure means that local variations occur:

- All students must submit an examination assignment that provides insight into the research process and scientific methodology. The purpose of the assignment is to link theory to practice.
- The objective of on-the-job teaching is to provide students with the opportunity to address profession-specific issues during their school placement, and then work on them again back at their teacher-training institutions.
- Finally, the so-called “general education area” must also play a significant role. This is part of all teacher-training study paths, and therefore its content must be relevant to all categories of teachers.

6. Terms and conditions of employment

This chapter deals with terms and conditions of employment for graduates, including supply and demand for teachers, teacher's pay and the social status of the profession.

The analyses and comparisons in this section are based on available quantitative data from each of the Nordic countries, i.e. figures from national statistics agencies, resource audits, or similar.

6.1 Chapter summary

In general, teacher unemployment is relatively low in the Nordic countries, and some even suffer from teacher shortages. Job prospects in Norway and Denmark are particularly positive, as many teachers will be reaching retirement age in the next few years. In general, the Nordic countries are very similar in terms of job prospects, teaching hours and pay. However, this chapter also reveals significant differences. For example, teacher training is not generally afforded a high social status – except in Finland. As this is unusual – not only within the Nordic Region but also in a wider European context – it would be useful to study the reasons behind this in greater depth.

Supply and demand for teachers

The shortage of properly trained teachers in several of the Nordic countries has led to many schools being forced to employ teachers who lack the requisite competences. This means that the schools, and ultimately the Nordic countries as a whole, face several problems. For example, there is a risk that the quality of the teaching, and therefore pupil performance, will decline as a result of using too many teachers without appropriate qualifications. In addition, a Swedish study points out that national regulation of teaching, e.g. in the form of teaching plans, could potentially be more difficult, as it presupposes that the teachers have the necessary knowledge about teaching plans, as well as the pedagogic competency to interpret diverse state guidelines about the structure and use of such plans.

Conditions of employment and appointment

Finland, Norway and Sweden appoint both part-time and full-time teachers. Finland also has both permanent and fixed-term appointments, which can

be either full-time or part-time. The vast majority of primary and lower-secondary teachers in Finland are permanent employees, while approximately 25% of all teachers in post-compulsory schooling are temporary. Approximately 67% of staff in Norway are full-time, and 33% are part-time. No information is available about the proportion of permanent and temporary staff. In Sweden, approx. 83% are full-time. No information is available about the proportion of permanent and temporary staff in Iceland. At the primary and lower-secondary level, approx. 78% of teachers are full-time employees, compared to 59% at post-compulsory level.

The number of teaching hours varies slightly between the Nordic countries. For primary and lower-secondary schools, Denmark has the lowest average number of teaching hours, with 16 per week. Norway has the highest, totalling 20 hours per week.

At post-compulsory level, Denmark has the fewest class hours per week, with an average of nine. Icelandic teachers, with an average of 16, have the most.

Only Iceland stipulates a fixed number of preparation hours per week. Icelandic teachers in primary and lower-secondary schools have 10 hours per week for preparation, while teachers in post-compulsory schooling have around 20.

The Norwegian and Danish systems, both at primary and lower-secondary level and at upper-secondary level, require the individual teachers themselves to allocate a number of hours per year for preparation.

The principle is the same in Sweden, where the number of hours for both teaching and preparation are not state-regulated, but agreed between the labour-market parties (unions and management).

Retention rates in the teaching profession

In Denmark, the proportion of teachers who qualified in 2003 and were still working in the profession one year after completing their training was 87%. This represents a significant increase in relation to previous years, partly due to higher demand for teachers. Iceland has approximately the same retention rate as Denmark after one year in the profession, and the same rate after five years.

In Norway, the average drop-out rate is in line with the average in other professions, but the national report identifies a particular problem with longer-term retention. Only 10% of all teachers remain in the profession until retirement age. Poor working conditions are identified as a possible reason for this.

Finland does not collate national retention data, but a study from 2001–2003 revealed that approximately 20% of newly qualified teachers leave the profession within a few years. National retention data is not collated in Sweden either. However, the Swedish national report points out that retention rates used to be higher, but that this tendency seems to be changing, especially in the major cities.

Students' choices of main subjects

No national statistics are available about the relationship between student teachers' choices of main subject/study path and the needs of Nordic schools. However, teacher shortages and the appointment of non-qualified teachers are expected to have a negative impact on the schools' provision in the main subjects. Finland is currently engaged in a debate about whether admission to the main subjects should be tailored to suit schools' needs.

Pay

A 2006 OECD study showed that Danish teachers have the highest starting pay, as well as the highest basic pay after 15 years in the profession. This is the case for teachers of years 1–9 and 10–12, calculated in relation to purchasing power parity. In relation to the OECD average and the EU19 average for starting pay, Iceland, Finland and Sweden are below average. Finland has the Region's highest final salary on both primary and lower-secondary and post-compulsory levels. It is particularly interesting that final salaries, on both primary and lower-secondary and post-compulsory level, are below the EU19 average in all of the Nordic countries.

Social status of teacher training programmes

The Finnish teacher-training programme stands out from the other Nordic programmes in that it is very popular and attracts a large number of applicants. In the other Nordic countries, the social status of teacher-training programmes is generally not particularly high, and the number of applicants has fallen in recent years. At the same time, there is great demand for teachers, which may become a social problem in the longer term. The salary level for qualified teachers has often been identified as a reason for the lack of applications, and yet applications are on the decline even in Denmark, where teachers' pay is the highest in the Region – even higher than Finland. In other words, several factors evidently impact upon the popularity of teacher training.

6.2 Supply and demand for teachers

In general, teacher unemployment is relatively low in the Nordic countries, but several suffer from a pronounced shortage of teachers.

Several studies show low levels of teacher unemployment in Denmark. Job prospects are expected to remain positive due to the predicted shortage of teachers, which is partly due to the fact that many will soon reach retirement age, and partly due to a decline in both the number of applicants to training programmes and students' completion rates. Certain subject combinations are characterised by a pronounced lack of applica-

tions but are popular in the schools. Studies also show that many teachers of years 1–9 (10) are not properly qualified.

National mapping of teacher-training programmes in Finland shows that unemployment is very low, and that the outlook for the job market is generally positive. However, the natural sciences in particular are expected to suffer from a shortage of teachers in the future as a result of the falling number of applications.

The Icelandic national report shows that there was no teacher unemployment in the period 2003–2007. There has long been a shortage of teachers in Iceland, and every year it has been necessary to appoint teachers who do not possess approved teaching qualifications – although some of them do have university degrees.

In Norway, teacher unemployment is low, and is not expected to rise in the next few years. This is partly due to the fact that many teachers will soon reach retirement age. Figures from 2003 show that 42% of all teachers are over 50, and half of these are over 60. In addition, teaching hours in primary and lower-secondary schools have increased in recent years.

The vast majority of newly qualified teachers find a job that corresponds to their subject area, although 21% have to make do with part-time positions. In 2008, unemployment in the teaching sector fell by 24%, while the number of positions fell by 12% in the same period. This may indicate that many qualified teachers find jobs outside their subject area.

A 2006 study of the number of teachers with a relevant teacher-training degree in Sweden showed that, of the full-time teachers in state-sector primary and lower-secondary schools, 85% of pre-school teachers had a teaching degree, compared with 86% in the general classes. 76% of teachers in upper-secondary schools had a teaching degree. The proportion of teachers in independent schools with a teacher-training degree was significantly lower. In primary and lower-secondary schools, 65% of both pre-school and general teachers had a teaching degree, compared to only 51% of teachers in post-compulsory schooling. This suggests that there is a shortage of properly trained teachers in Sweden.

6.3 Conditions of employment and appointment

On the basis of the available data, it is not possible to identify an unequivocal pattern for the split between full- and part-time appointments, and between permanent and temporary appointments in the individual Nordic countries. More clearly, there are only minor variations in the number of class hours per teaching week in the Region. The variation is greater in the number of subjects that teachers teach. The Danes are relatively specialised in this respect, while Norwegian teachers are qualified

to teach 4–7 subjects up to year 10. In Iceland, class teachers take all subjects up to and including year 6.

Denmark, Finland and Iceland are characterised by relatively high retention rates, with a drop-out rate of only 10–20%. The picture is the same in Norway, although there is a particular problem in terms of the retention of teachers all the way to retirement age. Sweden does not collate national retention data, but a study shows that approximately one in four qualified teachers do not remain in the profession throughout their career.

6.3.1 Teachers' terms and conditions of employment

Denmark does not publish national statistics for the overall conditions of appointment for teachers. A total of 62,645 teachers work with years 1–9 (10).

Finland has several different forms of employment: permanent full-time teachers; permanent teachers paid by the hour on a full-time basis; full-time teachers paid by the hour for a fixed term; and part-time teachers paid by the hour for a fixed term. Each full-time teacher is required to teach for a minimum of 16 hours a week. Those teaching fewer than 16 hours are categorised as part-time, and paid on an hourly basis. A 2005 study looking at teachers' terms and conditions of employment found that a total of 40,382 teachers (including head teachers) were employed in primary and lower-secondary schools. Of these, approximately 9% were full-time and paid on an hourly basis, while approximately 2% were part-time on an hourly paid basis. Of the 6,883 employed teachers (including head teachers) in post-compulsory schooling, approx. 15% are full-time and paid on an hourly basis, while approx. 10% are part-time on an hourly paid basis.

In Iceland, a total of 5,000 teachers in primary and lower-secondary schools and 1,900 at post-compulsory level are permanently or temporarily employed. No data is available about the split between permanent and temporary posts. However, teachers in their first year of work, or those who work as supply teachers for one or two years, are generally employed on a temporary basis. At primary and lower-secondary school level, some 78% of teachers are full-time, while the corresponding figure for post-compulsory schooling is 59%.

In Norway, the total number of teaching staff in primary and lower-secondary schools is 65,376. Of these, approx. 66% are full-time (i.e. work more than 1,687.5 hours p.a.), and approx. 34% are part-time (less than 1,687.5 hours p.a.). No figures are available about the number of permanent and temporary staff.

In Sweden, approx. 83% of all teachers are in permanent full-time posts. Of pre-school teachers, approx. 89% are in permanent full-time

positions, compared with 85% in primary and lower-secondary, and 79% in upper-secondary.

Number of teaching hours per week

The table below, based on an OECD survey, presents the average weekly number of teaching hours according to country and pupil age (The figures are based on whole hours, not timetabled lessons).

Table 17: Average number of teaching hours per week, by country and level

Country	Level		
	Years 1–6	Years 7–9 (10)	Years 10–12
Denmark	16	16	9
Finland	18	16	14
Iceland	19	19	16
Norway	20	17	14
Sweden	-	-	-
OECD	21	19	18
EU19	21	18	17

Source: OECD (2008): Education at a Glance (Table D4.1)

As the table shows, the number of teaching hours per week varies between 16 and 20 in the Nordic countries. Denmark has the lowest, Norway the highest. It is worth noting that, for all of the Nordic countries, the number of teaching hours per week on all age levels is lower than the OECD and EU19 averages.

At post-compulsory schooling level, Denmark is at the bottom, with an average of nine hours, while Iceland, with an average of 16, is at the top.

The Finnish national report shows that the number varies depending on the nature of employment and main subject, both at primary and lower-secondary and at post-compulsory level. For example, special-education teachers in primary and lower-secondary schools teach approx. 24 hours a week, while teachers of Finnish/Swedish and literature teach 18 hours a week.

No data is available from Sweden, as the number of teaching hours per week is not state-regulated, but agreed between management and unions.

Preparation hours

With the exception of Iceland, the Nordic countries do not have fixed preparation hours. The systems in Norway and Denmark, both on primary and lower-secondary and general upper-secondary level, allocate teachers a number of hours per year, which they organise themselves and which include preparation time.

According to Iceland's national report, a primary and lower-secondary teacher has 10 hours of preparation per week. Preparation time for teachers at post-compulsory level is not clearly defined, but is in the region of 20 hours per week.

In Sweden, the principle for setting the number of preparation hours is the same as for teaching hours, i.e. these are not state-regulated, but agreed between management and unions.

The Finnish national report does not describe the relationship between teaching hours and preparation hours.

Number of subjects per teacher

There is a major difference between the Nordic countries in terms of the number of subjects taught by teachers.

No recent Danish studies are available on how many subjects teachers take in years 1–9 (10). However, the political target is for teachers to teach in their main subjects, which in theory means that they will teach between two and three subjects. On the general upper-secondary level, teachers take only their main subject, which in practice usually means one or two subjects.

Norway and Iceland are markedly different from Denmark, as teachers of the youngest years often teach all subjects.

In Norway, teachers who take years 1–6 act as class teachers, and therefore take most subjects, depending on the head teacher's decisions and their own academic competences. Teachers of years 7–10 are more specialised, and so do not teach all subjects.

In Iceland, teachers of years 1–4 usually take all subjects. For years 5–7, the class teacher usually takes most subjects, especially in small schools. For years 1–4 and 5–7, a second teacher is usually assigned to teach creative and artistic subjects and physical education. In years 8–10, teachers generally teach in their main subject, which in practice usually means that they take one or two subjects. However, this may vary depending on the size of the school. Teachers of years 10–12 usually teach a single subject, i.e. their main subject.

No corresponding data about the number of subjects per teacher is available from Sweden and Finland.

Retention rates in the teaching profession

National statistics are not available for teacher retention in Danish primary and lower-secondary schools or post-compulsory schooling. However, a study of retention rates for teachers in primary and lower-secondary schools has been conducted for certain years.

The picture for retention rates two years after graduation is as follows (as recorded over a 20-year period): the proportion of newly graduated teachers still employed in the profession a year after graduation has risen by 14% – from 73% of 1983 graduates to 87% of 2003 graduates. However, this rise can to a large extent be attributed to the effects of supply and demand. To a greater or lesser extent, the proportion of teachers working in the profession falls for each year after graduation, and this effect varies over time. For 1983 graduates, the proportion of teachers

employed in the profession fell 9% in a decade, while this effect was less pronounced for 1994 graduates, with the proportion falling only by 3% over a ten-year period.

No national data is available about retention rates in Finland. A study of 2001–2003 teaching graduates who found jobs showed that approx. one in five left the profession within a few years. This was particularly pronounced in the Helsinki region, where the figure was one in three.

In Iceland, 80–85% of primary and lower-secondary teachers are employed in the teaching profession one year after graduation. This figure remains the same after five years.

Teachers in Norway are characterised by strong attachment to the profession, and drop-out rates do not exceed those in other public-sector jobs. Even so, only 10% of teachers work until retirement age. The proportion of teachers who withdraw from the labour market early is therefore significantly higher than in other parts of the public sector.

A study of teachers who left the profession showed that more than half of those who retired early complained about working conditions. Several also stressed the lack of career opportunities. In addition, markedly more men than women left the profession early, which further exacerbates the predominance of female teachers. If the trend in early retirement continues, Norway will in future face even higher demand for new graduate teachers, as demand already exceeds supply.

No national retention statistics are available in Sweden. The previous trend was for teachers to remain in the profession, but this seems to be changing, especially in the major cities. Swedish teaching unions have pointed out that approx. one in four qualified teachers is not employed in the profession. The largest group of teachers who do not work in the profession consists of those trained for vocational colleges. This may be explained by the fact that they generally have access to two job markets: the teaching sector and the business sector. The group with the lowest drop-out rate consists of teachers who work with years 1–6 in primary and lower-secondary schools. The article also points out that more men than women leave the profession. Similarly, of teachers aged 25–44, one in four is no longer employed in the profession.

6.4 Students' choices of main subject (linjefag)

No national statistics are available about the relationship between student teachers' choice of main subjects and the needs of Nordic schools. This section describes the differences between the Nordic countries in this area.

Denmark does not publish national statistics for the relationship between students' subject choices and schools' needs. However, a study of approx. 25% of Danish primary and lower-secondary schools shows that

there are major differences between the subject areas with regard to how many classes are taken by teachers with a degree in that subject or with competences corresponding to a degree in it. In physics/chemistry, 95% of the classes were taught by teachers with a degree in the main subject or corresponding competences, while the figure for geography was only 38%. Several schools reported that the reason for the lack of appropriately qualified teachers was the general shortage of teachers with main-subject competences.

No Icelandic statistics were available about student teachers' choice of main subject in relation to schools' needs, either at national or institutional level.

No national figures were available from Finland, although there is an ongoing debate about whether admissions to the main subjects should be tailored to suit schools' needs.

In Norway, as described in sections 5.3 and 4.4, there is no subject specialisation in the programme for primary and lower-secondary schools. This is because, in line with the class-teacher principle, teachers of years 1–6 teach most subjects. A specialised subject-teacher programme applies to years 7–10. The Norwegian government would like to increase the number of teachers with mathematics or natural sciences as their main subject, in order to improve the country's results in the PISA surveys. In 2005–2007, there was an increase in the number of student teachers who chose to specialise in mathematics.

Sweden records the study path chosen by students, rather than the main subject. As mentioned in section 6.2, a 2006 survey revealed that a significant number of teachers were not properly qualified.

In 2005, the Swedish National Audit Office expressed concern that the proportion of teachers without a teacher-training degree had risen since the early 1990s. One in three primary and lower-secondary teachers of Swedish, English and mathematics to the oldest age groups did not have a teacher-training degree in these subjects. If teachers do not have the right qualifications, there is a risk of a decline in the quality of the teaching, and therefore in pupil performance. Secondly, it presents a challenge to the schools' basic objective, i.e. that teaching in the schools should be uniform at national level. Thirdly, there is a risk that the aims of parliament and the government, as formulated through the structure and content of the teacher-training programme, are not implemented in the schools. The state's regulation of schools is largely directed at teaching staff. If this regulation is to be effective, it is necessary that teachers have, for example, sufficient knowledge of teaching plans and course timetables, as well as the pedagogic competence to interpret state guidelines and documents. The same issues are also relevant in Denmark.

6.5 Salaries

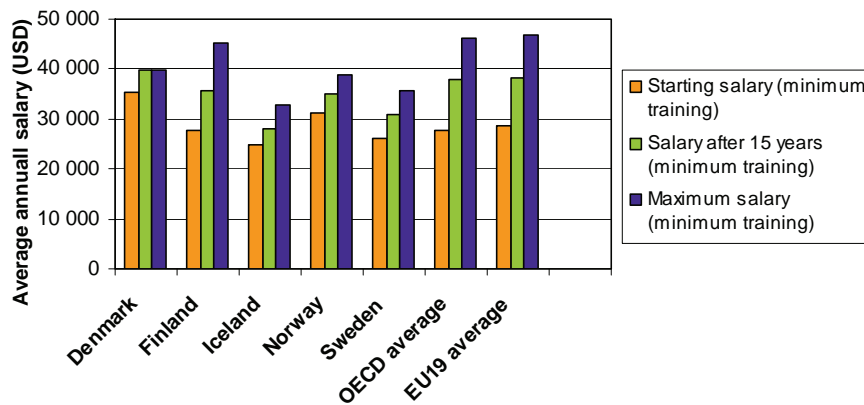
This section looks more closely at wage conditions in the Nordic countries. In general, it shows that teachers’ pay, measured in relation to purchasing power parity, is lower than the OECD and EU19 averages in all of the Nordic countries except Denmark and Finland. The descriptions are based on the 2008 OECD report Education at a Glance. The statistics in the report are from 2006.

On the basis of the available data, it is not possible to determine whether teachers’ pay in the individual countries is lower or higher than other similar professions.

Pay for teachers of years 1–6

The table below shows pay for teachers of primary and lower-secondary school years 1–6.

Average pay p.a. for teachers in state schools in equivalent USD, using converted purchasing power parity.



Source: OECD (2008): Education at a Glance (Table D3.1)

Chart 1 Pay for teachers of years 1–6

The chart shows that Iceland has the lowest starting pay of the Nordic countries, while Denmark has the highest. Iceland, Finland and Sweden are all below the OECD and EU19 averages.

A closer look at average pay after 15 years reveals that Danish teachers have the highest pay (USD 39,898), Icelandic teachers the lowest (USD 28,097). Denmark is the only Nordic country above the OECD and EU19 averages. Looking at the averages in isolation, a Danish teacher is paid approx. 4% more, while Icelandic and Swedish teachers get 26% and 19% less respectively.

The table below shows the ratio of pay after 15 years to per capita GDP.

Table 18: Ratio of pay after 15 years to per capita GDP, for teachers of years 1–6

Country	Ratio
Denmark	1.13
Finland	1.09
Iceland	0.79
Norway	0.67
Sweden	0.88
OECD	1.22
EU19 ¹	1.16

Source: OECD (2008): Education at a Glance (Table D3.1)

As the table shows, Denmark and Iceland are the only countries where pay after 15 years is higher than per capita GDP. Norway is the lowest, with teachers' pay only 67% of per capita GDP. It is also worth noting that all the Nordic countries are below the OECD and EU19 averages.

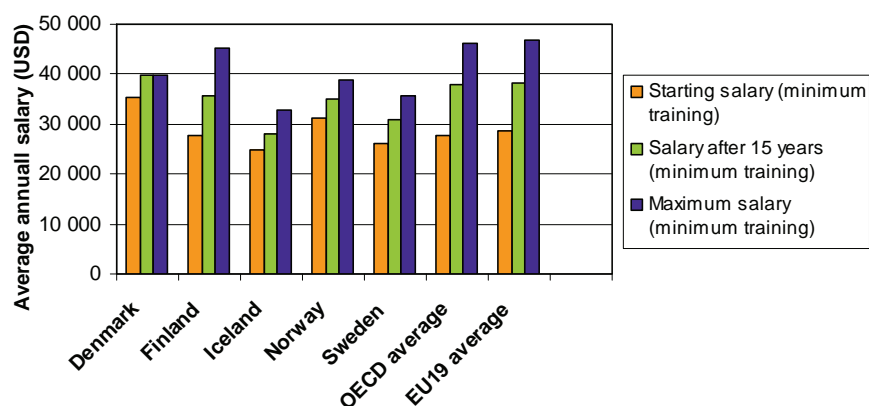
Looking more closely at final salary, as per chart 1, Finland's is the highest (USD 45,164), while Iceland's is the lowest (USD 32,705). Denmark stands out among the Nordic countries in that its final salary is the same as the average pay after 15 years.

It is particularly interesting that all of the Nordic countries are below the OECD and EU19 averages for final salary. A Finnish teacher earns approx. 3% less than an average teacher in an EU19 country, an Icelandic teacher 30% less.

Pay for teachers of years 7–9

The table below shows pay for teachers of primary and lower-secondary school years 7–9 (10).

Average pay p.a. for teachers in state schools in equivalent USD using converted purchasing power parity.



Source: OECD (2008): Education at a Glance (Table D3.1)

Chart 2 Pay for teachers of years 7–9 (10)

¹ The EU19 countries consist of: Austria, Belgium, Denmark, Finland, France, Greece, the Netherlands, Ireland, Italy, Luxemburg, Poland, Portugal, Slovakia, Spain, Sweden, the United Kingdom, the Czech Republic, Germany and Hungary.

For Denmark, Norway and Iceland, there is no difference in pay between teachers of the youngest ages groups and teachers of the oldest age groups in primary and lower-secondary schools. In Finland, starting pay for teachers of years 7–9 (10) is approx. 11% higher than starting pay for teachers of years 1–6, while it is approx. 2% higher in Sweden.

The table shows that Iceland has the lowest starting pay of the Nordic countries (USD 24,951), while Denmark has the highest (USD 35,368). Iceland and Sweden are both below the OECD and EU19 averages.

With regard to average pay after 15 years, Danish teachers are the highest-paid (USD 39,898), Icelandic teachers the lowest (USD 28,097). All of the Nordic countries are below the OECD and EU19 averages.

The table below shows the ratio for pay after 15 years to per capita GDP.

Table 19: Ratio for wages after 15 years to per capita GDP, for teachers of years 7–9 (10)

Country	Ratio
Denmark	1.13
Finland	1.17
Iceland	0.79
Norway	0.67
Sweden	0.91
OECD	1.26
EU19	1.21

Source: OECD (2008): Education at a Glance (Table D3.1)

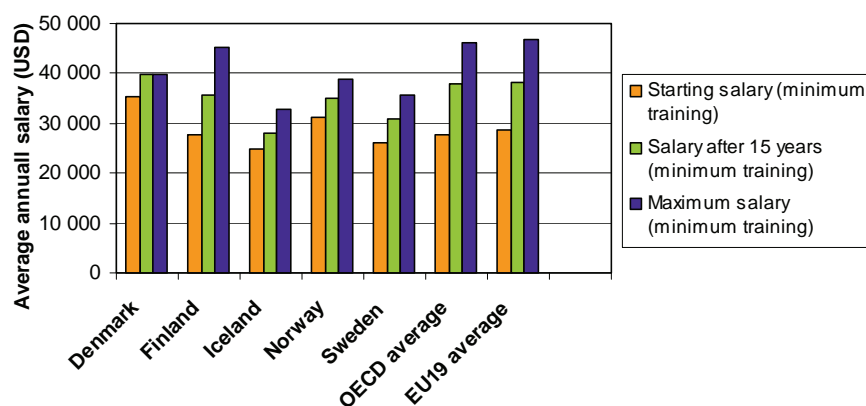
The table shows that Denmark and Iceland are the only countries where pay after 15 years is higher than per capita GDP. Norway is the lowest, only 67% of per capita GDP. It is also worth noting that all of the Nordic countries are below the OECD and EU19 averages.

Looking more closely at final salary, as per chart 2, Finland has the highest final salary (USD 48,192), while Iceland has the lowest (USD 32,705). Denmark stands out from the other Nordic countries in that its final salary is the same as average annual pay after 15 years. It is particularly interesting that all of the Nordic countries are below the OECD and EU19 countries. In Iceland and Sweden, teachers earn, respectively, 33% and 27% less than the average for teachers from the EU19 countries. Teachers in Finland earn just 2% less.

Pay for teachers of years 10–12

The table below shows pay for teachers of years 10–12, and reveals the same trend as for teachers of years 1–9.

Average pay p.a. for teachers in state schools in equivalent USD, using converted purchasing power parity.



Source: OECD (2008): Education at a Glance (Table D3.1)

Chart 3 Pay for teachers of years 10–12

As the table shows, Danish teachers have the highest starting pay (USD 35,287), Icelandic teachers the lowest (USD 27,863). Sweden and Iceland are both below the OECD and EU19 averages. Icelandic teachers get 12% less than the average for teachers from the EU19 countries, while Swedish teachers are paid 11% less.

Looking more closely at average pay after 15 years, Danish teachers still have the highest pay (USD 49,634). Denmark and Finland are the only countries above the OECD and EU19 averages. Teachers in the other countries receive less than the average for teachers in the EU19 countries. Finland has the lowest percentage deviation (3%), while Iceland and Sweden both deviate by 22%.

The table below shows the ratio for pay after 15 years to per capita GDP.

Table 20: Ratio for wages after 15 years to per capita GDP, for teachers of years 10–12

Country	Ratio
Denmark	1.41
Finland	1.30
Iceland	0.95
Norway	0.72
Sweden	0.98
OECD	1.34
EU19	1.31

Source: OECD (2008): Education at a Glance (Table D3.1)

The table shows that pay for teachers at post-compulsory level in Denmark and Finland is, respectively, 41% and 30% above per capita GDP. It is also worth noting that, for post-compulsory schooling, wages in all of the Nordic countries, with the exception of Denmark, are again under the OECD and EU19 averages

Looking more closely at final salary, Finland's is the highest (USD 53,867), Iceland's the lowest (USD 36,264). Chart 3 shows that Denmark

also stands out from the other Nordic countries in that its final salary is the same as average annual pay after 15 years. It is particularly interesting that all of the Nordic countries are below the EU19 average. With the exception of Finland, they are also below the OECD average.

The biggest wage difference is found in Iceland, where post-compulsory teachers' wages are USD 16,875 less than the EU19 average (approx. 32% lower). Finnish teachers are closest to the EU19 average, receiving USD 728 (approx. 1%) more in annual pay.

6.6 The social status of teacher training

This section describes the social status of teacher training. It is based on national studies that determine the attractiveness of the programmes with reference to, for example, pay, the number of applications, and media coverage of teacher training. It is particularly noticeable that Finland is the only Nordic country in which teacher training is afforded a high social status, while it is under pressure in the other countries.

In Denmark, the number of applicants to primary and lower-secondary programmes has fallen markedly in recent years. Studies have shown that pay and career opportunities have a major impact upon the attractiveness of teacher-training programmes, and yet, as described in section 5.4, Danish teachers are among the best-paid in the Nordic countries.

The admission requirements for teacher training are favourable, and it is easy for graduates to find jobs. However, this has not resulted in an increase in the number of applications, which could indicate that both teacher training and the profession in general are not considered particularly attractive. In a 2007 study, youngsters pointed out that the negative reports of working conditions for teachers, pre-school teachers and nurses – e.g. low levels of pay, physically and psychologically difficult work, long working hours, etc. – are the major reasons why they opt for other career paths. The company behind the survey therefore concludes that there is a need to promote a more positive image of the profession in order to reach out to potential students.

Finland stands out from the other Nordic countries in that teacher training enjoys high social status. Even though no direct research has been conducted in this area, a number of indicators – e.g. stable application levels – suggest that it is considered attractive. Finland is also the only Nordic country that has not suffered recruitment problems in recent years. In addition, a Gallup poll in spring 2004 showed that pupils leaving post-compulsory schooling in Finland ranked teaching as the most attractive of 37 different professions.

In Iceland, there is a strong link between demand for qualified teachers and the economy. Following wage rises in comparable sectors, Icelandic teachers generally express dissatisfaction with their pay and say

that they are seeking higher-paid work outside of schools. At the same time, there is considerable demand for qualified teachers, who are subject to increasing requirements in terms of their competences and their role in the school. In order to make teacher training more attractive and increase the number of applications, the decision has been taken to introduce a teacher-training programme on master's level (second cycle, C2). It is expected that this will lead to a higher social status for teacher training, as well as better pay for teachers.

There is a great deal of evidence to suggest that the social status of teachers has declined in Norway. Teacher training used to be attractive, but the number of applicants has fallen in recent years. Attempts to rectify this have taken the form of new admission requirements and a higher entry level. This low status does not appear to be directly linked to economic conditions – in 2003, general teacher's wages were just 2% lower than those of business graduates. Teachers' starting pay also rose by 19% between 1999 and 2003. However, the modest final salary may partially explain why the teaching profession is no longer considered prestigious.

In general, little data is available about Norwegian teachers' financial and work situation. More studies are therefore needed in order to inform the public debate about teacher training. It is evident from the current media debate that there is a clear lack of data about actual conditions.

However, some possible explanatory factors have been identified, the first of which is the length of the programmes. At the moment, primary and lower-secondary programmes take three or four years, while those for upper-secondary schools take up to five or six years. In other words, it seems that students consider longer programmes more prestigious and more profitable in purely economic terms. The programmes' lack of specialisation is also believed to be one of the reasons for the critical nature of the public discourse about teacher training.

The other possible explanation for the current status of the profession could be that teachers are often cast in the role of society's problem-solvers. It has been pointed out that teachers are now expected not only to teach, but to cure social ills too. As resources are limited, and because this is not the role for which they are trained, many teachers find it difficult to cope. In addition, they are subsequently held responsible for failing to solve the social problems. This may have contributed to the loss of status.

In Sweden, teacher training is regularly debated and criticised in the media. This could be interpreted as an expression of low status, but at the same time the focus on teacher training can also be seen as an expression of the schools' – and therefore the teachers' – huge social significance. The fall in the number of applicants to teacher training can also be seen as an expression of both the profession's and the programmes' falling status. A number of conditions have to be taken into consideration, however, including the fact that applicants to teacher training constitute the

largest group of all those who apply for degree programmes. On the face of it, this does not suggest that the programme has low social status.

In general, there is approximately one applicant per programme place. There is a major difference between applications for the different study paths – e.g. there are approx. four applicants for each place for pre-school teaching, but far fewer applicants for the other paths. It must also be remembered that there has been an overall increase in the number of places on teacher-training programmes in recent years, which has led to a fall in the number of applicants per programme place.

7. Pan-Nordic analysis perspectives

This chapter analyses three significant challenges faced by Nordic teacher-training programmes:

- Challenges that stem from internationalisation, as expressed in the Bologna Process and in specific EU initiatives
- Challenges that stem from the objective of ensuring that every pupil achieves the desired learning outcomes
- Challenges that stem from the problems faced by Nordic schools.

These pan-Nordic analyses largely consist of a study of whether the programmes have registered these challenges – and if so, how they have responded to them. They will hopefully provide an inspiring basis for discussion and debate about the development of teacher-training programmes, not only within institutions and in political circles, but in society as a whole.

7.1 Internationalisation

The Bologna Process

The Bologna Process takes its name from the declaration signed by 29 European countries in Bologna in 1999. It now encompasses 46 European countries. Its overall purpose is to establish an open area for higher education in Europe, which will enable students and graduates to move freely between European education institutions and between national labour markets. This will be achieved through greater transparency in the structure of European education. The declaration sets out 10 goals, of which the following have been attributed special relevance to teacher training in this study:

- A system of comparable academic degrees, divided up into first- (C1), second- (C2) and third-cycle (C3) degrees (respectively, bachelor, master and PhD)
- A quality-assurance system that complies with *Standards and Guidelines for Quality Assurance in the European Higher Education Area*

The Nordic countries are currently working to adapt their teacher-training programmes to the Bologna Process. There is a certain degree of difference between the countries with regard to this work, both in terms of the speed of adaptation and the level of ambition.

The first goal outlined above, a comparable grading system, has particular relevance for the structure of teacher-training programmes. The work typically consists of describing the programmes and their programme elements using a cumulative and transferable point system (European Credit Transfer and Accumulation System (ECTS)), and of describing learning outcomes in relation to national qualification frameworks. These frameworks are linked to the overarching European qualification framework developed as part of the Bologna Process, which describes the learning outcomes of the programmes on the basis of three categories (knowledge, skills and competences), and positions the teacher-training programme in relation to the three levels of higher education: first (C1), second (C2) and third cycle (C3).

As far as the introduction of a point system is concerned, the Nordic countries have already introduced the ECTS points system in order to quantify the work needed to complete a given programme within a prescribed timeframe. ECTS has also been introduced on Nordic teacher-training programmes in relation to individual subjects or courses – however, this was mostly done in relation to the subject categories into which teacher-training programmes were previously organised. The ECTS concept is not used in Sweden, although “HP points” are, quantitatively speaking, effectively the same. The teacher-training programmes are only modular to a limited extent, which makes credit-transfer and -exchange programmes difficult.

With the exception of Denmark, learning outcomes have been identified for all of the Nordic teacher-training programmes for primary, lower-secondary and upper-secondary schools. In Denmark, work is being done in conjunction with the 2008 update to the qualification framework. Sweden’s descriptions are the only ones that are similar to those of the vocational teacher programmes.

In Bologna terminology, the division into cycles is often described as having a 3+2+3 structure. For teacher-training programmes that correspond to the first two cycles, this means a three-year bachelor programme (C1) and a two-year masters (C2). However, the Bologna Process does not employ such rigid distinctions – the first cycle (C1) may typically encompass 180–240 ECTS points (3–4 years), while the second cycle (C2) can encompass 90–120 ECTS points, although as a minimum it must be no less than 60 ECTS points (1–2 years).

All of the Nordic countries have adapted their teacher-training programmes to this structure, or are in the process of doing so. This is being done in different several different ways. In Finland and (from 2011) Iceland, teacher-training programmes for both primary and lower-secondary

(1–9 (10)) and post-compulsory schooling (10–12) are 3+2 programmes, where teaching qualifications are achieved on second-cycle (C2) level (300 ECTS points). In Denmark, the programme for primary and lower-secondary schools is a first-cycle (C1) professional bachelor degree, lasting four years (240 ECTS points), while the teacher-training programme for the upper-secondary school is a five-year master's (C2) with a specialist course in pedagogy. In Norway, the teacher-training programme for primary and lower-secondary schools is also a first cycle (C1) bachelor programme (four years/240 ECTS points), while for post-compulsory schooling it is a second-cycle (C2) programme, the duration of which may vary (240–300 ECTS points). In Sweden, training as a teacher for primary and lower-secondary schools, both at first-cycle (C1) and second-cycle (C2) level, is dependent on which ages the student wishes to teach. For upper-secondary schools, it is a second-cycle (C2) programme.

In relation to quality assurance, all of the Nordic countries have introduced systems that are in compliance with *Standards and Guidelines for Quality Assurance in the European Higher Education Area*. Accreditation systems have also been introduced for individual programmes – except in Norway, where it is the teacher-training institution itself which is accredited; and Sweden, where the Swedish National Agency for Higher Education is responsible for accreditation.

EU initiatives

The European Union considers it necessary to base teacher-training programmes at institutions of higher education. The aim is to ensure that all teachers have the opportunity to continue their studies at the highest level, i.e. on all three cycles. A further requirement is that teacher-training programmes have an academic and scientific basis that promotes research and evidence-based practice (Commission of the European Communities, 2007; European Commission, 2005).

This EU ambition has been accommodated in most of the Nordic countries. In all of them apart from Denmark, teacher-training programmes for primary and lower-secondary schools take place at universities and colleges that are required to provide research-based teaching. In Denmark, teacher-training programmes are run by university colleges on a developmental and professional basis. In all of the Nordic countries, teacher-training programmes for upper-secondary schools are research-based.

As far as teacher training for primary and lower-secondary programmes is concerned, Denmark also differs from the other Nordic countries in terms of teaching competences. In all of the Nordic countries, the formal competency requirement for lecturers on teacher-training programmes is a minimum of an academic programme at master's level. However, a clear trend is emerging in the form of an increasing number of teachers with research qualifications. In Finland, the competence requirement is a licentiate or PhD. In Iceland, a PhD will in the longer term

be a precondition for full-time employment. In Norway, NOKUT, as part of its general evaluation, recommended that PhDs should comprise a minimum of 20% of the lecturers on the programme. In Sweden, the Swedish National Agency for Higher Education operates with a general requirement for 30% PhDs. No data is available about the number of research-trained lecturers on Danish teacher-training programmes, although the figure is estimated to be very low. The fact that teacher-training programmes are based in institutions that do not provide research-based teaching severely limits the opportunities to increase the number of PhD-trained teachers. It must be presumed that developing a scientific basis for the teacher-training programme will take a long time, unless the proportion of research-trained teachers increases.

7.2 Pupil performance

In the Nordic countries, as elsewhere in the world, societies are striving to improve pupil performance, especially following the outcome of the PISA studies, in which Finland was the only Nordic country to achieve an excellent ranking. A further motivating factor is the desire to improve the general level of knowledge in society, as knowledge is considered to be an important competitive parameter in a globalised knowledge economy.

International research on teacher-training programmes unequivocally show that teachers' expertise, in the form of knowledge and competences, is the single most significant factor in explaining pupil performance and learning outcomes (Darling-Hammond & Brasford, 2005; Darling-Hammond & Youngs, 2002). It is positively correlated to pupil performance, and has a far greater impact than class size, school organisation and management, and the pupils' ethnicity, socio-economic status and previous results (Hanushek, 2002). It has been identified that the quality of a school system is limited and defined by the quality of its teachers (Barber & Mourshed, 2007).

Research into teacher training also identifies the qualities shared by teachers whose pupils achieve positive learning outcomes – i.e. complex professional competences that integrate the teacher's experience, knowledge, attitudes and personality. Specifically, the research reveals that a good teacher has complete mastery of the academic material, and can draw on a broad repertoire of knowledge, gained over many years of teaching, in order to relate the material to the individual pupil. The research is also clear and unanimous in pointing out that academic knowledge is only truly effective when it is combined with pedagogic and didactic knowledge and competences – in other words, professionalism is most effective when combined with subject-didactic knowledge and teaching competences (Darling-Hammond & Brasford, 2005; Helmke & Weinert, 1997; Weinert et al., 1990).

In the Nordic countries, attempts have been made to adapt teacher training for primary and lower-secondary schools in response to the results of the research into teachers' effectiveness outlined above. This has been done by, for example, increasing the scale of the main subjects, incorporating a didactic component and establishing closer links between theory and practice.

All of the Nordic teacher-training programmes, irrespective of their scope, level and placing, are integrated programmes that emphasise the importance of subject-specific didactics within the main subjects. On the basis of the research mentioned above, this integration must be considered to contribute to better teaching in those subjects, and in turn improve pupil performance. This assumption is also based on the conclusion that the teacher, on the basis of solid professionalism, is able to reflect upon the academic material within a teaching and learning perspective.

Teacher training often seems to be torn between two separate worlds – the academic institution that runs the course, and the place where the teaching practice takes place. The evaluations of the Danish (2003), Swedish (2004, 2008) and Norwegian programmes (2006) concluded that the link between theory and practice was often far too tenuous. The evaluations also highlighted the fact that, to a great extent, it was the students themselves who were expected to establish such a link, and this was not considered appropriate. Although all of the Nordic teacher-training programmes are aware of this problem, it seems that the new Danish legislation (2006) has made the greatest progress in relation to stipulating actual structures for the link between theory and practice. It can be presumed that the introduction of a study of this link would improve the competence level of future teachers.

The link between theory and practice in teacher-training programmes is made tangible in terms of the relationship between academic training at institutions and in-the-school/on-the-job training. In other words, the link is revealed in the scope and organisation of the teaching practice. Much of the evidence suggests that enhancing the quality of the teaching practice, rather than its scope, is the most effective means of improving pupil performance. In Finland, which is characterised by a high level of student quality (the best approx. 14% of applicants are accepted) and good PISA results, teaching practice constitutes a smaller part of the teacher-training programme than it does in the other Nordic countries, where almost every qualified applicant is accepted. In Finland, teaching practice takes place in schools linked to the individual institutions, with well-trained “practice teachers” who are capable of supporting the student teachers. It is also emphasised that the content of the institution-based teaching should be closely related to the teaching practice (Barber & Mourshed, 2007). In Denmark, the teacher-training executive order incorporates a similar initiative designed to forge a strong link between theory and practice, the aim of which is that the students acquire practical skills in preparing,

implementing and evaluating class teaching. This takes the form of the teaching practice being prepared, implemented and then discussed in the pedagogic subject and in the relevant main subject. Furthermore, it appears to be important that the theory being taught can help to solve relevant problems in teaching practice – i.e. it should be a source of guidance for the teaching practice (Rasmussen et al., 2007).

Teacher-training programmes for upper-secondary schools are consecutively organised in all of the Nordic countries, with the exception of Finland, which has an integrated programme. This means that the upper-secondary teacher typically completes at least a bachelor phase, but generally also a master's phase. This process, which consists of academic and subject-based qualifications, is followed by professional postgraduate teacher training of varying duration. The same is largely true for the training programme for vocational teachers, apart from the fact that the phase that precedes pedagogy may be shorter or at a lower level.

7.3 Challenges facing Nordic schools

The Nordic countries' teacher-training programmes face a number of challenges, three of which will be discussed here:

- The demographic composition of the pupil population, and the resulting diversity and heterogeneity
- The demand for research or evidenced-based knowledge about the most effective means of achieving better pupil performance
- Reform of the management of public institutions, including schools, through the introduction of standard and test-based curricula.
- Diversity

Schools in the Nordic countries, as well as in many other European countries, face challenges associated with increased immigration. Immigration creates new forms of diversification in many schools and classes, and contributes to an increased level of diversity to which teachers must respond. Immigration also presents a challenge to teacher-training programmes in the Nordic countries in several ways. It requires improving the inter-cultural knowledge and competences of future teachers, the training of specialist and bilingual teachers, and the recruitment of teachers from other ethnic groups.

Most Nordic teacher-training programmes for primary and lower-secondary schools include one or more subjects that are common to all students, and which focus on, for example, inter-cultural knowledge and competence, including questions of inclusion and social justice. In Denmark, this is “Christian studies/philosophy of life/citizenship (KLM)”, in Finland “language and communication” and “talk and converse”, and in

Norway “religion, life and ethics (RLE)”. In Sweden, this element may be included in the general programme. Inter-cultural issues receive a certain amount of attention, but on the basis of this study it is not possible to say whether efforts in this area are sufficient.

Special education teachers are considered to be particularly valuable with regard to providing additional support for individual pupils or small groups of pupils who require particular attention, including pupils from immigrant families. The most recent teacher-training executive order in Denmark introduced the opportunity for students to take special education on a par with their main subject. A special education programme also exists in Finland, but it was not included in this comparative study. Norway has no formal special education programme, but students are able to choose a special pedagogy programme, or to link special pedagogy to the general teaching programme as a research discipline. On the basis of the national reports, it has not been possible to identify corresponding activities in the other Nordic countries.

In Denmark, it is possible to specialise in teaching bilingual pupils Danish by taking the main subject Danish as a second language (36 ECTS points). It is also possible to train as a bilingual teacher in Norway. However, the evidence from both countries suggests that too few bilingual teachers are being trained. In Denmark, this is due to the fact that bilingual teacher training is only offered at the major institutions, whereas in Norway the programme is only offered on the initiative of individual educational institutions. The national reports did not specify whether the teacher training programmes train bilingual teachers.

Training programmes for primary and lower-secondary schools in the Nordic countries have been expanded to cope with the increasing diversity of the pupil population. In Denmark, the uptake of students from ethnic backgrounds other than Danish in the period 2003–2005 was 6–7%. In Norway, the corresponding figure for 2003 was 5%, while in Sweden the uptake was 16% in 2005/2006, and 13% in 2006/2007. No data is available for Finland and Iceland. To a certain extent, the changes in the composition of the school population correspond to the demographic spread of student teachers. Therefore, reducing the cultural gap between teachers and pupils by training more teachers from non-Nordic ethnic backgrounds is expected to lead to an improvement in pupils’ learning outcomes.

Evidence-based knowledge/standard curricula/test-based curricula

A general trend in the direction of research-based teacher-training programmes can be noted in the Nordic countries. This is partly in recognition of the fact that scientific insight can help to clarify the preconditions for, and consequences of, pedagogic practice. Research-based programmes also equip teachers with the skills to relate to their teaching practice in a reflective, informed manner. In addition, they enable teach-

ers to relate critically to the many trends and fashions running through pedagogy.

The efforts to increasingly base teacher-training programmes on research are partly a consequence of the so-called accountability policy, which clearly delineates the areas of responsibility on all levels of the education system. On the one hand, this is done by making clear what is expected of schools in terms of standards or targets. On the other hand, it requires all of the schools' stakeholders, particularly the teachers, to accept responsibility for meeting these expectations, in the form of pupil performance that is quantifiable in terms of agreed standards. Such a policy stands and falls on the availability of knowledge about how the teaching is best conducted and improved in practice. Additional resources are only valuable if teachers are able to use them in a way that improves the teaching and the learning outcomes. In addition, making teachers responsible for the results of the teaching is only meaningful if they have sufficient knowledge of and practical competency in effective methods of organising and conducting classes.

Four of the five Nordic teacher-training programmes are research-based. The Finnish teacher-training programmes directed at primary and lower-secondary schools are university programmes at MA level (C2). The Icelandic teacher-training programme is currently a university programme at BA level (C1), but from 2011 will be at MA level (C2). Norwegian and Swedish teacher-training programmes take place at colleges and universities, but both are subject to the same legislation, and therefore to the requirement that they be research-based. The general teaching programme in Norway is at BA level (C1), while in Sweden it is at BA level (C1) for the younger school years, and MA level (C2) for the older ones.

The Danish teacher-training programme development-based, not research-based. It takes place at university colleges at professional bachelor level (C1). Although the Danish programme is not research-based, the executive order emphasises that the results of national and international research, experiments and development work that is of relevance to the teaching profession, and which contributes to the development and usage of new professional knowledge, should be incorporated into the teaching.

7.4 Literature

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8. Proposals for further studies

Due to considerations of timetable and budget, this study was conducted as a comparative study of the differences and similarities in the Nordic teacher-training programmes. It was based on accessible data from authoritative sources, and relates mainly to structural features in the respective programmes. The study has focused on the solutions adopted by the countries within the following six perspectives:

- The structure and organisation of the programmes, i.e. the relationship between four components that, in different ways and with different weighting, are included in all of the teacher-training programmes: main subject; subject-specific didactics; pedagogic subject; and teaching practice.
- Conditions on the programmes' input side, e.g. recruitment, student quality, entry level, completion time and drop-out rates
- The way in which the programmes adapt to political reforms in terms of degree structure, accreditation and quality assurance
- The programmes' relation to educational research and the need for evidence-based professional practice
- Their relevance to the issues faced by schools, e.g. individualisation, diversity, the desire to improve basic knowledge, the introduction of standard curricula and test-based teaching plans
- Conditions after the end of the training, e.g. employment, teaching and preparation time, salary and status.

The study reveals that, despite the Nordic countries' major socio-economic similarities, the Nordic teacher-training programmes are characterised by great variation within all of the above perspectives. The differences between the study programmes provide a solid basis for further study, since the differences can be considered to be indicators of where more in-depth research would be valuable – i.e. the differences can be used to separate “promising avenues” from “blind alleys”.

Based on the results presented here, it would be appropriate for further studies to ask questions about causes and explanations, in order to move beyond this study's tentative and structural data, in the direction of theory-based explanation models. These further studies would serve a dual purpose: on the one hand, to study whether the differences identified between the programmes can be explained by the fact that they aim to achieve stipulated objectives – and, if so, why this is the case; and, on the other, to help debunk myths about what is actually effective. Such studies would have to take cultural differences into consideration, as many solu-

tions cannot be understood until they are related to the network of ideas, values and world-views that distinguish the Nordic countries from each other, despite their great similarities.

In this light, it is suggested that the further studies be conducted in such a way that they will be capable of providing evaluations and recommendations in relation to relevant and topical themes. The most pressing themes related to teacher-training programmes appear to be:

- *Recruitment:* All of the Nordic countries, apart from Finland, are struggling with recruitment problems. There are no significant differences in terms of job opportunities, workload and salary in the Nordic countries. Even though these factors generally play a role in explaining students' choices of degree programmes, this does not seem to be the case with regard to teacher-training programmes. It is therefore relevant to study what makes Finnish teacher training different, with regards to attractiveness, organisation and structure, subsequent job conditions and other factors, e.g. status.
- *Basing teacher-training programmes on research:* The Nordic and European trend is in the direction of research-based teacher-training programmes. It is therefore important to study the programmes' research bases in greater depth, with a view to determining what the trained teacher's knowledge base should consist of, and how it can be enhanced.
- *Internationalisation:* It has been widely believed that the Nordic countries occupy a privileged position with regards to education. Today, that position seems to be threatened by other countries and regions, especially the knowledge economies in Asia. It therefore seems appropriate to study in greater depth the Nordic teacher-training programmes' opportunities and limitations in terms of enhancing their quality and increasing the mobility of both students and graduates.
- *Competence needs:* All research into teacher-training programmes shows that the quality of schools is limited by the quality of the teachers. In internationally comparable studies, Finnish pupils perform better than the other Nordic countries' pupils. It would therefore seem appropriate to initiate more in-depth studies of the importance of the elements of the Finnish teacher-training programme that are specifically directed at the teaching profession, particularly pedagogy and didactics, and compare this to programmes in the other countries. In addition, the importance of elements such as subject specialisation and age-group specialisation, as well as the relationship between theory and practice, ought to be studied in greater depth.

9. Sammenfatning

Formålet med dette komparative studium af de nordiske læreruddannelser i Danmark, Finland, Island, Norge og Sverige, er at kaste lys over et komplekst og sammensat uddannelsesbillede på tværs af landene.

Studiet sammenligner først de nordiske læreruddannelser inden for fire hovedområder: regulering af læreruddannelser, studenterkarakteristik og rekruttering, læreruddannelsens struktur og vægtning af fag og faglige elementer og endelig beskæftigelsesforhold. Sammenligningerne suppleres derefter med tværgående analyser af nogle af de udfordringer som beskrivelserne giver anledning til. Til sidst peges der på hvilke mulige videre studier rapporten peger i retning af.

Læreruddannelserne i Norden er organiseret meget forskelligt

Læreruddannelserne i de nordiske lande er organiseret meget forskelligt, både hvad angår længde og placering. Desuden er der forskel på om uddannelsen til lærer for klassetrinene 1–9 (10) er en bacheloruddannelse (first cycle, C1), en masteruddannelse (second cycle, C2) eller om den overhovedet kan placeres i cycle-systemet.

Den finske, islandske, norske og svenske læreruddannelse er forskningsbaseret. Den danske læreruddannelse for klassetrin 1–9 (10) er udviklingsbaseret med forskningstilknytning. Uddannelserne i Finland, Island, Norge og Sverige er placeret ved universiteter og højskoler der er omfattet af samme lovgivning. I Danmark er læreruddannelsen for klassetrin 1–9 (10) placeret ved professionshøjskoler med særskilt lovgivning, mens uddannelsen rettet mod klassetrin 10–12 er en forskningsbaseret kandidatuddannelse

Antallet af ansøgere til læreruddannelserne i Norden er faldet

Generelt er antallet af ansøgere til læreruddannelserne i Norden faldet de seneste år. Finland afviger fra de andre nordiske lande ved at rekrutteringen til læreruddannelsen er stabil og anses for tilfredsstillende. I alle de nordiske lande er der dog inden for flere fagområder mangel på lærere. Det gælder især inden for matematik og andre naturvidenskabelige fag. Der er flere nationale tiltag i gang for både at tiltrække flere studerende generelt og for at bremse lærermanglen på specifikke fagområder.

I både Danmark (for klassetrin 1–9) og Norge kan de studerendes indgangsniveau opfattes som forholdsvis lavt. I Finland anses de studerendes indgangsniveau for at være ganske højt, hvilket de særlige optagelsesprøver kombineret med læreruddannelsens popularitet kan være en del af forklaringen på. Der er ingen oplysninger om indgangsniveau for Sverige og Island.

Der er forskel på andelen af lærerstuderende som gennemfører i de nordiske lande. I Island og Sverige er andelen der gennemfører, overordnet set stor, modsat Norge og Danmark (for klassetrin 1–9), hvor andelen der gennemfører læreruddannelsen, er relativt lav.

Forskelle i læreruddannelsens struktur og vægtning af fag og faglige elementer

Der er forskel på hvor specifikke bestemmelser der regulerer de nordiske læreruddannelser. Danmark, Island og Norge har specifikke formålsbestemmelser for læreruddannelsen for klassetrinene 1–9 (10), mens Finland og Sverige har bredere formålsbestemmelser.

Læreruddannelserne har også forskellig længde. I Danmark (for klassetrin 1–9) og Norge er de fireårige og placeret på bachelorniveau (first cycle, C1). I Finland, og Danmark for klassetrin 10–12, er uddannelsen femårig på masterniveau (second cycle, C2), ligesom det i 2011 bliver tilfældet i Island. I Sverige afhænger uddannelseslængden af hvilket alderstrin man uddanner sig til at undervise.

De nordiske læreruddannelser rettet mod undervisning på klassetrinene 1–9 (10) er struktureret meget forskelligt, dog med de samme grundelementer: undervisningsfag, pædagogiske fag og praktik.

Undervisningsfagenes omfang og antal er meget forskellige i de nordiske læreruddannelser rettet mod undervisning på klassetrinene 1–9 (10). Danmark fokuserer på udvikling af kompetencer i specifikke fag i Norge gør det samme sig gældende, men fagkredsen kan her være bredere, mens Finland og Island fokuserer på bredere kompetencer. I Sverige er spørgsmålet om brede eller specifikke kompetencer afhængigt af hvilket uddannelsesstrin eller hvilken fagspecialisering den lærerstuderende vælger.

Generelt betoner alle nordiske læreruddannelser betydningen af fagdidaktik, og alle uddannelser har integreret fagdidaktik i undervisningsfagene. Omfanget af de pædagogiske fag varierer omvendt mellem de nordiske lande. I Finland udgør de pædagogiske fag i læreruddannelsen til klasselærer en stor del af uddannelsen, mens Danmark og Norge ligger i den anden ende af skalaen med færre pædagogiske fag. Alle de nordiske lande har praktik som en del af deres læreruddannelse og betoner væsentligheden af koblingen mellem teori og praksis.

Generel mangel på læreruddannede undervisere i Norden

Overordnet set er arbejdsløsheden blandt lærere relativt lille i de nordiske lande, og i flere lande er der mangel på lærere. I Norge og Danmark er beskæftigelsesmulighederne særligt positive fordi mange lærere i de kommende år går på pension. Mangel på læreruddannede undervisere i flere af de nordiske lande har ført til at mange skoler har været nødt til at ansatte undervisere uden de fornødne kompetencer.

En opgørelse gennemført af OECD i 2006 viser at danske lærere har den højeste startløn og grundløn efter 15 års uddannelse. Det gælder for

både lærere som underviser på klassetrinene 1–9 (10) og 10–12 udregnet i forhold til købekraftsparitet. I forhold til OECD-gennemsnittet og EU19-gennemsnittet for startløn ligger både Island, Finland og Sverige under gennemsnittet. Slutlønnen er både på klassetrinene 1–9 (10) og for klassetrinene 10–12 højest i Finland. Det skal bemærkes at alle de nordiske lande ligger under både den gennemsnitlige slutløn for EU19-landene for både grundskole- og ungdomsuddannelsesniveau, udregnet i forhold til købekraftsparitet.

Den finske læreruddannelse skiller sig ud fra de andre læreruddannelser ved at være meget attraktiv. De øvrige nordiske læreruddannelsers status er generelt ikke særlig høj. Faldende ansøgertal og øget efterspørgsel efter lærere kan på sigt blive et samfundsmæssigt problem.

Udfordringerne for læreruddannelserne i Norden

Rapporten peger på tre overordnede udfordringer for læreruddannelsen. En udfordring er de nordiske læreruddannelsers tilpasning til Bologna-processen. Her viser det sig at tilpasningerne foretages med en vis forskellighed i tempo og ambitionsniveau. En anden udfordring er læreruddannelsens indretning i forhold til de nordiske landes stræben efter at løfte elevernes faglige udbytte af deres skolegang. Her viser rapporten at styrkelse af lærerkvaliteten på læreruddannelsen kan være væsentlig i denne sammenhæng, og at mange relevante tiltag om styrkelse af koblingen mellem teori og praksis og prioritering af didaktik allerede er i fokus. Den tredje udfordring som de nordiske læreruddannelser står over for, er en række samfundsrelaterede udfordringer. Disse udfordringer grunder sig i øget diversitet og heterogenitet i elevsammensætningen, nye former for styring og ønsker om forsknings- eller evidensbaseret viden om “vad der virker” i forhold til opnåelse af bedre elevresultater.

Behov for mere viden på tværs af nordiske læreruddannelser

På baggrund af analysen giver rapporten til sidst forslag til fire videre studier. Det drejer sig om studier i rekruttering til læreruddannelsen, forskningsbaseret af læreruddannelser, internationalisering samt udvikling af undervisningskompetencer i læreruddannelsen. Disse studier vil kunne undersøge ligheder og forskelle i dybden og pege på årsagssammenhænge som vil kunne bidrage med relevant viden til en diskussion af udviklingen af de nordiske læreruddannelser.

Bortset fra Finland har alle nordiske læreruddannelser rekrutteringsproblemer. Samtidig viser rapporten at der ikke er væsentlige forskelle i beskæftigelsesmuligheder, undervisningsbelastning eller løn når man sammenligner de nordiske læreruddannelser. Det er derfor væsentligt at få mere viden om hvilke faktorer der kan forklare den finske læreruddannelses attraktivitet.

Tendensen i de nordiske såvel som europæiske læreruddannelser går retning af forskningsbaserede læreruddannelser. Det vil derfor være væ-

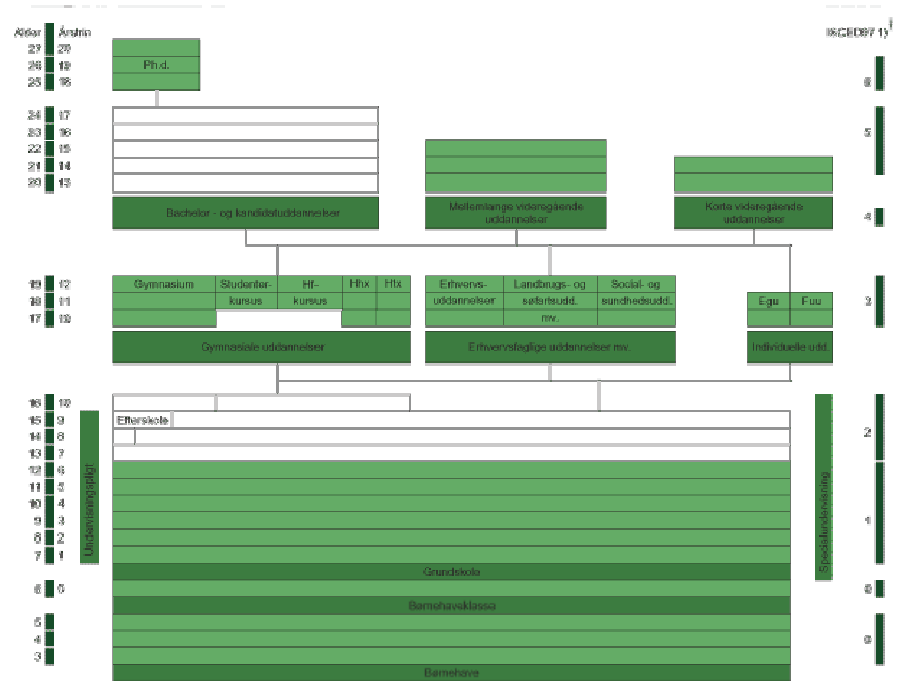
sentligt i fremtiden at undersøge de nordiske læreruddannelsers vidensbaser og hvordan disse i fremtiden evt. kan styrkes.

Den større internationale konkurrence om uddannelser som vi ser i dag, gør at det i fremtiden vil være relevant med undersøgelser af udviklingsmuligheder og begrænsninger i de nordiske læreruddannelser. Dette vil bidrage til kvalitetsløft af uddannelserne og mobilitet for såvel studerende som færdiguddannede.

International forskning peger på at et skolesystems kvalitetsgrænse går ved kvaliteten af dets lærere. Flere undersøgelser viser at finske elever præsterer bedre end de øvrige nordiske landes elever. Det vil derfor være interessant i fremtiden at analysere om strukturen og/eller indholdet i den finske læreruddannelse bevirker en højere lærerkvalitet end i de øvrige nordiske lande.

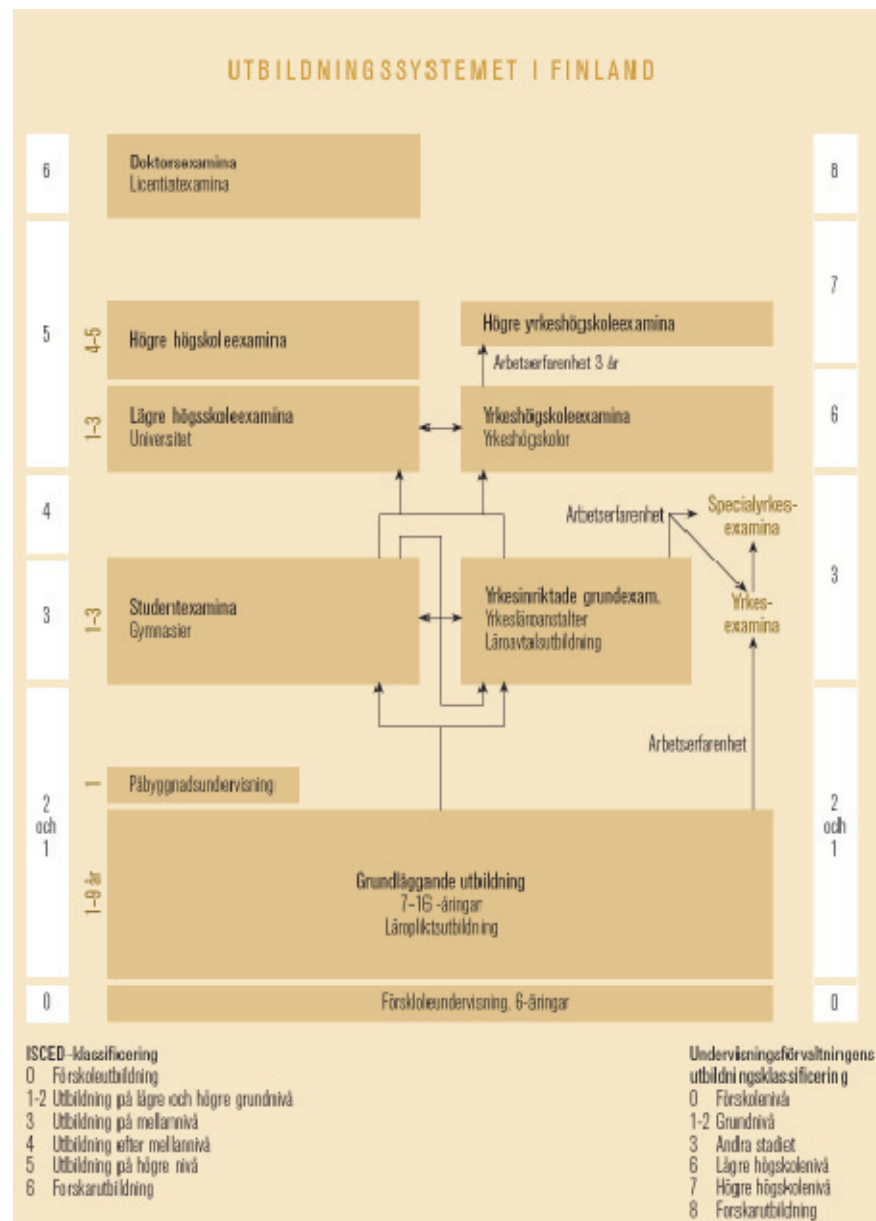
Appendix A

Overview of the education system in Denmark



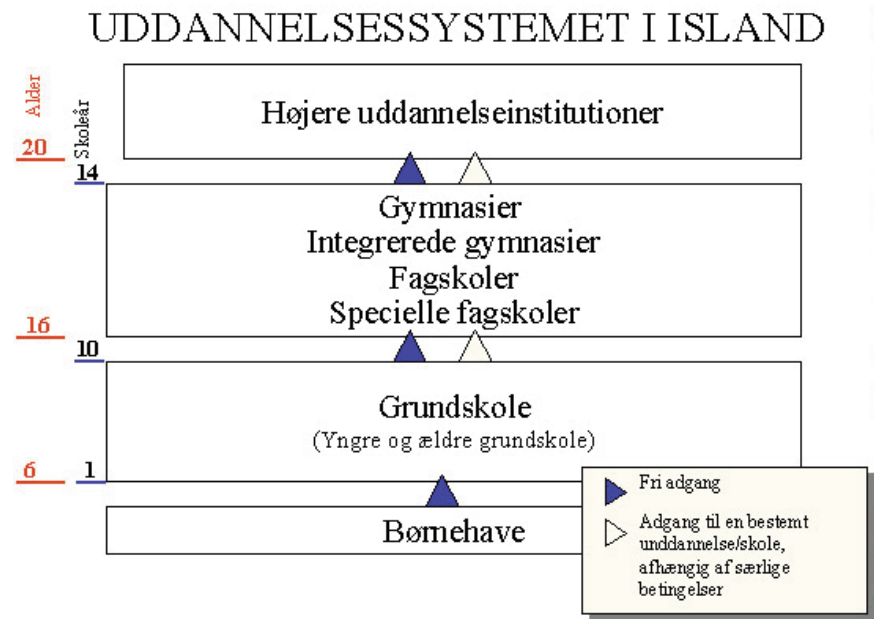
Appendix B

Overview of the education system in Finland



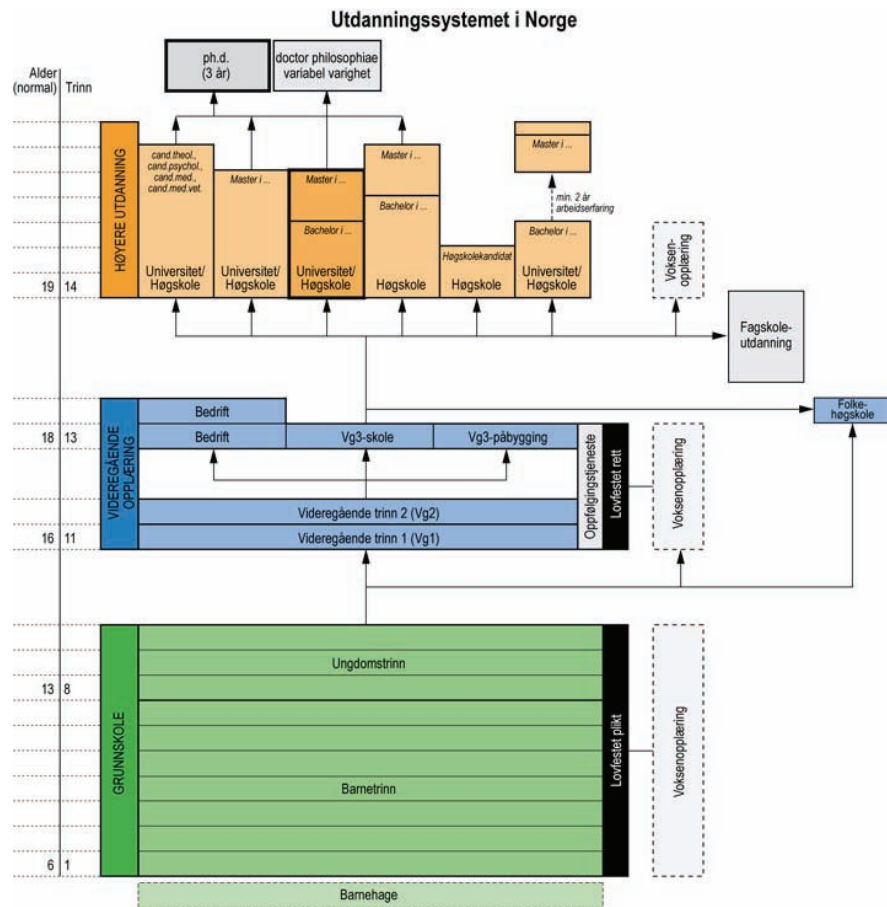
Appendix C

Overview of the education system in Iceland



Appendix D

Overview of the education system in Norway



Appendix E

Overview of the education system in Sweden

SVERIGES UTBILDNINGSSYSTEM 2007

