



G. Gallavara, E. Hreinsson, M. Kajaste, E. Lindesjö, C. Sölvhjelm, A. K. Sørskår, M. Sedigh Zadeh

# Learning outcomes: Common framework – different approaches to evaluation learning outcomes in the Nordic countries

Joint Nordic project 2007-2008, by the Nordic Quality Assurance Network for Higher Education (NOQA)

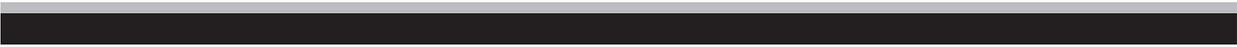


---

G. Gallavara, E. Hreinsson, M. Kajaste, E. Lindesjö, C. Sølvehjelm, A. K. Sørskår, M. Sedigh Zadeh

Learning outcomes:  
Common framework – different approaches to  
evaluating learning outcomes in the Nordic countries

**Joint Nordic project 2007-2008, by the Nordic Quality Assurance Network for Higher Education (NOQA)**





Education and Culture DG

## International co-operation in higher education and training

This project has been funded with support from the European Commission in the framework of the Socrates programme. This publication reflects the views of the authors only and the Commission cannot be held responsible for any use which may be made of the information contained therein.

ISBN 978-952-5539-35-6 (PAPERBOUND)

ISBN 978-952-5539-36-3 (PDF)

ISSN 1458-1051

The present report can be downloaded from the ENQA website at  
<http://www.enqa.eu/pubs.lasso>

© European Association for Quality Assurance in Higher Education 2008, Helsinki

Quotation allowed only with source reference.

Cover design and page layout: Eija Vierimaa

Edited by Gunn Gallavara, Teemu Suominen

Helsinki, Finland, 2008



# Table of contents

Foreword.....	5
Preface .....	6
Summary .....	7
<b>PART A. Introduction.....</b>	<b>9</b>
Project description .....	9
Organisation of the work - method .....	9
Definitions and concepts .....	10
<b>Why learning outcomes? .....</b>	<b>12</b>
<b>Learning outcomes outside the Nordic countries.....</b>	<b>13</b>
<b>PART B. Learning outcomes in the Nordic countries .....</b>	<b>15</b>
<b>The Danish higher education system .....</b>	<b>16</b>
The Danish national qualification framework.....	17
Learning outcomes in the Danish higher education institutions.....	18
Introduction of learning outcomes .....	18
Defining learning outcomes .....	18
Using learning outcomes .....	19
EVA and learning outcomes.....	19
<b>The Finnish higher education system .....</b>	<b>21</b>
National qualifications framework in Finland.....	22
Learning outcomes in the Finnish higher education institutions.....	23
Introduction of learning outcomes .....	23
Defining learning outcomes .....	23
Using learning outcomes .....	24
FINHEEC and learning outcomes .....	24
<b>The Icelandic higher education system.....</b>	<b>26</b>
The organisation of quality assurance in Iceland .....	26
The Icelandic national qualification system .....	27
Learning outcomes in higher education institutions in Iceland .....	27
Defining Learning Outcomes .....	28
Using Learning Outcomes.....	28
The Ministry of Education, Science and Culture and learning outcomes.....	29
<b>The Norwegian higher education system.....</b>	<b>30</b>
Situation related to national qualification framework and learning outcomes .....	31
Learning outcomes in the higher education institutions .....	31
Introduction of learning outcomes .....	31
Defining learning outcomes .....	31
Using learning outcomes .....	32
NOKUT and learning outcomes .....	33

<b>The Swedish higher education system .....</b>	<b>34</b>
The Swedish national qualification framework.....	34
Learning Outcomes in the higher education institutions .....	35
Introduction of learning outcomes .....	35
Defining learning outcomes .....	35
Using learning outcomes.....	36
HSV and learning outcomes .....	36
<b>Summary: Learning outcomes in Nordic higher education institutions .....</b>	<b>38</b>
Formulation of learning outcomes .....	38
Defining the concept of learning outcomes.....	38
Sources of inspiration and the initiative to formulate learning outcomes .....	39
Formulations and descriptions of learning outcomes .....	39
Using learning outcomes .....	39
Introduction of learning outcomes to students, teachers and other stakeholders .	40
Following up the descriptions of learning outcomes.....	40
<b>Learning outcomes in the Nordic quality assurance agencies .....</b>	<b>41</b>
National qualification framework.....	41
Looking at learning outcomes.....	41
<b>PART C.</b>	
<b>Agency experiences of evaluating learning outcomes in study programmes .....</b>	<b>43</b>
<b>EVA's experience of evaluating learning outcomes.....</b>	<b>44</b>
Developing a new set of accreditation criteria.....	44
The pilot test.....	44
Looking at the achievement of learning outcomes in an accreditation .....	45
Learning outcomes in the new Danish accreditation criteria .....	46
<b>NOKUT's experience of evaluating learning outcomes .....</b>	<b>47</b>
The use of graduate survey and interviews for the purpose of exploring	
learning outcomes.....	47
The use of graduate surveys and interviews with the employers .....	48
<b>PART D. Some considerations on the use of learning outcomes in the future .....</b>	<b>49</b>
<b>Learning outcomes in quality audits.....</b>	<b>50</b>
<b>Learning outcomes in evaluation of study programmes .....</b>	<b>51</b>
A common understanding of learning outcomes.....	51
Learning outcomes and assessment criteria.....	52
How to measure learning outcomes? .....	52
<b>Final reflections .....</b>	<b>54</b>
<b>References .....</b>	<b>56</b>
<b>Appendices.....</b>	<b>58</b>
Appendix 1: Questions to the agencies.....	58
Appendix 2: Questions to the institutions.....	59
Appendix 3: The education systems in the Nordic counties.....	60

# Foreword

The adoption of the Bologna process has influenced the development of quality assurance across many countries in Europe. In particular, the implementation of the Framework for Qualifications in the European Higher Education Area has stimulated discussion about the three cycle model, which uses generic descriptors for each cycle based on learning outcomes and competences. This in turn has led both agencies and institutions to seek to further define and understand the terms 'learning outcomes' and 'competencies' for use in their own national situations.

This trailblazing report by the Nordic Quality Assurance Network in Higher Education makes a valuable contribution to expanding agencies' knowledge and understanding of the concept of learning outcomes, by examining the Nordic perspective. It outlines how the Nordic higher education institutions are currently working on developing and implementing learning outcomes, and focuses on preparations under way at the quality assurance agencies for future work to evaluate those outcomes.

The value of learning outcomes has been recognised by all players – agencies, institutions, students, ministries – but in the future, measuring learning outcomes may prove to be both the greatest challenge, and the greatest reward.

I hope this report will inform and stimulate debate on this important topic amongst ENQA members and other stakeholders.

PETER WILLIAMS  
*President*  
ENQA

# Preface

The demands of the Bologna-process are influencing higher education in the Nordic countries. All five Nordic countries Denmark, Finland, Iceland, Norway and Sweden have adopted the qualification framework in the European higher education area, comprising three cycles with generic descriptors for each cycle based on learning outcomes and competences, which will be implemented by 2010. The higher education institutions are now working on implementing, describing, measuring and evaluating learning outcomes. The quality assurance agencies are preparing for future evaluations including a learning outcomes component.

The Nordic Quality Assurance Network in Higher Education (NOQA) is a forum for disseminating information, sharing experience and pursuing projects of mutual interest. The main objective is to create a joint understanding of different Nordic viewpoints on issues related to higher education quality assurance.

The Nordic network has engaged in seven previous joint projects, which have all encouraged and produced new perspectives, a broader understanding of different viewpoints and the exchange of experience and information related to the work with quality assurance. This time NOQA wanted to take a look at something not yet established, something in a process of development. The working title was: *“How learning outcomes (National and European Qualification Framework) are or may be an important basis for evaluation criteria for study programmes.”* The work on national qualification frameworks and learning outcomes is at different stages in the various Nordic countries, which makes this starting point a challenge particularly when most of the Nordic quality assurance agencies are at the present time in a process of discussing how learning outcomes are a part of the agencies’ evaluations. The Nordic higher education institutions are working on developing and implementing learning outcomes. This report focuses on the Nordic quality assurance agencies’ preparations for the future work of evaluating learning outcomes, and also includes examples from the work undertaken at higher education institutions.

The aim of this joint Nordic project is to expand the agencies’ knowledge and understanding of the concept of “learning outcomes”. The hope of the project group is to inspire the Nordic quality assurance agencies, the higher education institutions and others that are interested in the process of implementing learning outcomes and developing methods of evaluation.

For further reading on the development of learning outcomes, the report from the United Kingdom Bologna seminar can be recommended (Bologna Seminar 1–2 July 2004) and for the implementation of Bologna, the EUA Bologna Handbook (The EUA Bologna Handbook, 2006).

We would like to express our warmest thanks to all institutions participating in this project.

# Summary

All the Nordic countries have, in connection with the Bologna-process, an obligation to develop a national qualification framework by 2010. Learning outcomes are for all the countries an important part of the national qualification framework. The implementation of learning outcomes and a national qualification framework is at different stages in the five countries. The national qualification framework in Iceland is already implemented. In Denmark the first qualification framework was approved in 2003, and in 2008 a new second generation qualification framework is being developed. In Norway and Sweden the proposal of a national qualification framework has been to hearing with the institutions and stakeholders, and the final work is now in progress. In Finland the Ministry will most likely form a working group to create a national qualification framework in 2008–2009.

In all Nordic countries higher education institutions have started the work with developing and formulating learning outcomes for their study programmes, subjects and modules. All higher education institutions in Iceland and Sweden, and the Finnish polytechnics have introduced learning outcomes. In Denmark all institutions have been working with learning outcomes, but not all have followed the terminology of the national qualification framework. In Norway, the institutions are formulating descriptions of the study programme objectives that are quite similar to descriptions of learning outcomes, and some of the institutions have taken the initiative to describe more outcome related descriptions of their own study programmes.

The majority of the participating institutions found learning outcomes to be very useful. Among the primary strengths is the aspect that the learning outcomes provide better information on courses and programmes. Also, the encouragement to develop teaching methods and an improvement of the connection between content, examination and assessment was seen as useful. The discussions between teachers and students on learning outcomes have also reportedly created better understanding of the subject, content and attitudes. Only a few institutions have used learning outcomes to probe working-life expectations and future developments. None of the institutions use learning outcomes as a part of their quality assurance system yet, but, there is reason to expect their more ambitious application as a tool to assess and develop teaching and institutional performance in the future.

However, the Nordic quality assurance agencies and the Icelandic Ministry of Education, Science and Culture have limited experiences of evaluating learning outcomes. Denmark and Norway have since 2003 carried out evaluations resembling learning outcomes. These experiences of evaluating learning outcomes are part of an accreditation-process.

For quality assurance agencies, the focus on learning outcomes is at an aggregated level, such as study programmes or institutions, and not at the individual student level. There are inherent challenges with the agencies evaluation of learning outcomes in quality audits and programmes, subjects or modules. In evaluations, these are, for example, connected with the assessment criteria, ways of measuring learning outcomes, and different interpretations of the contexts in the different countries. One challenge is to develop indicators that measure the achievement of learning outcomes

compared with the intended learning outcomes, and not easily measurable like efficiency, etc., that provides limited information about the learning outcomes.

It seems that learning outcomes can be integrated relatively easy into quality audits if higher education institutions have implemented learning outcomes, in their study programmes and they are a part of the institution's quality assurance system. The institutions themselves don't really know yet how they are going to evaluate whether the students are fulfilling the learning outcomes and how they make sure that the learning outcomes are in accordance with the descriptions of the national qualification framework within the programmes.

Currently, higher education institutions, quality assurance agencies and research institutes worldwide are working on the topics of describing and formulating, measuring and evaluating learning outcomes. In the future, we will find a range of examples of assessment criteria and measurement indicators and different approaches on evaluating learning outcomes. Both audit and evaluation of study can promote enhancement of the work on learning outcomes.

# PART A. Introduction

## **Project description**

The objective of this project is to expand the agencies' knowledge and understanding of the concept of "learning outcomes" in relation to their work with the quality assurance of higher education.

The project aim is to describe and analyse the implementation and use of learning outcomes in both the Nordic higher education institutions and the Nordic quality assurance agencies, and consider some possible consequences to the agencies' external quality assurance.

The project attempts to answer the following questions:

- Why learning outcomes?
- What is the present situation in each Nordic country regarding
  - national and institutional understanding of learning outcomes
  - the development and use of learning outcomes
  - the aim of using the learning outcomes
  - the impact of using learning outcomes
- How can we as quality assurance agencies use learning outcomes in evaluations in the future?
  - evaluating learning outcomes in higher education audit
  - evaluation learning outcomes in study programmes
  - method/criteria used at other agencies

## **Organisation of the work - method**

A project group with members from each of the Nordic quality assurance agencies has carried out the project. Gunn Gallavara was the coordinator of the project. The project group members have been:

- Gunn Gallavara, The Norwegian Agency of Quality Assurance in Education (NOKUT)
- Einar Hreinsson, Ministry of Education, Science and Culture, Iceland
- Matti Kajaste, The Finnish Higher Education Council (FINHEEC)
- Eric Lindesjö, The Swedish National Agency for Higher Education (HSV)
- Christel Sølvhjem, The Danish Evaluation Institute (EVA)
- Anne Karine Sørskår, The Norwegian Agency of Quality Assurance in Education (NOKUT)
- Mehdi Sedigh Zadeh, The Swedish National Agency for Higher Education (HSV)

The group had four meetings, the first in Oslo in October 2007. There was a meeting in Copenhagen in January and in Helsinki in March 2008, and the last meeting was in Reykjavik in April. All members of the group have participated in the writing of the report, but the final version has been edited by NOKUT.

The project group has gathered information from selected higher education institutions in each of the Nordic countries regarding their work and experience with learning outcomes. The institutions were asked to answer a set of questions in order to obtain comparable material. All agencies used a questionnaire to collect the information. In addition, EVA, also carried out telephone interviews.

The institutions have not been selected randomly, and therefore they don't provide a representative picture of the situation concerning learning outcomes in the different countries' higher education institutions. The institutions provide examples of trends and work with learning outcomes at higher education institutions. The selected institutions are:

DENMARK:

University of Aarhus  
Roskilde University  
The Danish School of Design  
Roskilde Business College  
The School of Nursing in Silkeborg

FINLAND:

Laurea polytechnic  
Jyväskylä polytechnic  
Sibelius Academy

ICELAND

University of Iceland  
Reykjavik University  
University of Akureyri

NORWAY

University of Oslo  
University of Tromsø  
Norwegian School of Theology

SWEDEN

University of Gothenburg  
Karolinska Institute  
Malmö University

Furthermore the group also collected information from each of the Nordic quality assurance agencies and the Icelandic Ministry of Education, Science and Culture regarding their work and experiences with learning outcomes. The findings from each of the countries are described in detail in the country reports, but also summed up later in part B to show the trends in the Nordic countries.

**Definitions and concepts**

The report is based on the definition used on the official Bologna website: "Learning outcomes are statements of what a learner is expected to know, understand and/or be able to do at the end of a period of learning".

Evaluation is used as a general term when writing about different evaluation methods such as accreditation, audit, benchmarking, and evaluation for quality enhancement and so on in order to promote quality assurance.

A distinction may be drawn between internal and external quality assurance. Internal quality assurance is the institutions own measures to promote quality in their programmes. External quality assurance refers to processes like evaluation, accreditation and audits which the agencies undertake in order to investigate the quality of a higher education institution, and which is described in the ENQA document “Standards and Guidelines for Quality Assurance of the European Higher Education Area” published in 2005.

# Why learning outcomes?

One of the purposes of the Bologna process was to encourage European cooperation in quality assurance of higher education with a view to developing comparable criteria and methodologies. Qualification frameworks are important instruments in achieving comparability and transparency. Qualification frameworks describe the qualifications of an education system and how they interlink. National qualification frameworks encompass all education qualifications – or all higher education qualifications in an education system. They describe what learners may be expected to know, understand and be able to do on the basis of a given qualification (learning outcomes) as well as how learners can move from one qualification to another within a system. Qualification frameworks thus focus on outcomes as much as or more than procedures, and various learning paths – including lifelong learning (The Bologna official website).

Learning outcomes were not mentioned in the original 1999 Bologna Declaration or the Prague Communiqué of 2001, but on the way through the process, the significance of a generic way describing the output of education emerged. At the 2005 Bologna summit in Bergen, an overarching European Qualifications Framework (EQF) for higher education was agreed. This consists of three cycles of generic qualifications (plus an optional short cycle, within or linked to the first cycle). It sets out defined generic descriptors for each cycle based on learning outcomes and competences (described in terms of knowledge, skills and competence and generic skills) and for the first and second cycles, an estimate of the number of credits required. Learning outcomes are extensively referred to in various Bologna-related documents including more recently the Berlin Communiqué itself (Berlin Communiqué 2003):

*Degree structure: 'Ministers encourage the member states to elaborate a framework of comparable and compatible qualifications for their higher education systems, which should seek to describe qualifications in terms of workload, level, learning outcomes, competences and profile. They also undertake to elaborate an overarching framework of qualifications for the European Higher Education Area.*

*Within such frameworks, degrees should have different defined outcomes. First and second cycle degrees should have different orientations and various profiles in order to accommodate a diversity of individual, academic and labour market needs. First cycle degrees should give access, in the sense of the Lisbon Recognition Convention, to second cycle programmes. Second cycle degrees should give access to doctoral studies.*

Learning outcomes are, in a way, a tool to describe and define a learning and assessment process and its product, which can lead to improved pedagogical practice in education and improved student learning practice. They place focus on the coherence and aims of the qualification, the judgement of the designer and how the qualification fits within the traditions of the discipline. By using learning outcomes to describe the learning process and its outcomes, institutions are addressing the interests of the students and the stakeholders in a learner-centred way rather than being a teacher-centred. By that it can be said that the intended learning outcomes are statements that predict what learners will have gained as a result of learning. From the students perspective, the outcome approach communicates what they are expected to be able to do and the criteria that will be used to assess them. This means that the description of the learning process has shifted from input to output.

# Learning outcomes outside the Nordic countries

The received information about the exact state of introduction and implementation of learning outcomes from all the 46 Bologna countries is very scarce and to some extent unreliable. The 2007 review reveals that there is considerable activity across Europe, which can be viewed as a positive European-wide movement toward the adoption of learning outcomes. However, progress is slightly slow both in the national and institutional adoption and the implementation of learning outcomes (UK Bologna seminar on learning outcomes, 2004). Despite this, Adam argues in his report (2004) that “this is not a negative situation as learning outcomes are part of a massive reform package that spans enormous structural and process changes from macro to micro levels, encompassing qualification frameworks, quality assurance, institutional and curriculum reform. Such innovations require careful and slow implementation.”

It appears that the Bologna process definition of learning outcomes is commonly adopted as it is widely used<sup>1</sup>. However, it is not safe to assume that the detailed practical application of learning outcomes is understood in the same way in every country. There are possible confusions between, for example, the level of the description of learning outcomes, competence and student workload<sup>2</sup>. Detailed experience of learning outcomes is limited to just a few countries at both the institutional and national levels. The most highly developed systems – that use learning outcomes as a basis for the qualification framework, level descriptors, generic qualification descriptors, subject descriptors and the individual modules – exist in Scotland (<http://www.qaa.ac.uk/scotland>) and Eire (<http://www.hetac.ie/>)<sup>3</sup>. According to Vincent, “Learning outcomes had fundamentally changed the Scottish sector’s approach to learning since the 1990’s and had resulted in enhanced coherence of the learning experience, greater transparency, increased dialogue with stakeholders, more opportunity for students to manage their own learning and better support for transitions into and out of learning programmes at points that suited the needs of the student.” (Bologna seminar on learning outcomes based higher education, 2008).

In addition to Scotland and Eire, England, Wales and Northern Ireland have well-established systems that have pioneered the use of learning outcomes in higher education (Bologna seminar on learning outcomes based higher education, 2008). Belgium, Croatia, Estonia, Hungary, Italy, Moldova, Portugal, Romania, Spain, and Switzerland are making rapid progress towards a more comprehensive implementation of learning outcomes. Belgium (Flemish Community), Hungary, Ireland, Italy, Slovak Republic, Spain, and the UK have developed (or are at the advanced stages of implementing) integrated systems that employ learning outcomes approaches at all levels of educational activity. There is modest development in the area of learning

---

1 “Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate at the end of a period of learning”. S. Adams in Bologna seminar 2008.

2 Further reading at the final seminar report Bologna seminar 2008 [http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh\\_Feb08\\_final\\_report.pdf](http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh_Feb08_final_report.pdf)

3 Bologna seminar on learning outcomes based higher education (2008): The Scottish experience. Stephen Adam (UK Bologna expert).

outcomes in Estonia, Greece, Lithuania and Latvia (Bologna seminar on learning outcomes based higher education, 2008).

It is clear that activity outside Europe has been taking place notably in Australia, New Zealand, South Africa and the USA.

In the USA Alverno College in Milwaukee, Wisconsin has many years of experience of applying learning outcomes. The US engineering accreditation agency known as ABET (Leadership and Quality Assurance in Applied Science, Computing, Engineering, and Technology Education) has fairly wide resources available online concerning the creation of learning outcomes assessment methods. According to ABET, when assessing learning outcomes, one asks the following questions: what have students learned, what skills have they gained and what attitudes have they developed? It is these questions institutions should attempt to answer in collecting relevant data on their performance related to learning outcomes. "The higher education institutions must have a performance criteria of specific, measurable statements identifying the performance(s) required to meet the outcome; confirmable through evidence". Hence it is important to have a desired target level set to which results can be compared ([www.abet.org](http://www.abet.org)).

ABET describes a variety of assessment methods for observing learning outcomes: written questionnaires, interviews, standardised tests, locally developed tests, external evaluations, peer and 360-degree reviews and so on. They all have different characteristics related to relevance, accuracy and utility. Some require more effort to perform but also provide more accurate information, whereas others are lighter tools. No single method is good for measuring a variety of student abilities, but a selection of indicators and measurement tools seems necessary.

The Australian Qualifications Framework provides a comprehensive, nationally consistent framework for all post compulsory education and training, which was introduced in 1995 (UK Bologna Seminar on learning outcomes, 2004).

## PART B. Learning outcomes in the Nordic countries

This part of the report gives an introduction to the implementation and development of learning outcomes in higher education institutions and quality assurance agencies in the Nordic countries.

The information is based on questionnaires to the quality assurance agencies and the Icelandic Ministry of Education, Science and Culture. Selected higher education institutions also answered a questionnaire on implementing learning outcomes. All the participating Nordic higher education institutions were selected because they had commenced formulating learning outcomes, but some to a greater extent than others.

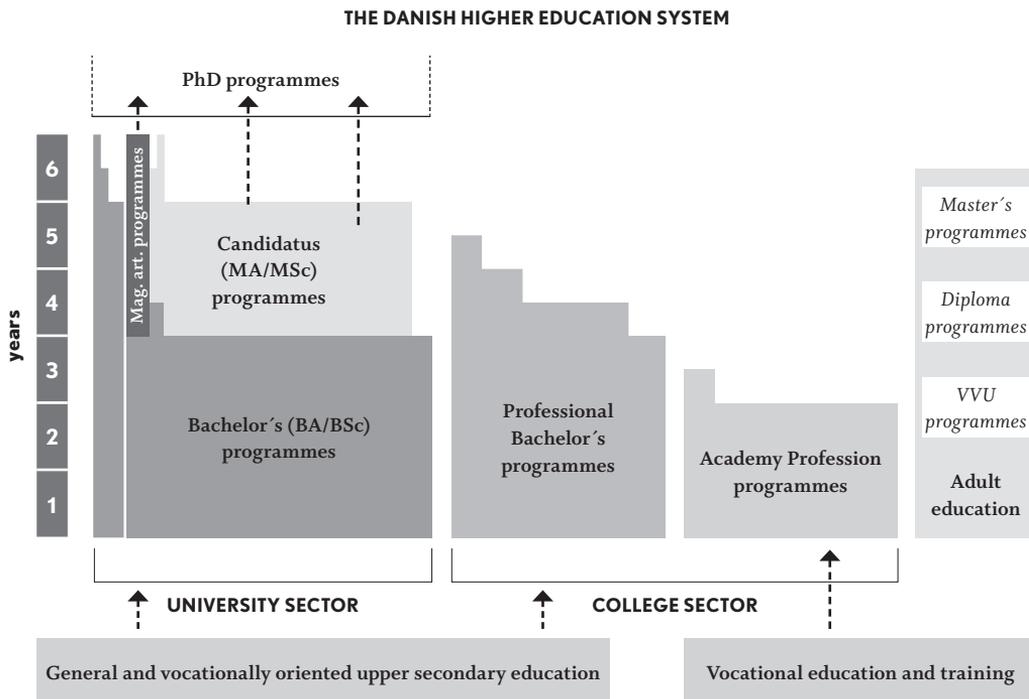
In order to provide a picture of the situation regarding learning outcomes in the Nordic countries, each national quality assurance agency contacted a number of higher education institutions and asked them to answer a number of questions regarding their work and experience with learning outcomes. This resulted in five national pictures of higher education institutions and learning outcomes. It is important to stress that the national pictures are not representative for all higher education institutions in the different countries and simple comparisons between countries are not meaningful. This chapter does not present a complete picture of how Nordic higher education institutions are working with learning outcomes. Instead, the intention is to try to highlight trends within this field.

# The Danish higher education system

There are three types of institutions offering higher education in Denmark:

1. Academies of professional higher education or vocational colleges which offer 2-year academy profession programmes in fields such as business, technology, and IT. There are 15 academies of professional higher education and a number of vocational colleges.
2. University colleges which offer 3–4 year professional bachelor programmes in fields such as teacher training, business, health, engineering and social work. There are 8 university colleges in Denmark.
3. The universities which offer three-year bachelor programmes, two-year candidatus programmes and three-year PhD programmes. There are 8 universities in Denmark.

The different programmes underlined above can be found in the following diagram over higher education in Denmark:



**Fig 1 Illustration of the Danish higher education system**

In Denmark responsibility for higher education is divided between different ministries<sup>4</sup>.

<sup>4</sup> The Ministry of Science, Technology and Innovation is responsible for higher education in the university sector (bachelor candidatus and PhD). The Ministry of Education is responsible for higher education in the college sector (academy profession and professional bachelor programmes). In addition to this the Ministry of Culture is responsible for the cultural and creative higher educational programmes, the Danish Maritime Authority is responsible for the maritime higher education programmes, the Ministry of Defence is responsible for higher education programmes within its field, and the Ministry of Justice is responsible for higher education programmes within its field.

## The Danish national qualification framework

The first Danish qualification framework for higher education was developed in 2001-02 and approved by the ministers responsible for higher education in 2003<sup>5</sup>. It was developed by the Danish Bologna follow-up group and all stakeholders relevant to higher education were represented. In short, the national qualification framework of 2003 focused on the following three elements:

- a description of the overall/general competency profile for a particular degree.
- a set of competency goals focusing on the intellectual - , academic - and practical competences.
- a description of the formal aspects (i.e. admittance requirements, length of study and further education options)

From 2003 to 2006, the Danish universities worked towards describing their programmes using outcome descriptors. Some of them used the terminology from the Danish qualification framework, others developed their own terminology. At the same time six pilot projects were carried out at academy profession programmes (AP) and adult further education programmes (VUU) and professional bachelor programmes and diploma programmes in an attempt to implement the qualification framework and its terminology in the Danish college sector. All the experiences of the institutions were gathered and used in the revision and development of a second generation qualification framework.

In May 2007 a draft for a new Danish qualification framework was presented. Again, a broad group of stakeholders had been involved in the development of the framework. The new Danish qualification framework consists of three elements:

- description of learning outcomes, sub-divided into three main categories:
  - knowledge (with two sub-categories: field of knowledge; level of understanding and reflection)
  - skills (with three sub-categories: the character of the skills; assessment and decision making; dissemination)
  - competences (with three sub-categories: field of action; co-operation and responsibility; learning)
- description of levels (four levels: sub-degree level; bachelor level; candidatus/ master level and PhD level)
- description of degrees (eight degrees: vocational academy degree; adult further education degree; professional bachelor degree; diploma graduate degree; bachelor degree; candidatus degree; master degree and PhD degree).

The new national qualification framework was sent to hearing, and at the moment a working group is in the process of revising the framework and working in the comments from the hearing. This work is expected to finish in summer 2008. Until now the use of the correct terminology for describing learning outcomes and associated concepts by the higher education institutions has been optional, but with the new national qualifications framework this is expected to become compulsory.

---

<sup>5</sup> The first Danish qualifications framework for higher education can be found at the following link: [http://www.ciriusonline.dk/Admin/Public/Download.aspx?file=files/filer/bologna/danish\\_qf\\_report\\_2003.pdf](http://www.ciriusonline.dk/Admin/Public/Download.aspx?file=files/filer/bologna/danish_qf_report_2003.pdf).

## **Learning outcomes in the Danish higher education institutions**

EVA selected five higher education institutions to participate in the NOQA questionnaire on learning outcomes:

- The Faculty of Humanities, University of Aarhus (referred to as HUM-AU).
- Roskilde University (referred to as RUC).
- The Danish School of Design (referred to as DKDS).
- Roskilde Business College (referred to as RBC).
- The School of Nursing in Silkeborg (referred to as SNS).

These are, five very different institutions, covering the different programme levels in Denmark. The institutions have different experiences with learning outcomes, but all of them have been working with learning outcomes.

The information has been gathered through telephone interview with the people responsible for learning outcomes at the five institutions. All of them have forwarded supplementary information and some of the institutions have also answered a few additional questions.

### **INTRODUCTION OF LEARNING OUTCOMES**

HUM-AU, DKDS and SNS have introduced descriptions of learning outcomes in all their programme regulations. RUC has introduced learning outcomes in the programme regulations of their bachelor programmes, but not yet to their master programmes. RBC has started formulating learning outcomes for the Degree in Marketing Management and is expecting to finish this process in summer 2008. The teachers have been key actors in the process of formulating learning outcomes at all institutions. The students have also been involved at all institutions, except at RBC. Representatives from the labour market have generally been involved to a lesser degree. However, at SNS the clinical collaborators to the programme have been involved in the implementation, at RUC the careers guidance counsellor has directed the project of describing learning outcomes; and at HUM-AU a labour market advisory board has discussed learning outcomes at a very general level. Only HUM-AU involved the external examiners.

### **DEFINING LEARNING OUTCOMES**

All institutions define learning outcomes by the competences the students are expected to have when graduating. Only DKDS and SNS have used the exact concepts of the new proposed second generation national qualifications framework (i.e. knowledge, skills, competences) in the descriptions of learning outcomes. All institutions have been inspired by the old or the new national qualification framework. HUM-AU and RUC has developed new terminologies for learning outcomes, which they consider exact and usable than the existing concepts of the national qualification framework. RBC has formulated six categories which they define as complementary to the concepts of the national qualification framework. These are to a greater extent than the concepts of the national qualification framework (2003) seen as useful in the day-to-day work of RBC. RUC and DKDS started formulating learning outcomes when learning outcomes had become part of the executive order for university programmes. HUM-AU, DKDS, SNS and RBC all took initiatives to formulate learning outcomes before this became part of the executive order of their programmes.

## USING LEARNING OUTCOMES

All institutions find that the descriptions of learning outcomes are very useful to the institution. However RBC finds it difficult to assess the value of learning outcomes, since learning outcomes are not yet fully implemented. Many of the institutions incorporate learning outcomes in the programme regulations, to define examination requirements, as part of course descriptions and in the evaluation of the teaching. HUM-AU also uses learning outcomes in the teaching, while teachers inform students of how the themes of the lectures reflect the learning outcomes of the course. RUC sees learning outcomes as a useful tool in career counselling, since learning outcomes can help a student to select a particular study or career. RBC and RUC emphasize that the process of describing learning outcomes has opened up useful educational discussions among the teachers.

All institutions have introduced learning outcomes to the teachers at meetings. RUC and HUM-AU also issued the teachers with notes about the institutions new terminologies of learning including guidelines on how to use them. RUC and HUM-AU have introduced their learning outcomes to the students in the managing councils. At HUM-AU all students are continuously informed via the teaching. At SNS the student council inform all the students about learning outcomes. DKDS has informed the students, external examiners and the business community. All institutions are planning to follow up or improve the use of learning outcomes in the near future. The foci of the institutions are, however, very different. For instance Hum-AU is planning to evaluate the teachers' application of concepts and categories related to learning outcomes. RUC is considering reforming the structure of the programmes, which will influence the learning outcomes of the programmes. SNS will evaluate the progression of its programme and the learning outcomes of the modules.

## EVA and learning outcomes

EVA has taken part in the development of a national qualification framework and descriptions of learning outcomes since 2001. EVA has been part of both the Danish Bologna Follow-up group, which approved the national qualification framework, and a smaller writing-group that made the drafts discussed in the follow-up group.

For EVA looking at learning outcomes in the evaluations has been a 'natural' approach, since the process of developing a national qualification framework started in 2001. EVA's view on the use of learning outcomes in evaluations is to include them whenever they are seen as relevant for the focus of the evaluation.

In 2007–08 EVA has been developing a new set of accreditation criteria, focusing on quality and relevance. The new set of criteria has been tested at 14 programmes in the college sector. Learning outcomes will be an integrated part of the new set of accreditation criteria. The criteria have not yet been made public but in the latest version from EVA (handed over to the ministry of education which will incorporate them into a departmental order this summer) one of the criteria consider;

- whether the description of learning outcomes (programme level) is in line with the degree description in the national qualification framework (demands for respective level/degree) and the descriptions of learning outcomes at module level are coherent with the learning outcome descriptions at the programme level;
- whether tests and examinations secure an adequate illustration of whether or not the student has attained the expected learning outcomes;

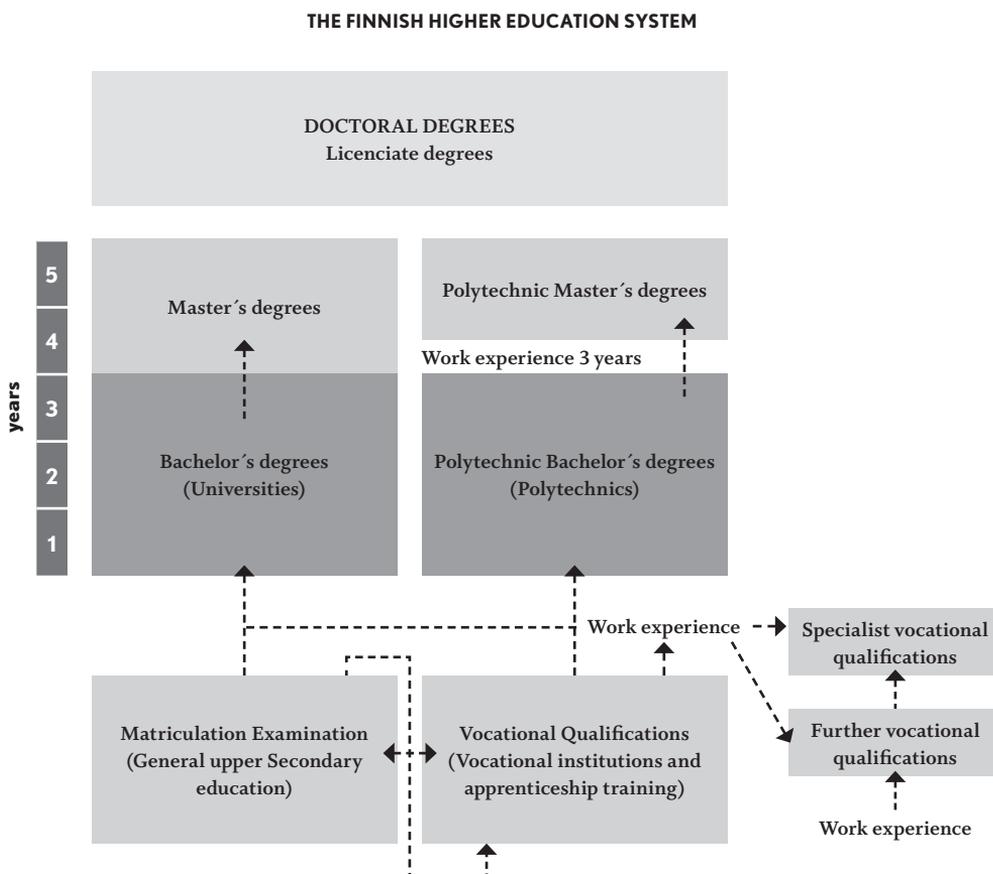
- whether the graduates attain the expected learning outcomes to a satisfactory level.

In the forthcoming accreditation criteria for academy profession programmes and professional bachelor programmes learning outcomes form an integrated part. The use of learning outcomes in evaluations is therefore set to increase.

# The Finnish higher education system

The Finnish higher education system comprises universities and polytechnics, in which the admission requirement is a secondary general or vocational diploma. There are currently 20 universities in 11 different cities and towns in Finland. They are all state-owned and mostly financed from the state budget. Their operations are based on the principles of freedom of education and research, and university autonomy, guaranteed by legislation. Universities offer bachelor and master degrees in addition to postgraduate licentiate and doctoral degrees.

According to the Government Programme, structural development will continue in both sectors of higher education in Finland. The main lines were set out in the Development Plan for Education and Research for 2008-2012 adopted in December 2007. It is based on the dual model (of both universities and polytechnics) and on stronger regional and domain-specific profiles for the institutions. The aim is to enhance the quality of education and research, in addition to securing access to competent work force.



**Fig 2 Illustration of the Finnish higher education system**

## National qualifications framework in Finland

The Ministry of Education has produced a preliminary report on the issue of a qualifications framework: Description of Finnish higher education qualifications in 2005. This report does not encompass for all the elements of a proper national framework, for example, learning outcomes.

Currently the Ministry is in the process of producing the final version of a *Development Plan for Education and Research for 2007–2012*. The draft of this plan states that a national qualification framework will be produced by 2010. Producing a comprehensive framework is considered a fairly arduous task, and at the moment the Ministry is weighing up reasons for and against a detailed framework. The Ministry will most likely form a working group to create a new national framework, or enhance the old report in 2008-2009.

Finnish higher education institutions adopted the two-tier degree structure in all study fields in 2005. The institutions have also created so-called core-skills analyses, which describe and assess the most essential topics in each course and study programme. These descriptions have not been used in FINHEEC evaluations, but they may well play a role in the planned Centres of Excellence in University Education-evaluations.

The Finnish Polytechnics Rectors Conference launched a project in 2004 on the participation of the polytechnics in the European Higher Education Area. The background for the competencies was set by the European Qualification Framework and the results of the Tuning project. In the second phase of this project the polytechnics concentrated on creating descriptions of learning outcomes for both subject-specific competencies of the study programme and generic competences of all polytechnic graduates. Almost all fields of study were included. The objective was to create a comprehensive collection of competence descriptions that would be easy to comprehend, could be remembered and which actually could steer and direct teaching and learning processes in practice. The competence descriptions for all polytechnics were formed in a series of subject-specific workshops and seminars during 2005-2006. The project steering group made a number of recommendations for defining the competencies in subject specific groups in the winter of 2006:

- The aim is to describe the study-programme related abilities of a graduate through 3-6 competencies.
- Competencies must be separable from each other, and their evaluation must be possible as separate entities.
- The form of the competence descriptions should be made in co-operation with teachers, students and external stakeholders.

The group formed six generic competence descriptions: learning, ethical, communicative and social, development, organisational and societal; and internationalisation competence.

The Polytechnics Rectors' conference produced a recommendation for using the matrix model for describing curriculum and acquirement of competencies. Almost 50 % of Finnish polytechnics have adopted this method of curriculum description. The model shows which courses and modules are related to which generic and subject specific competencies. In May 2007, 85% of polytechnics had defined their competencies according to the national recommendations, and the remaining 15% had chosen some other method of competency classification. The produced descriptions

have been adopted by the majority of institutions with only fairly limited adjustments. Measurement of the way in which graduates are actually attaining the described competences has only begun. Polytechnics are currently creating indicators for evaluating learning outcomes.

### **Learning outcomes in the Finnish higher education institutions**

The standard NOQA questionnaire on learning outcomes and evaluation was sent to three Finnish institutions of higher education: Laurea and Jyväskylä polytechnics<sup>6</sup> and the Sibelius Academy (SibA). Laurea is the fourth largest polytechnic in Finland and operates in the Helsinki metropolitan area. It has 8000 students in six fields of study. Jyväskylä polytechnic (JAMK) operates in the Central region of Finland and is roughly the same size as Laurea. Sibelius Academy is the only music university in Finland. It has about 1700 students and 183 teachers, most of work in Helsinki.

### **INTRODUCTION OF LEARNING OUTCOMES**

All institutions have introduced learning outcomes descriptions for degree programmes. Laurea tied the creation of learning outcomes closely to curriculum formation. Both polytechnics, Laurea and JAMK formulated the learning outcomes in congruence with the demands of working life and the descriptions of knowledge areas for expertise. The descriptions were discussed with teachers, students and other stakeholders. In Laurea, stakeholders were involved through interviews, meetings and curriculum seminars. In SibA, departments were actively involved in the creation of descriptions. This work was co-ordinated by the Teaching and Research Council, which includes the representatives of professors, senior assistants and students.

### **DEFINING LEARNING OUTCOMES**

All three institutions define learning outcomes in a fairly similar way. Learning outcomes are understood to mean the knowledge, skills and competences that the students must and will possess in order to graduate or pass a study unit or a module. JAMK considers learning outcomes of an individual course as the minimum competences necessary to pass, and learning outcomes of the degree as a description of the skills and competences which the graduate will have after completing studies. Both polytechnics used the European qualifications framework and the draft of the National qualifications framework. Laurea created its own learning outcomes and JAMK employed learning outcomes created by the Rectors' Conference project. SibA is using a version of the European qualifications framework and the music version of the Dublin Descriptors. The initiative for learning outcomes creation arose through the European cooperation in the Polifonia-network, which SibA is very much involved in. The polytechnics took the initiative themselves in order to implement the ideas of the Bologna process. In JAMK, predictions of the demands of working life also played an important role.

---

<sup>6</sup> Most Finnish polytechnics have chosen to translate ammattikorkeakoulu to University of Applied Sciences. The Ministry of Education has chosen to continue using the term polytechnic and therefore the FINHEEC continues to use it as well.

## USING LEARNING OUTCOMES

Learning outcomes are used in polytechnics for the tutoring and guidance process of students, recognition of competences at the beginning of studies and the communication of degree programme profiles. Furthermore, Laurea and JAMK use the learning outcomes in the evaluation of students. The former also uses the learning outcomes descriptions as a basic part of the feedback process, and evaluates students' generic competences with a qualitative portfolio-assessment, while subject-specific competences are evaluated on a scale of 1-5. SibA utilises learning outcomes for curriculum creation by probing music industry expectations and demand for future graduates. All of the institutions in question find learning outcomes essential and extremely effective, since they affect student recruitment, recognition of competences, evaluation, co-operation between study programmes and stakeholders. The learning outcomes also create the basis for curriculum creation.

Learning outcomes descriptions and the use of learning outcomes has been introduced to relevant parties in all of the higher education institutions in question. The polytechnics have had meetings with student associations and student tutors have been trained to 'spread the word' concerning learning outcomes. Also, personnel and stakeholders have been involved in the process. In SibA, both teachers and students have been informed about the process. Involvement was secured by their participation in the decision-making.

The follow-up work on learning outcomes seems to be closely tied to the curriculum evaluation and readjustment processes in the institutions. The learning outcomes are therefore continuously improved and simplified in order to guarantee their ease of usage and to limit different interpretations within the institutions.

Overall, it seems that learning outcomes have been introduced and implemented fairly thoroughly to the three institutions in question. The polytechnics can be considered quite representative of the whole Finnish polytechnic population. However, the Sibelius Academy can perhaps be considered a pioneer in the Finnish university sector in this regard and unfortunately cannot be considered a representative example of the system as a whole. It does provide other universities with a positive example of the benefits of utilising learning outcomes. Since crossing sector lines seems to be somewhat difficult, especially for the universities, the Sibelius Academy may provide a very valuable benchmark to other universities in the near future.

### **FINHEEC and learning outcomes**

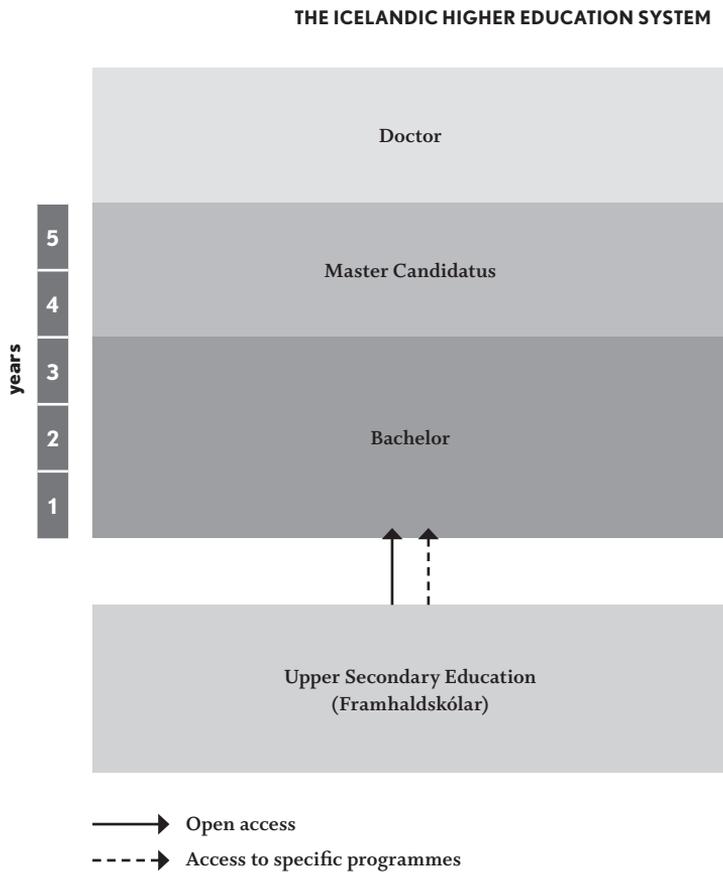
The Finnish Higher Education Evaluation Council does not yet have an official view on the use of learning outcomes in evaluations. The agency had a representative in the working group which produced the preliminary report: "Qualifications Framework. Description of Finnish higher education qualifications". It is possible that FINHEEC will take part in the formation of the national qualifications framework. Since the use of learning outcomes is fairly new in Finnish higher education, and almost non-existent in the university sector, the FINHEEC has not so far used learning outcomes in evaluation criteria. The Board of Professional Courses, which worked under FINHEEC until 2007, received some applications with descriptions of learning outcomes for professional courses. FINHEEC launched two evaluations on Centres of Excellence in Education on polytechnic and university sectors in 2008, which should outline the current situation in the use of learning outcomes in Finnish higher education.

The bulk of FINHEEC's evaluations consist of audits of quality assurance systems of higher education institutions. As the institutions create and adopt learning outcomes, they may be used more often as a tool for assessing student and therefore also organisation performance. Then, the learning outcomes would become an integral part of the higher education institution's quality assurance systems and a target for FINHEEC's audits. Once the learning outcomes are utilised system-wide, they could be included in the evaluation criteria of Centres of Excellence evaluations in both sectors.

The Finnish Higher Education Evaluation Council publishes an action plan for action for its two or four year terms. The draft plan for 2008-2009 includes a proposal for a thematic evaluation of the use of learning outcomes in Finnish higher education. The phenomenon is, therefore, extremely topical in Finland at the moment, and FINHEEC intends to be closely connected to developments in the future.

# The Icelandic higher education system

The system of higher education in Iceland is divided into three cycles that comply roughly to the Bologna- process. With the new Higher Education Act of 2006, the system was adapted to the Bologna process, including an obligatory Diploma Supplement, the ECTS-system and the introduction of the Icelandic national qualification framework (INQF).



**Fig 3 Illustration of the Icelandic higher education system**

## The organisation of quality assurance in Iceland

In the absence of a formal quality assurance agency in Iceland, the organisation of external evaluations of tertiary education comes under the auspices of the Ministry of Education, Science and Culture. However, the ministry does not directly conduct any external evaluations. The results of the questionnaires to the agencies do therefore

reflect the role of national qualification framework and learning outcomes in the direct organisation of quality assurance in Iceland.

### **The Icelandic national qualification system**

The INQF is a systematic description of learning outcomes and the structure of the degrees that are awarded at higher education institutions in Iceland. The design of the INQF is based on the degree structure, stipulated by the Bologna process. In developing the INQF, a consultation with the major stakeholders of the higher education system was conducted. Systems from other countries such as the UK and the Nordic countries, as well as the Dublin descriptors, were discussed. As a result of this, the INQF is not just an adopted, but an adapted framework suited to the structure of a smaller nations' education system.

According to article 3 of the Higher Education Act of 2006, all higher education institutions had to undergo an accreditation before the end of June 2008. One of the main reasons for the accreditation procedure was to ensure that all the existing higher education institutions were adopting the national qualification framework, in order to ensure the rights of students as well as guarantee that the Icelandic system of higher education was adopting the standards of the European Higher Education Area.

The qualifications requirements for the accreditation, concerned with the following aspects:

- a. role and objectives of higher education institutions
- b. administration
- c. organisation of teaching and research
- d. personnel qualification requirements
- e. admission requirements and student rights and duties
- f. working conditions for teachers and students as well as support structures
- g. internal quality management system
- h. **description of study according to learning outcomes**
- i. finances

The regulations concerning the quality assurance of the future are still in the making. However, the aim of the system as a whole, the accreditation process, the obligatory internal quality assurance systems of the higher education institutions, the external quality assurance system based on external evaluations and the performance contract between the state and the institutions is being built around the core of the system, i.e. the Icelandic national qualification framework.

### **Learning outcomes in higher education institutions in Iceland**

The standard NOQA questionnaire on learning outcomes was sent to three Icelandic higher education institutions: The University of Iceland (UI)<sup>7</sup>, Reykjavik University (RU) and the University of Akureyri (UA). The University of Iceland is the largest in Iceland with 9,000 students, six fields of study and 11 departments. The University of Reykjavík is a private, government dependent institution with 2,800 students, two

---

<sup>7</sup> According to law no. 63/2006 all higher education institutions in Iceland are entitled to call them selves "Háskóli" (Höskola/Höjskole) as the Icelandic language has no word for "University/Universitet" and the word Háskóli is normally translated as University. However, according to the same law, the Minister of Education decides, in accordance with a forthcoming regulation, what Icelandic HEIs are allowed to call themselves in foreign languages.

fields of study and four departments. The University of Akureyri is located in the North of Iceland and has 1,500 students, three fields of study and four departments.

All three higher education institutions have described learning outcomes for all programmes. UI is in the process of describing learning outcomes for all courses, but UA and RU have described the learning outcomes for all study courses.

At the smaller universities (RU and UA) the learning outcomes were formulated by deans, teachers and experts within each school/faculty, seemingly with little participation of students. At UI, the method of describing learning outcomes was different from one faculty to another. Some faculties started by formulating learning outcomes for individual courses and described learning outcomes for the programmes in accordance with the learning outcomes for the courses. Teachers of the programmes in question were always involved and sometimes stakeholders were contacted. Student participation in the process varied.

### **DEFINING LEARNING OUTCOMES**

According to UI, the learning outcomes are defined as a statement of what a learner is expected to know, understand and/or be able to demonstrate after the completion of learning. Learning outcomes are sets of competences, expressing what the student will know, understand or be able to do after completion of the given programme or individual courses. Learning outcomes specify the minimum requirements for the award of credits or for graduation from a programme. RU and UA gave similar answers, although RU added that the learning outcomes are important to a student and to each core because they make them aware of certain goals/objectives that students and institutions have to reach.

### **USING LEARNING OUTCOMES**

The INQF was made by the institutions in cooperation with the Ministry of Education. All the institutions used the national qualification framework as a model for the description of learning outcomes.

UI claimed that Bologna-promoters had started the discussion about writing learning outcomes for study programmes at the institution. The decisive factor was in the end the new Higher Education Act of 2006 that enforced the institution to describe learning outcomes. Prior to the act of 2006, RU had begun describing learning outcomes for courses, based on the ECTS-label. UA started the ECTS-label and Diploma Supplement process in 2004.

All the institutions claimed that the learning outcomes were published in the University catalogue of each institution so students, stakeholders and the labour market should be able to figure out which competences students should have at the completion of a given programme or course. While UI only publishes the learning outcomes in the public university catalogue, RU publishes them on the institution's website and in e-mails to students. UA does the same but has also held workshops for teachers and other staff on learning outcomes.

All the institutions claimed that the learning outcomes were very useful for the institutions especially for the reviews of courses and programmes. UA found that the description of learning outcomes had affected the teaching methods in the programmes, as the teachers have to utilise different types of methods and assessments to fulfil different types of learning outcomes.

Learning outcomes will in the future be used in the internal quality assurance and in the revision of programmes e.g. by presenting a matrix with learning outcomes for the programme in question on one side and course descriptions on the other. This would be to ensure that all learning outcomes are represented in the courses and to prevent overlap. All institutions in question have made plans to revise their learning outcomes regularly, and in that context, to consult stakeholders. At RU, the review will be undertaken every two years by the deans and teachers. UA is currently concentrating on the connections between learning outcomes, teaching and assessment.

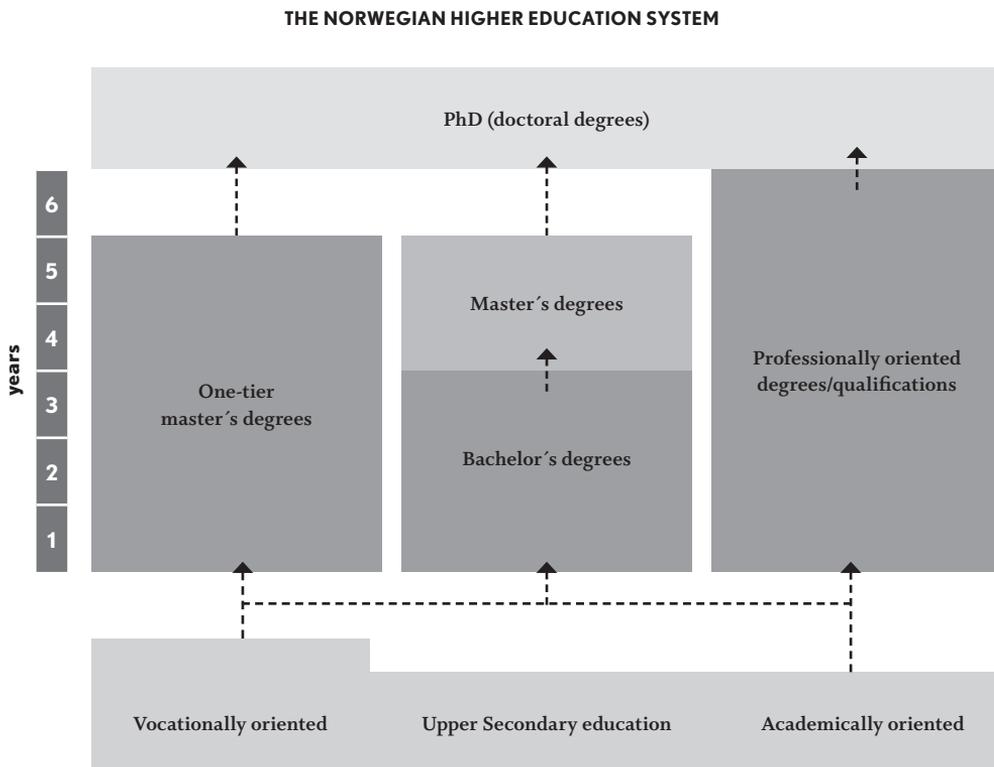
### **The Ministry of Education, Science and Culture and learning outcomes**

As stated above, the learning outcomes were one of the criteria that the higher education institutions had to fulfil to be accredited. In the coming three year plan of the Ministry for quality assurance in higher education, the learning outcomes of programmes will make up one of the core criteria in external evaluations, both at programme level and institutional level.

# The Norwegian higher education system

Norway has in place a structure of higher education that complies with the Bologna process. In 2003, the Bachelor-Master-PhD structure was implemented in almost all higher education study programmes, students were credited 60 ECTS for one year of academic studies, and the Diploma Supplement was also implemented for all of the programmes. Most of the Norwegian higher education institutions have a description of the curriculum for their study programmes. Included in these are descriptions of the objectives. These objectives shall state the knowledge, skills and attitudes that students should have acquired upon completion of the study programme.

Norway has three categories of institutions accredited for higher education: university college, specialised university and university. The institution category determines the authority which the institution has to establish new study programmes and courses without having to apply to NOKUT for initial accreditation.



**Fig 4 Illustration of the Norwegian higher education system**

### **Situation related to national qualification framework and learning outcomes**

In the spring of 2007 the Ministry of Education and Research sent to a hearing a proposal for a national qualification framework to the institutions of higher education and other stakeholders. The content of the framework is close to the descriptions of learning outcomes that are presented in the European Qualification Framework and the Dublin Descriptors.

On the basis of the comments from the institutions and stakeholders, it is expected that the Ministry will decide upon a national qualification framework. At the moment, there is no information about when this might be expected. Several Norwegian higher education institutions are presently working to develop learning outcomes. Until the national qualification framework is decided upon, the learning outcomes are yet not described according to a level, but to an academic tradition. Before 2010, the institutions will have to adjust all their study programmes and diplomas to ensure that they describe learning outcomes.

### **Learning outcomes in the higher education institutions**

NOKUT selected three institutions to participate in the NOQA questionnaire survey of learning outcomes. All these institutions claim they have begun a process of describing learning outcomes for some or all study programmes and courses. These are: University of Oslo (UiO), University of Tromsø (UiT) and The Norwegian School of Theology (MF).

The University of Oslo is Norway's largest higher education institution. Today, UiO has approximately 30,000 students and 4,600 employees. Located at latitude of nearly 70 degrees north, the University of Tromsø is the world's northernmost university. UiT is a relatively small university, with around 6,000 students and around 1,800 staff. MF is a private specialized university in the field of theology and religious studies and the largest theological institution in Norway.

### **INTRODUCTION OF LEARNING OUTCOMES**

MF - Norwegian School of Theology has introduced the concept of learning outcome in some programmes and courses. At the moment the institution is working on introducing learning outcomes in all courses. At the University of Tromsø the Faculty of social science has started a project to revise all programme and course descriptions. The project was introduced through a seminar for the administrative staff and relevant teachers. The University of Oslo introduced learning outcomes through a seminar including a workshop for all relevant academic and administrative staff.

### **DEFINING LEARNING OUTCOMES**

The University of Tromsø uses the Dublin descriptors as a basis for formulating learning outcomes. Learning outcomes are defined as learning results. UiT defined the word "outcomes" as being more instrumental and commercial. The concepts could be understood as "effort gives outcomes". Knowledge, skills and competence are not mutually exclusive categories; they assume each other's presence. At the Faculty of social science they use an analytical distinction between knowledge and skills. The faculty wants the students to focus on using their knowledge and skills, and develop independence in their studies. This faculty has an internal working-group that have developed examples of descriptions of programmes and courses, the purpose of which

is to create more unified descriptions and easier implementation for the departments. These examples are discussed and approved by the relevant bodies at the university. The departments observe the descriptions of the courses and programmes.

MF has meetings every year with different stakeholders, where they discuss the need for specific learning outcomes. However, the stakeholders do not participate in formulating learning outcomes in the course descriptions.

UiO has not drafted a formal definition of learning outcomes so far, but the institution has issued an instruction for publishing information about their programmes on the internet pages:

Learning outcomes should:

- describe the knowledge, skills and attitudes the students achieve during the programme;
- describe academic- and other competence that the programme gives;
- describe the objectives related to the teaching and assessment in the programme;
- for a master programme: describe the objectives of the master theses and possible fields of deeper understanding.

Some faculties have used the proposed national qualification framework as a basis for defining learning outcomes. Others are influenced by the Dublin descriptors, or the Danish national qualification framework from 2003.

External stakeholders do not influence the description of learning outcomes at any institutions.

## USING LEARNING OUTCOMES

All institutions find the descriptions of learning outcomes very useful. Since the project of implementing learning outcomes has not been completed by the institutions, experience is limited. The most valuable experience so far is the reflection on the subject and programme, and the discussions about content formulations, attitude and the teaching outcomes.

The institutions use the learning outcomes to describe the objectives, qualifications and the competences the students are expected to have achieved upon graduation. UiT states that the aims of the descriptions are to provide student information. MF uses the learning outcomes to make the programmes more adequate for future professional careers. The purpose of the description of knowledge, skills, and the attitude associated with all courses and study programmes at the University of Oslo is to give the students information, so that they can make informed choices about their studies. All programmes should also describe the attained competence upon completion. Examples can be seen from the master programme in Peace and Conflict studies at: <http://www.uio.no/studier/program/peace-master/om/hva-laerer-du.xml> and the course description in Human Rights and Inclusion at <http://www.uio.no/studier/emner/uv/isp/SNE4110/index.xml>.

UiO uses the learning outcomes as part of the diploma, and has made plans to use them in the Diploma Supplement. Some of the teachers at UiO have begun using learning outcomes in their teaching. In its plan for strategic work UiO, has decided to use this period to prepare for better knowledge in the programmes and ensure that this strengthens the teaching and assessment of students. Learning outcomes form part of the quality assurance system at UiT and UiO.

The medicine programme at UiO implemented learning outcomes in 1996. The students say that they understand the learning outcome as a form of tutoring and guidance to obtain the expected competence. They are better prepared for examination because they have more specific information about what is expected of them. Ten years after implementing the Reform of -96, the Medicine Faculty evaluated this study programme. The candidates made a self-evaluation of their personal skills. One of the main questions was whether candidates in the period between 1996 and 1999 were better prepared to handle practical skills when they began practicing as medical doctors. The results did show that this group of students were better prepared when they started practicing as doctors, but advantages decreases during the first one or two years of practice.

### **NOKUT and learning outcomes**

NOKUT took part in the Ministry's working group, which made the proposal of a national qualification framework and descriptions of learning outcomes. NOKUT is taking part in the Bologna follow-up reference group. NOKUT have since 2003 issued regulations close to learning outcomes and undertaken evaluation on the basis of these regulations. In Norway, the learning outcomes are closely connected to a national qualification framework. A basic element in a national qualification framework is that the qualification should be outcome related and described in terms of learning outcomes rather than input factors. NOKUT undertakes evaluations such as:

- audits (evaluation of a higher education institution's system of quality assurance);
- accreditation (initial accreditation of courses, programmes or institutions);
- revision of previously granted accreditations (evaluations of previously granted accreditations);
- general evaluation of specific types of educational provision or defined aspects of such.

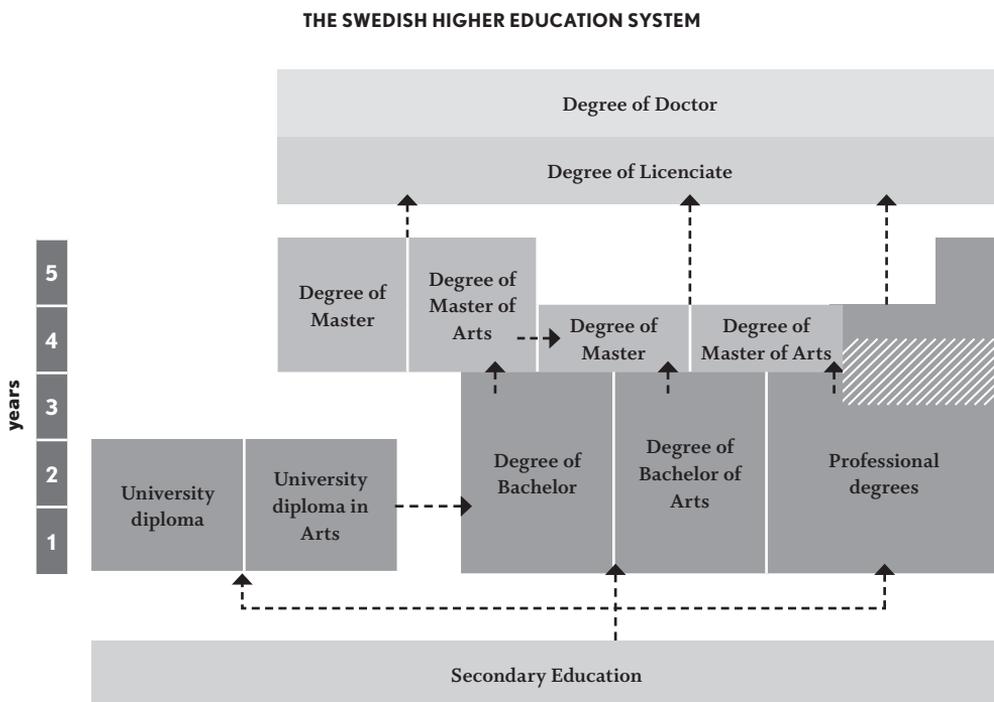
In the future, it is expected that NOKUT will undertake evaluations incorporating learning outcomes. It is expected that all these evaluations in some way must include this perspective. By 2010, NOKUT will have to revise its regulations and further develop its evaluation methods with a view to including learning outcomes in all evaluations.

# The Swedish higher education system

In Sweden there are 36 state-owned universities and university colleges providing higher education. Of these, there are 14 universities with the right to offer third level education, i.e. doctoral level. There are also 13 private providers of higher education. Three of these, has the right to offer third level education (Chalmers University of Technology, Stockholm School of Economics and Jönköping University).

Universities and university colleges have the general right to award undergraduate degrees (Diploma and Bachelor). They also have the general right to award the 1-year master (postgraduate level). The universities have the general right to award the 2-year master as have the university colleges which are entitled to conduct research in the particular discipline domains in which they are permitted to award third level qualifications. Other university colleges must apply to the HSV to obtain the right to award a 2-year master in a subject/discipline.

Since 1 July 2007 Sweden has adapted the qualification framework for higher education according to the Bologna declaration, i.e. first, second and third level education.



**Fig 5 Illustration of the Swedish higher education system**

## The Swedish national qualification framework

Sweden has taken a legislative approach to the development of a national qualification framework. Recent amendments to the Higher Education Ordinance align the Swedish

structure for degrees and programmes with the Bologna process. All qualifications are now defined in terms of learning outcomes, levels (using the first, second and third cycles specified in the Bologna process) and workload (using the European Credit System). Generic as well as specific (professional) qualifications are outlined.

Based on the legislative changes, HSV was commissioned by the Swedish government to draft a proposal for a national qualification framework. The framework was to be developed in collaboration with higher education institutions and other relevant stakeholders. In essence, the task meant providing a description that was more user-friendly than the legislation itself. Neither the school system nor life-long learning structures were to be included. A proposal was presented to the Ministry in June 2007 ([http://www.hsv.se/download/18.5b73fe5511705b51fd80005519/12-326-07\\_referensram.pdf](http://www.hsv.se/download/18.5b73fe5511705b51fd80005519/12-326-07_referensram.pdf)).

The proposal provides a presentation of the Swedish structure of degrees and programmes following the recent amendments to the Ordinance. The part describing the qualification system itself is relatively brief, as this is already described in detail by the Swedish law. The part describing admittance to higher education is described in more detail as being one of the few areas which are more centrally regulated. This proposal has been accepted by the Ministry, and they have commissioned HSV to carry out the final updating of the document and to make it publishable to different stakeholders, as well as to produce an English translation of it. This work is now in progress.

### **Learning Outcomes in the higher education institutions**

In order to describe the introduction and implementation of learning outcomes in Sweden three institutions with different size and background are chosen; University of Gothenburg, Karolinska Institute (KI) and Malmö University College.

All three higher education institutions have introduced learning outcomes in all courses and all study programmes.

### **INTRODUCTION OF LEARNING OUTCOMES**

The common denominator for all three institutions was that they have organized workshops and seminars on the subject for teachers, education planners and students.

As a part of the implementation of the Bologna process, the University of Gothenburg established an action plan in which the implementation of learning outcomes was referred to. A working group has elaborated guidelines for the departments on writing syllabi containing learning outcomes.

All three institutions reported that learning outcomes are introduced to all internal stakeholders. Stakeholders outside the university have not been much involved in the process, but will be as the learning outcomes develop and the connection with the labour market increases.

### **DEFINING LEARNING OUTCOMES**

In the Swedish higher education institutions there are slight differences between the declared definitions of the respondents, but they all agree that learning outcomes are statements that express what students are expected to know, understand, and be able to do at the end of a course or a study programme.

The institutions have used different documents as guidelines to introducing and implementing learning outcomes. The University of Gothenburg and KI reported that besides the national qualification framework and the European Qualification Framework they have used the university's own guidelines. Malmö has used the Examensordning i HF, EUA Bologna handbook and documents from several other European universities.

## USING LEARNING OUTCOMES

The institutions have reported that they mainly use learning outcomes as performance indicators and as a tool in the evaluation of the courses and programmes.

All three institutions attached a high value to learning outcomes. The most frequently stated merits of learning outcomes are:

- that they provide a better understanding of what a course or programme offers the student in terms of skills, competences, etc;
- how they relate to a certain labour market or further studies;
- how they provide better information to the student about the curricula.

Teachers and stakeholders are also mentioned as groups that will benefit from a well implemented set of learning outcomes. Learning outcomes offer a good basis for pedagogical development of the courses and programmes themselves; they strengthen the connection between content, examination and assessment.

The University of Gothenburg stated that the concept of learning outcomes must become a known, everyday part of the planning of courses and programmes. Departments will gradually look over their syllabi and start developing the learning outcomes. Forthcoming seminars, for instance the ECA seminar in Zurich in September 2007, and actions planned together with our centre for Pedagogical Development and Interactive Learning (PIL), are ways of enhancing staff competence in this field and supporting the ongoing pedagogical development. Malmö is planning to organize seminars to further develop the thinking surrounding learning outcomes in relation to examination criteria.

The Board of Education at KI has initiated an evaluation project in order to follow up changes in course design, assessment and requirements of knowledge due to the implementation of learning outcomes.

## HSV and learning outcomes

Sweden has recently, 1 July 2007, adopted the Bologna system in higher education. HSV attached a high value to the Bologna process. Learning outcomes are an important and interesting part of this process that will have an impact on education itself. HSV can now observe that learning outcomes have been both adopted and adapted into the various higher education institution cycles for almost all courses and study programmes. Work has recently commenced to develop learning outcomes for degree curricula i.e. general qualifications at first, second and third levels; qualifications in the field of arts; and professional qualifications. Learning outcomes for both study programmes and degree curricula will be evaluated within the new cycle of the education evaluations.

A proposal for a national qualification framework has recently been presented by HSV in cooperation with representatives from the Swedish higher education institutions. Representatives of stakeholder organisations have also given their

comments on the document. Learning outcomes are closely related to the national qualification framework. The new evaluation cycle of education at institutions including learning outcomes of programmes and degree curricula, has recently begun, and information has not yet been presented. Expected knowledge, applied knowledge, communication skills and learning skills are described in course and programme syllabi. This documentation has always been an important basis in the evaluation of subject and programmes in the previous cycle. However, applying knowledge and employability in a wider perspective of learning outcomes has not been the focus of the previous evaluations.

# Summary: Learning outcomes in Nordic higher education institutions

This section attempts to provide a summary of the current status regarding the use of learning outcomes in the selected higher education institutions. How they formulate, define, describe and use learning outcomes, and from where the inspiration came to start their work with them.

## **Formulation of learning outcomes**

In all the institutions, the teachers have played a crucial role in the formulation of learning outcomes. Students have also been involved in the process of formulating learning outcomes, but generally to a lesser extent than the teachers. The methods of formulating learning outcomes vary among the participating higher education institutions. Some have held workshops and seminars on the subject, while others have had discussions.

The involvement of external stakeholders also varies a great deal among the institutions. In some institutions external stakeholders have not been involved at all, while others have involved them in different ways. One institution has involved external stakeholders through interviews, meetings and curriculum seminars in order to secure or be able to produce descriptions of learning outcomes in accordance with the demands of working life, as well as descriptions of knowledge areas for expertise. At another institution, a labour market advisory board with 20 external members from the labour community have discussed the formulation of learning outcomes at a general level. The institution wanted to involve the labour market advisory board to a larger extent, but considering the workload related to the descriptions of learning outcomes as well as the tight timetable, they found such an involvement unrealistic. There is also an example where an institution has discussed the formulation of learning outcomes with selected members off a labour market advisory board in relation to the processes of setting up new programmes.

## **Defining the concept of learning outcomes**

The definition of learning outcomes is fairly similar across the participating Nordic institutions. They all define learning outcomes as the qualifications and competences a student is expected to have at the completion of learning. But the taxonomic description of learning outcomes (the categories they use when describing learning outcomes) varies among the institutions. Some divide learning outcomes into three categories: knowledge, skills and competences. Others describe learning outcomes in terms of what the students are expected to know, understand and be able to demonstrate when graduating from a programme. Others define learning outcomes by the qualifications, competences, skills, attitude and knowledge of the graduates.

There are institutions which have developed their own categories for describing learning outcomes. They see their terminology as more precise and usable than the existing concepts of learning outcomes. One of the institutions explained that they felt that the categories of learning outcomes were missing a dimension, since the category “attitude” was not included, and they chose to include “attitude” as a dimension.

Another institution has formulated six categories which they define as complementary to the three categories in the national qualification framework. They regard the six categories as more useful in the day-to-day work of the institution.

### **Sources of inspiration and the initiative to formulate learning outcomes**

In countries that have a national qualification framework, almost all participating institutions have used or been inspired by this framework in the process of formulating learning outcomes. Furthermore, many of them have used or been inspired by the European qualification framework. In addition to these two sources, the participating institutions mention that they have found inspiration in the Dublin descriptors, the EU Bologna Handbook, guidelines from other universities, the internet, participation in a pilot project, the taxonomy of Bloom and Biggs, and Luhmann's systemic theory.

The term of where the initiative to describe learning outcome have come from, the institutions can be divided into two groups. For some institutions, the initiative to formulate descriptions came from external sources. They mention a reform of the higher education system, the Bologna process and/or an executive order as external initiators. For other institutions, the initiative was taken internal by the institution themselves.

### **Formulations and descriptions of learning outcomes**

There are several ways in which learning outcomes are used in Nordic higher education institutions. Learning outcomes are mainly used to provide information about education, course content, modules, programmes and degrees. The important aspect to note here is that the descriptions are not limited to the knowledge contents (i.e. what information the student is expected to learn), but in particular the skills and competences that the student possesses upon completing the study unit are paramount. The learning outcomes are used to communicate this information primarily to the students themselves, but also to employers and other stakeholders. Teachers also tend to use learning outcomes in the guidance process as a basis of teacher-student discussions to highlight the most important contents of courses, and in connection with career guidance.

Related to the information value are the functions of the learning outcomes' in examinations. Given that the learning outcomes outline the knowledge, skills and competencies to be gained, teachers use these descriptions as a basis for examination criteria and requirements. The outcomes are also useful in the creation and adjustment processes for curricula, where the staff can analyse the curriculum and check whether courses overlap in terms of learning outcomes. By using learning outcomes, courses and programmes can be made more suitable in terms of the demands of working life.

### **Using learning outcomes**

The great majority of participating institutions found learning outcomes extremely useful. Some were more hesitant in their assessment, given that they had very recently introduced the outcomes or were in the process of doing so. Among the primary strengths stated was the encouragement to develop teaching methods, since teachers must ensure that the competencies described are in fact created. Also, the connection between content, examination and assessment was seen to be improving. Providing better information about courses and programmes was seen as important, as already

stated above. The discussions between teachers and students on learning outcomes have also reportedly created better understanding of subject contents and expected attitudes. Some institutions even saw the introduction of learning outcomes as changing the very role of universities from traditional knowledge-creation facilities towards a more education-centred and quality-education-dominated orientation. The responses indicated few or reservations regarding the usefulness of learning outcomes.

The responses also indicated that learning outcomes were being used to probe working-life expectations and future developments. It seems hardly surprising that, since learning outcomes are in many institutions only just beginning to be described and utilised, their function is mostly informative. Learning outcomes are in some institutions used to evaluate teaching performance and also as the basis of a student feedback mechanism, where students are asked to assess their education in relation to the learning outcomes. There is reason to expect more ambitious usage as a tool to assess and develop teaching and institutional performance in the future. For example, some of the institutions mentioned intended to use learning outcomes as a part of their quality assurance system. However, one would expect to see more ambitious usage as a tool to assess and develop teaching and institutional performance in the future.

### **Introduction of learning outcomes to students, teachers and other stakeholders**

A great variety of means have been used to introduce learning outcomes to students, teachers and other stakeholders. Most commonly, e-mails, information packages on websites and seminars have been utilised. Student representatives appear to have been most involved and in some cases specially trained to spread the word among the student population. Given that the learning outcomes have fairly important information value to employers and external stakeholders, it may seem surprising that these groups haven't so far been very involved or well informed about learning outcomes. External stakeholder involvement seems easiest for programmes and faculties that have an existing close relationship with local employers, and where graduates have a fairly good idea of where they will most likely be employed. The development of a closer external stakeholder involvement is considered desirable, since learning outcomes would appear to present an easily understandable basis for discussions between students, teachers and employers.

### **Following up the descriptions of learning outcomes**

Most institutions carried to have plans for following up and updating their learning outcomes, or at least were planning to create plans for continued improvement. The responses, however, failed to describe in detail which measures will be undertaken. It appears that learning outcomes have a naturally close relationship with curricula and any adjustments will in most institutions be made within the same process as curricula are updated.

# Learning outcomes in the Nordic quality assurance agencies

The following section provides a brief overview of the kinds of experience the Nordic quality assurance agencies have of working with qualification frameworks and learning outcomes in connection with external evaluation. Each agency has presented working papers on their experience, and this section is based on these papers. The country reports show that the Nordic countries are at different stages of implementing learning outcomes. On one hand, Iceland has introduced learning outcomes in all higher education, while on the other hand Finland has only quite recently begun the work on a proposal for how to use a qualification framework. To sum up, the situation is as follows:

## **National qualification framework**

In Denmark, a qualification framework for higher education was in place in 2003. A new qualification framework was proposed in 2007, and descriptions of competence goals and learning outcomes are an important element in both frameworks. In Finland, the Ministry is in the process of producing a Development Plan for Education and Research for 2007 - 2012. It is stated in the draft of this plan that a national qualification framework will be produced by 2010. It has not yet been decided how the framework should comply with learning outcomes. In Iceland, all higher education institutions are obligated to have a clear description of learning outcomes in study programmes in accordance with the national qualification framework. In Norway, the Ministry of Education in 2007 presented a proposal for a national qualification framework in which descriptions of learning outcomes are a core element. On the basis of comments from the hearing, it is expected that the ministry will soon decide upon a national qualification framework. Since July 2007, Sweden has through legislation adapted its qualification framework for higher education so that it complies with the Bologna declaration. All qualifications in Sweden are defined in terms of learning outcomes, levels and workload. A proposal for a national qualification framework was presented to the Ministry in June 2007. It is expected that this framework will be officially adopted during spring 2009.

All the agencies state that they have been represented in working groups during the preparation and development of their national qualification frameworks.

## **Looking at learning outcomes**

Even though the work on introducing qualification frameworks and the associated mandatory learning outcomes, are at different stages in the different countries, some of the agencies have experience of using learning outcomes in their evaluation work. NOKUT and EVA are the agencies that have in a systematic way used learning objectives as an important element in their regular evaluations or pilot-projects. The methods used by these two agencies are described in part D.

The Ministry of Education, Science and Culture in Iceland applied the national qualification framework as a basis for the criteria for learning outcomes in full scale

accreditation of their higher educational sector that was completed in spring 2008, and this intend to continue to apply this in approach future external evaluation.

The other agencies have so far little experience applying learning outcomes in their evaluations. FINHEEC has not used learning outcomes as a basis for evaluation criteria. Expected knowledge, applied knowledge, communication skills and learning skills are described in course and programme syllabi, and this documentation has always been an important basis for HSV's evaluation of subjects and programmes in previous evaluation cycles.

All agencies expect the introduction of learning outcomes to bring some changes in the way they are carrying out their evaluations. EVA uses a range of different methods, including programme accreditation, audit, benchmarking and evaluation. For coming programme accreditations, learning outcomes will be an important element of the evaluation, and in other kinds of evaluations they will be included where relevant. FINHEEC expects learning outcomes to become an integral part of quality assurance systems for the higher education institutions, and an aim to use them in the agency's audits. They might also be included in the evaluation criteria for Centres of Excellence evaluations. HSV will include learning outcomes in their programme evaluations. The ministry in Iceland is currently working on a three year plan for external evaluations within higher education, and will take into consideration the learning outcomes of study programmes and courses and investigate whether they are in compliance with the national qualification framework. NOKUT undertakes audits, initial accreditation of programmes, accreditation of institutions, revisions to accredited programmes and general evaluations, and expect that all these evaluations will to some extent include the learning outcome perspective by 2010.

The various legislation in the Nordic countries and the internal decisions of the quality assurance agencies show that the Nordic countries have different approaches to the interpretation and implementation of learning outcomes. EVA has the opportunity to determine for each evaluation whether it is relevant to include learning outcomes. In Norway the content of an evaluation is governed by the regulations.

## PART C. Agency experiences of evaluating learning outcomes in study programmes

In this part the experiences of two agencies in evaluating using learning outcomes is presented.

As part of the Bologna process, learning outcomes are to be implemented in all study programmes by 2010. The Nordic quality assurance agencies have, therefore, limited experience with evaluating based on learning outcomes. Denmark and Norway have since 2003 carried out certain evaluations based on learning outcomes of study programmes.

In Denmark, EVA has undertaken some pilot-projects evaluating learning outcomes and the competences of graduates. In Norway, the institutions provide descriptions of programme objectives in terms of knowledge, skills, attitude and programme completion competence.

# EVA's experience of evaluating learning outcomes

EVA has incorporated a focus on competences and learning outcomes in several of their evaluations. In one of them, "German studies at the Universities" from 2003, part of the aim was to examine the quality of the German studies as expressed in the final competences of the graduates. But learning outcomes are not always included in EVA's evaluations. It depends on whether or not it is appropriate or relevant to the focus of the evaluation.

## Developing a new set of accreditation criteria

EVA and the Ministry of Education are in the process of developing a new set of accreditation criteria focusing on quality and relevance<sup>8</sup>. These are expected to be submitted to a hearing in June 2008. The accreditation criteria are an important part of the new accreditation system introduced in Denmark in spring 2007. According to the Accreditation Agency for Higher Education Act, no 294 of 27 March 2007, all higher education study programmes, and programmes in the parallel system for lifelong learning, are to be accredited and re-accredited every 5<sup>th</sup> year (approximately) on the basis of the criteria<sup>9</sup>.

To make sure that the new set of criteria is relevant and adequate, and to allow for adjustment to the criteria based on real-life experience, EVA has carried out a pilot test on 14 programmes during the summer of 2007.

## The pilot test

Twenty four criteria were tested in the pilot test. The criteria were organised within four overall themes:

- relevance and societal demand;
- (sources of) educational knowledge;
- content and organisation;
- results and effect.

The criteria dealt with a range of issues including intended and actual learning outcomes of the study programme and its relevance for the labour market, integration and transformation of trends from the professional field, research and development into educational knowledge, initiatives to prevent drop-out of students, etc.

Each programme was assigned the task of describing and documenting how and to what degree it complied with the criteria and to comment on the criteria and

---

8 At the moment, the criteria are being worked into an executive order which is expected to be sent to hearing in June this year. The executive order is expected to become effective this summer and to form the basis of the first accreditations in autumn 2008

9 The law establishing the new accreditation system in Denmark outlines a number of important aspects of the system: Firstly, it specifies that one accreditation council is to be responsible for all accreditation decisions with respect to the various sectors of higher education in Denmark, but that different operators can undertake the specific accreditation assessments. It is stipulated that a secretariat is to form part of the new accreditation institution, and that this secretariat should be a prime operator within the university sector. Further, the law indicates that the ministries responsible for various sectors of the education system are ultimately responsible for deciding on the criteria pertinent to "their" study programmes. There is, in other words, room for several sets of criteria, but only one council. In order to safeguard transparency and comparability, it was, however, an expressed desire, that differentiation between sets of criteria should only take place in cases of fundamental differences between the sectors at hand (e.g. between academic education and professional/vocational education).

the documentation possibilities. Once the material was handed in, EVA and an expert panel<sup>10</sup> discussed the material, made an initial assessment, and discussed the programme viewpoints on the criteria. Then a site visit was conducted, again with the double aim of, on one hand, investigate criteria compliance and supplementing documentation and, on the other obtaining more in-depth comments on the criteria and the working process.

On the basis of the site visit, the initial assessment was revised, and any problems, need for clarification of each of the criteria, etc. were discussed.

### **Looking at the achievement of learning outcomes in an accreditation**

One of the criteria in the pilot test looked into the achievement of learning outcomes. The criterion was formulated as follows: *Taken together, the graduates of the programme achieve the intended learning outcomes to a satisfactory extent.*

The criterion should examine/check whether or not the graduates achieve the knowledge, skills and competences promised in the descriptions of the intended learning outcomes. The programmes were requested to describe and document their overall assessment of the learning outcomes of the graduates, the grades for the previous three graduating classes and how graduates (and employers) assess the achievement of the learning outcomes.

At the site visit, EVA asked both graduates and employers about the achievement of the learning outcomes. But it was not easy to get valid answers to our questions in the interviews. Many of the graduates and the employers were not sufficiently aware of the learning outcomes of the programme. Other graduates had difficulties in separating knowledge, skills or competences achieved in the programme from knowledge, skills or competences achieved at the workplace – especially if they had graduated a year ago.

The pilot test showed us that the use of interviews with graduates and employers was not suitable for assessing the achievement of the learning outcomes. Instead, EVA has chosen to look at the grades of the graduates and the number of students who not pass. EVA will still ask the graduates and the employers about the achievement of the learning outcomes at the site visits, but this will not be decisive to the assessment of the criteria.

When looking at marks in relation to the criterion of achieving learning outcomes EVA expects that the assessment will be based on the average marks of graduates from the last three years. There will not be a fixed or absolute minimum requirement for the level of grades, but it will be seen as a signal of potential problems if the grades are below a certain level.

In Denmark, grading in higher education is absolute and not relative. You measure the extent to which the goals or learning outcomes are achieved. You do not give grades relatively in comparison with the performance of other students. By giving grades in absolute terms, it is possible to compare marks given in different years. A grade from one year has the same value the following year, as it has been given in relation to how well you have achieved the goals or learning outcomes of the programme.

EVA is aware that there are potential challenges regarding the use of grades as indicators of the achievement of learning outcomes. In a report from the Norwegian

---

<sup>10</sup> For each programme a specific expert panel was set up, consisting of three members: one with a programme content-oriented profile, one with an employer-profile, and one with pedagogical expertise.

NIFU-STEP (NIFU-STEP report 40/2007) the use of grades is questioned, in the sense of what do examinations measure? There is a risk that traditional examinations only measure the student's ability to memorise and not to understand. It can also be discussed whether a good mark reflects a good professional understanding. Also, because professionalism is assessed differently from one programme to another, marks and achievement of learning outcomes are difficult to compare between subjects.

But despite these potential challenges, EVA still thinks that marks are the best alternative to measuring the achievement of learning outcomes.

### **Learning outcomes in the new Danish accreditation criteria**

Learning outcomes will be an integrated part of the new set of accreditation criteria. The criteria have not yet been made public but in the latest draft version one of the criteria will consider whether:

- the description of learning outcomes (at programme level) is in line with the degree description in the national qualification framework (demands for respective level/degree), and the descriptions of learning outcomes at module level are coherent with the learning outcome descriptions at the programme level.

Another criterion will consider whether:

- the tests and examinations are providing an adequate indication whether or not the student has reached/gained the expected learning outcomes.

And a third criterion will consider whether:

- the graduates are gaining the expected learning outcomes at a satisfactory level.

# NOKUT's experience of evaluating learning outcomes

The Norwegian Ministry of Education and Research is working on developing a Norwegian national qualification framework. A national implementation of learning outcomes has not yet been accomplished, but several institutions have themselves taken the initiative to commence this work.

NOKUT's regulations impose demands upon the descriptions of programme objectives, described as knowledge, skills, attitude and competence, upon the completion of the study programme. The descriptions of objectives are not placed at a level within a national qualification framework.

NOKUT has evaluated learning outcomes in initial accreditations (application for accreditation of new study programmes or courses) and in revisions of accreditations (evaluation of accredited study programmes) since 2003. In initial accreditations, the experts evaluate whether the description of the programme objectives is reasonable. In revisions of accreditations, a more comprehensive and closer examination of the learning outcomes and competences is carried out as a part of the experts' evaluation.

This example describes how NOKUT uses graduate surveys and interviews with employers in the evaluation of learning outcomes and competences as part of the revisions of accreditations at bachelor and master level. Interviews with employers and graduate surveys, together with the institution's self-evaluation, a site visit, and other written documentation such as data on student performance and fulfilment rates indicate the extent to which the graduates of the particular programme have reached the expected learning objectives. An indicator cannot be understood by itself, but has to be seen in relation to others.

In Norway, the institutions themselves are responsible for the contents and the structure of their study programmes. This means that programmes with similar names may have different content and structure related to their institutional profile and the regional demands and challenges. Some study programmes are regulated by National Framework Plans.

## **The use of graduate survey and interviews for the purpose of exploring learning outcomes**

The survey of the graduates is done in two steps: 1) a questionnaire sent to all graduates of specific classes; 2) an interview with 2-5 graduates. The purpose of the questionnaire is to ask the graduates to what extent their experience of the programme match the objectives the institutions have set for the programme, and the competences they have achieved. All objectives are listed for the graduates. Questions asked are, among others; "How well do the objectives match your understanding of the study programme? How well do the competences achieved during your study match the demands of the labour market?" The aims of the interviews with candidates are to gather overall descriptions. The graduates are for example asked to tell how they use the competence they have achieved at the commencement of their professional life. The graduates decide themselves whether they want to take part in the survey. In the questionnaire, the

graduates indicate whether they would like to take part in an interview. Graduates for the interviews are selected randomly.

Interviews are conducted with employers who have hired graduates who have recently completed their studies. The purpose of these interviews is to investigate whether the graduates upon completion of the programme have a satisfactory level of competence at the commencement of their first job. Questions asked are, among others: “Are the graduates able to start working directly after completion, or do they need further training? Can the graduates work independently or do they need supervision?” How well the graduates can participate in professional life is related to whether the programme honours its objectives and fulfils the competence demands from the labour market.

### **The use of graduate surveys and interviews with the employers**

As a part of NOKUT’s internal quality assurance procedure, all experts and institutions are asked to complete a questionnaire about the accreditation method and the evaluation-process. NOKUT uses this type of evaluation as input for the further development of the agency’s methods and procedures.

The evaluation of NOKUT’s use of graduate questionnaires and the interviews with the employers shows that the experts and the institutions find this method suitable and an important indicator of quality in higher education<sup>11</sup>. Through the experts’ use of these methods, NOKUT also finds them suitable in evaluations. In future revisions of accreditations, NOKUT will assess the use of graduate surveys. Changes and adaptations to the method will be carried out. NIFU-STEP (NIFU-STEP report 40/2007) has asked: “What is a good combination of indicators?” This is something NOKUT must decide upon in future revisions of accreditations.

So far, NOKUT has not decided how employers can best express their experience of the graduates. This kind of information is considered as essential to a general evaluation of the competence that students have acquired through completion of the study programme.

---

<sup>11</sup> Expert responses:

81% of the experts respond that the graduate survey was used in the evaluation.

85.7 % use graduate-satisfaction as a good indicator of quality in higher education.

90.5 % respond that NOKUT should always undertake graduate survey in connection with revision of accreditation.

Institution responses:

83.3 % respond that graduate-satisfaction is a good indicator of quality in higher education.

77.8 % respond that graduate survey is a suitable method to get information of candidate satisfaction.

88.3 % respond that NOKUT should always undertake graduate survey in connection with revision of accreditation.

## PART D. Some considerations on the use of learning outcomes in the future

Evaluating learning outcomes will become an important part of both the institutions' internal quality assurance and the external quality assurance the agencies are responsible for. There are different kinds of balance between external and internal quality assurance in the five countries, and there is also variety in the methods used.

It is not yet clear how the institutions themselves are going to evaluate whether the students are fulfilling the learning outcomes and how they will ensure that the learning outcomes are in accordance with the descriptions of the national qualification framework in the programmes. There are several basic questions for the agencies and the institutions to consider when evaluating learning outcomes in study programmes. These are, for example, connected to assessment criteria, how to measure learning outcomes, and different interpretations of the contexts in the different countries. A challenge is to develop indicators that measure the achievement of learning outcomes compared with the intended learning outcomes, and hard-to-measure variables like efficiency, etc., which provide limited information about the learning outcomes.

Currently, higher education institutions, quality assurance agencies and research institutes worldwide are working on the topics of describing and formulating, measuring and evaluating learning outcomes. In the future, there will be a range of examples of assessment criteria and measurement indicators. Both audit and evaluation of study can promote enhancement of the work on learning outcomes.

# Learning outcomes in quality audits

As higher education institutions create and introduce learning outcome descriptions for their study programmes, the next step would seem to be the inclusion of these outcomes in the assessment of students. The question arises as to how the extent to which a student acquires learning outcomes, knowledge, skills and competences can be assessed? Further, how can institutional performance, in terms of learning outcomes, be evaluated? These questions are especially relevant to quality audits. Currently, NOKUT and FINHEEC undertake quality audits. EVA and HSV also carry audits, but not on a regular basis, and at the moment. Quality audits focus on the institution's internal quality assurance system. In other words, the procedures are in place to continuously improve teaching, research and other activities. Audits do not evaluate the quality of teaching or research itself, but the quality procedures and the way in which they are operated. Describing and evaluating learning outcomes will most likely become a crucial part of the institutions' systems of quality assurance in the future. But to do this, the institutions must themselves develop methods to assess their own learning outcomes.

Generic competences such as communication skills, teamwork, international and developmental skills, undertake life-long learning and attitudes are fairly diffuse phenomena are open to various interpretations. Therefore, the assessment of learning outcomes can be problematic. Higher education institutions are facing the challenge of how to best assess these student learning outcomes.

Also, by assessing student acquisition of learning outcomes, the institution will be able to develop its teaching methods and other procedures. By gathering reliable information on the quality of graduating students, the institution will be better equipped to communicate the quality of its education to external stakeholders, again contributing to the success of the institution.

Learning outcomes are best included in quality audits when the institutions themselves are actively assessing student learning outcomes. When this is the case, the inclusion of learning outcomes in quality audits would then be fairly straightforward. In both NOKUT's and FINHEEC's quality audit models, the institutions are allowed to create virtually any kind of quality assurance system that they see fit. However, as the use of learning outcomes becomes more widespread, the introduction of a new criterion will perhaps be necessary, specifically for learning outcomes, assuming these becomes a new significant field for the quality assurance of the institutions.

The external experts who conduct the quality audits mostly come from other higher education institutions. As the use of learning outcomes becomes more widespread, the experts with knowledge and experience of working with the outcomes will be needed. Knowledge and experience of working with learning outcomes could therefore become an important theme in the training of experts.

It seems that learning outcomes can be integrated into quality audits fairly easily. However, it does not seem possible or plausible for audits to evaluate whether a learning outcome complies with a national qualification framework, or whether a course or a study programme is properly designed to fulfil the learning outcomes. But the audit process can investigate whether the institutions themselves have good tools for evaluating their learning outcomes, and how they work to improve them. Audit would therefore promote enhancement of the work on learning outcomes.

# Learning outcomes in evaluation of study programmes

EVA, HSV and NOKUT are the Nordic quality assurance agencies that currently evaluate courses and study programmes. All three agencies find it natural to look at learning outcomes in future evaluations of study programmes. EVA has already started this work. NOKUT undertake evaluations quite similar to evaluating learning outcomes. HSV and NOKUT are preparing to commence the evaluation of learning outcomes for courses and study programmes.

There are many questions related to the work of developing, implementing, measuring and assessing methods of evaluating learning outcomes for a course or study programme. Discussing learning outcomes at an aggregate level is most interesting from the point of the quality assurance agencies. In this part, we have chosen to raise three questions related to a common understanding of learning outcomes, assessment criteria and how to measure learning outcomes.

## **A common understanding of learning outcomes**

The Nordic countries are often regarded as resembling each other and being quite homogeneous. But the legislations differ, and there are political and cultural differences regarding higher education. The descriptions of status of the learning outcomes in part B shows different choices within higher education in the Nordic countries. Questions connected to a common understanding of learning outcomes are still not resolved in the Bologna process. So far there is a common definition of learning outcomes, but no terms exist of most of the other concepts related to learning outcomes. How can a common Nordic understanding of learning outcomes best be encouraged when they are open to different interpretations as they are translated into different contexts and usage in the Nordic countries? This question is significant for the mutual understanding and confidence in quality and transparency.

At the Bologna seminar on learning outcomes in Edinburgh (2008), one of the concluding remarks was that there is a perceived lack of clarity and shared understanding about some of the key terms associated with the introduction of learning outcomes in different countries (e.g. “competences”, “workload” and “notional learning effort”), which was likely to impede effective implementation. A request was made for consideration to develop an agreed terminology based on a shared understanding among staff, students and other stakeholders about what the key concepts mean. Furthermore, there is uncertainty about whether learning outcomes should be written at “threshold”, “average” or “modal” level. It recommends that outcomes should normally be written at “threshold” level to facilitate recognition and mobility. Learning outcomes in all the Nordic countries are written at “threshold” level.

It might be easier for the Nordic countries to reach a common understanding of the key terms related to learning outcomes. The work with learning outcomes has led to the identification of a number of terms which may need a further clarification to make the use of learning outcomes more comprehensible. But since the Bologna process is a European process, the best step towards the aim of transparency and quality enhancement in Europe is common European terms and definitions.

## **Learning outcomes and assessment criteria**

In the Bologna process, learning outcomes were established as a tool to describe the outcomes at the end of a period of learning. Moreover, today, learning outcomes are not just an isolated tool at the level of curriculum design, but also represent an approach that plays a significant role in a much wider context that includes: the integration of academic and vocational education and training; the assessment of prior experiential learning; the development of lifelong learning qualification frameworks, the development of credit transfer and accumulation systems (Bologna Seminar on learning outcomes, 2004).

Should learning outcomes be used to establish detailed assessment criteria at the level of the module and qualification? At the international level, learning outcomes represent a way to communicate external reference points, a slightly different role than at the local and national levels. They will by definition be much broader and less precise than any national descriptors. For example, the European Higher Education Area has adopted the broad generic 'Dublin' descriptors as the cycle descriptors for its Bologna overarching qualification framework. These cycle descriptors provide a context to help national authorities develop their own more detailed level descriptors. Provided that common approaches are used by the different states within their own national systems, learning outcomes open up the possibility of real transparency, mobility and fair recognition on a scale impossible in the past. At the international level they aid transparency, recognition and comparability by providing common overarching reference points (Adams, 2008).

Higher education in the Nordic countries is based on traditions, culture and political decisions, and this will probably continue to be the case in the future. Too structured or strict descriptions of study programmes may lead to a move towards the national or European standardisation of content. As Stephen Adams pointed out at the Bologna conference in Edinburgh (2008), learning outcomes should be seen as guides, not as straitjackets. At the level of study programme, subject or module, learning outcomes must be written in the context of appropriate national and international external reference points (Bologna Seminar on learning outcomes, 2004). These external reference points might be used for the evaluation of study programmes, subjects or modules. External reference points are the only opportunity for quality assurance agencies to assess and evaluate learning outcomes, and form a basis for transparency.

## **How to measure learning outcomes?**

When evaluation is to form a basis for accreditation, the result will always indicate whether the object of evaluation is at a certain level or not. Quality assurance agencies need tools and indicators to measure learning outcomes upon completion of a study programme. In the section "Agency experiences of evaluating learning outcomes in study programmes" EVA and NOKUT share their experiences.

There are several indicators used when assessing the graduates' results at completion of a study programme. NIFU-STEP (NIFU-STEP report 40/2007) mentions for example grades, failure rates and retentions as indicators. In this report, NIFU-STEP states that these rates tell us about how productive the students and the institutions are, and little about the graduates learning outcomes. The combination of different indicators and the graduates' self-evaluation are currently seen as the best methods of assessing learning outcomes. This NOQA report tells that Denmark and Norway have made different

choices related to indicators used as basis for assessment. There are questions of validity and reliability related to all indicators identified so far. As the report by NIFU-STEP states, more precise assessment criteria and methods for measuring learning outcomes would probably give place focus on the results of learning.

Above, three questions are raised, but no answers are given. The question of the common understanding has to be solved in a greater European context. The questions related to assessing and measuring learning outcomes in a national context are now being considered by the Nordic quality assurance agencies.

# Final reflections

The Nordic higher education institutions are in the progress of describing learning outcomes and developing methods of measuring and assessing. The quality assurance agencies are at the same time working on developing methods for measuring, assessing and evaluating learning outcomes. The experience of the agencies is limited. How to measure learning outcomes is seen by the agencies as one of the main challenges for the future. The measurement question also relates to how the learning outcomes are used by institutions. At the present time, it seems that the principal function of learning outcomes at institutions is informative: to present the substance and properties of a study programme or an individual course in terms of what the student is expected to be able to do after completion. The responses to the common NOQA questionnaire survey of Nordic higher education institutions reflected the importance of being able to illustrate contents of education in this way. Equally interesting are the other functions which many institutions have imposed on learning outcomes. The outcomes help to adjust examination criteria and in some institutions, the learning outcomes are used in measuring institutional performance and as a part of the quality assurance systems. Since grading has previously dwelt largely on acquisition and ability to use knowledge on a given subject, the introduction of learning outcomes can potentially mark a fundamental shift in the assessment of students. Learning outcomes enable institutions to assess students also in terms of generic competences and skills, such as communication, teamwork, critical thinking and so on. There is little doubt about the relevance of these abilities to working life and the importance of being able to measure them.

To higher education institutions, learning outcomes can present an opportunity to present what their students are actually capable of, and what they can do after graduation; not merely what they know or are supposed to know. By creating tools and mechanisms for measuring student learning outcomes, institutions can find new ways to develop pedagogical methods and teaching.

To students, learning outcomes present an opportunity to be informed on study programme content to a greater degree than before. If well described, the outcomes tell a prospective student far more than the previous course descriptions, which have traditionally dealt primarily with the knowledge to be acquired.

To ministries of education, learning outcomes also present interesting possibilities. The present governments in many Nordic countries are looking into ways in which quality of education could be included more fundamentally in the performance criteria of higher education institutions. With national qualification frameworks and learning outcomes described in every institution, ministries can set performance targets in terms of learning outcomes and direct funding according to these. This situation is still far away, but it seems potentially plausible to use learning outcomes in this way. However, the Nordic countries must first continue to develop objective and credible ways in which to evaluate learning outcomes.

National qualification frameworks based on learning outcomes are being implemented in all Nordic countries with a view to completion by 2010. It might be an idea for a future Nordic joint project to look at how to measure learning outcome, once this has been implemented in all countries and we have more experience with

it. We have seen from previous NOQA projects that the sharing of experiences and the exchange of viewpoints has provided useful insight to quality assurance. A future NOQA project on measuring learning outcomes could provide useful and practical contributions to the further development of evaluation methods, both for the institutions and for the quality assurance agencies.

# References

**Aamodt, Prøitz, Hovdhaugen, Stensaker,** "Læringsutbytte i høyere utdanning, En drøfting av definisjoner, utviklingstrekk og måleproblemer", NIFU-STEP Rapport 40 / 2007.

**Adams, Stephen,** at the Bologna seminar on learning outcomes based higher education. The Scottish experiences, 2008 [http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh\\_Febo8\\_Adams.ppt](http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh_Febo8_Adams.ppt)

**Adams, Stephen,** UK Bologna Seminar on learning outcomes, Herriot-Watt University, Edinburg, Scotland. *Using learning outcomes. A consideration of the nature, role, application and implications for European education of employing "learning outcomes" at the local, national and international levels,* 2004, University of Westminster.

Berlin Communiqué 2003, Communiqué of the Conference of Ministers responsible for Higher Education in Berlin on 19. September 2003.

Bologna seminar on learning outcomes based higher education. The Scottish experiences, 2008. <http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/Edinburgh2008.htm>

The Bologna official website: <http://www.ond.vlaanderen.be/hogeronderwijs/bologna/>

ENQA document "Standards and guidelines for Quality Assurance of the European Higher Education Area" published in 2005.

*EUA Bologna Handbook.* Dr. Josef Raabe Verlag, Berlin, 2006.

*A Framework for Qualifications of The European Higher Education Area.* Ministry of Science, Technology and Innovation, Copenhagen K, 2005.

Kunnskapsdepartementet: "Forslag til nasjonalt rammeverk for kvalifikasjoner i høyere utdanning" Rapport fra arbeidsgruppe av april 2007.

Høringsuttalelser: <http://www.regjeringen.no/nb/dep/kd/dok/hoeringer/hoeringsdok/2007/Horing-av-forslag-til-nasjonalt-kvalifik/Horingsuttalelser.html?id=476434>

Leadership and Quality Assurance in Applied Science, Computing, Engineering, and Technology Education (ABET), <http://www.abet.org/>

**Shuman, Besterfield-Sacre & McGourty:** *The ABET "Professional Skills" - Can They Be Taught? Can They Be Assessed?* Journal of Engineering Education, January 2005.

United Kingdom Bologna Seminar 1–2 July 2004, Heriot-Watt University (Edinburgh Conference Centre) Edinburgh, Scotland, 2004.

**Vincent, Judith**, Bologna seminar on learning outcomes based higher education, The Scottish experience, 2008. [http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh\\_Fe08\\_Vincent.ppt](http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh_Fe08_Vincent.ppt)

# Appendices

## **Appendix 1:**

### **QUESTIONS TO THE AGENCIES**

1. What, if any, is your agencies official view on the use of learning outcomes in evaluations?
2. To what extend is learning outcomes connected to your national qualification framework /European qualification framework?
3. Have your agency had any part in introducing and developing the concept of national qualification framework?
4. What is the current situation regarding the implementation of learning outcomes in your country? (Give a brief summary of the information you already have sent to the group)
5. What kind of experience does your agency have of using learning outcomes or equivalent in your evaluations?
6. What kind of evaluations does your agency undertake to day, and which of them do you think should be revised to include learning outcomes in the future (before 2010)?

**Appendix 2:****QUESTIONS TO THE INSTITUTIONS**

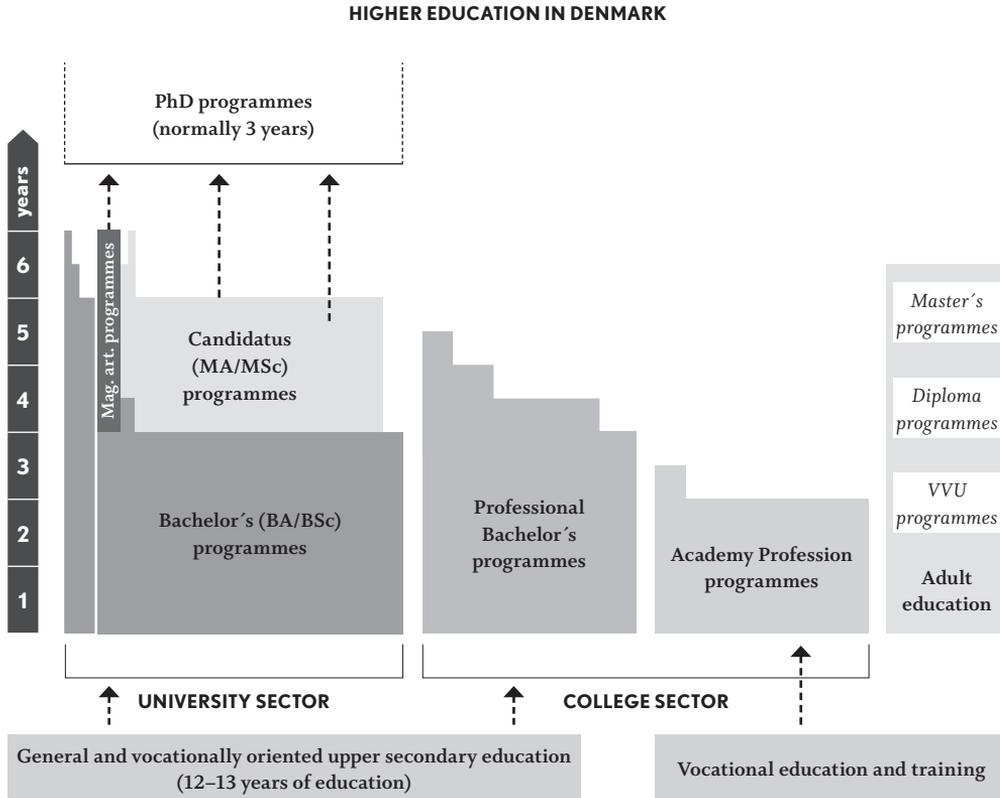
1. To what extent have you introduced learning outcomes (or description of competences, competence goals, knowledge, skills etc.) in the study programmes of your institution?
2. How were the learning outcomes formulated? Which groups (teachers, students other stakeholders) were involved in the process of creating the learning outcomes in your institution?
3. How does your institution define the concept of learning outcomes? What are the learning outcomes for you?
4. Did you use the national qualifications framework or the European qualifications framework in the process of formulating learning outcomes?
5. Where did the initiative to describe learning outcomes come from?
6. How do you use the descriptions of learning outcomes in your institution?
7. Assess how useful the descriptions of learning outcomes are for your institution?
8. How have you introduced the learning outcomes to students, teachers and other stakeholders?
9. Do you have a plan of following up or improving the descriptions of learning outcomes? If yes, please describe it.

### Appendix 3:

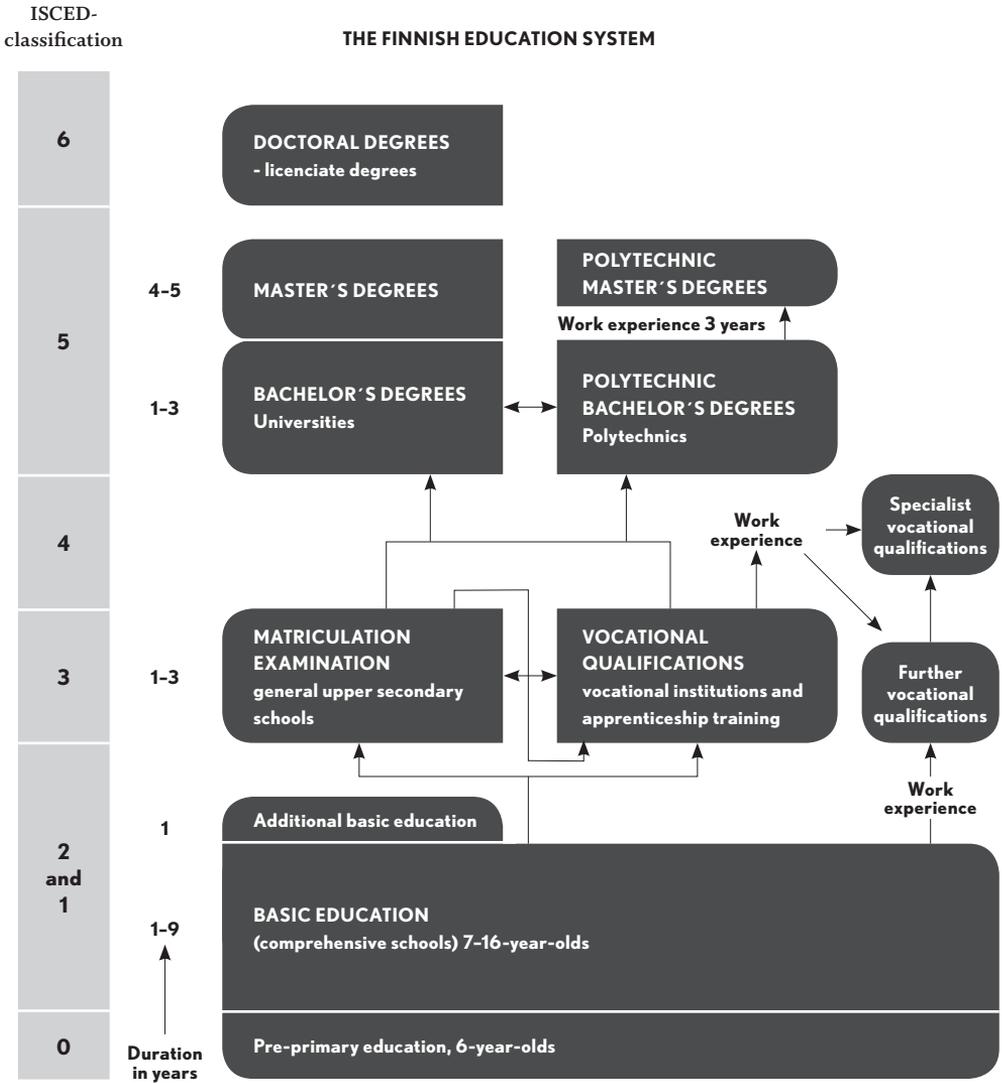
#### THE EDUCATION SYSTEMS IN THE NORDIC COUNTRIES

Figures 1–5 in part B, are based on the following original figures.

##### 1) Denmark:



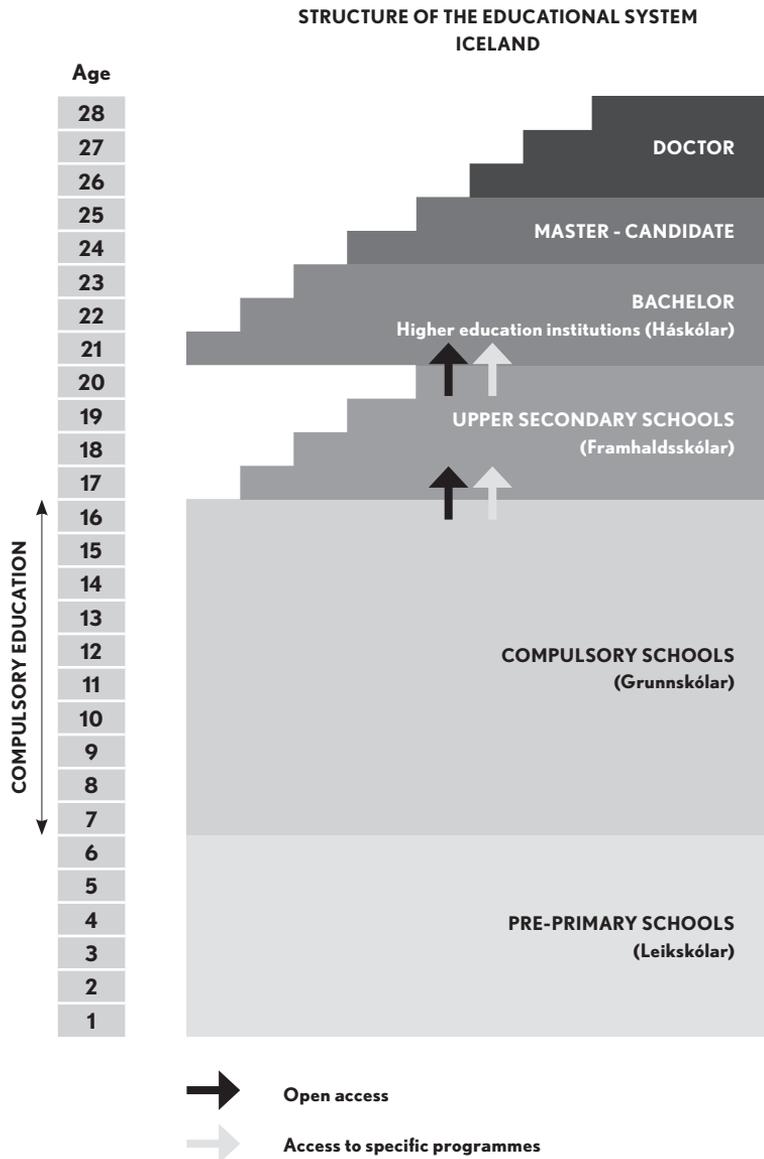
2) Finland:



ISCED-CLASSIFICATION

- 0 Pre-primary education
- 1 Primary education or first stage of basic education
- 2 Lower secondary or second stage of basic education
- 3 (Upper) secondary education
- 4 Past secondary nontertiary education
- 5 First cycle of tertiary education
- 6 Second cycle of tertiary education

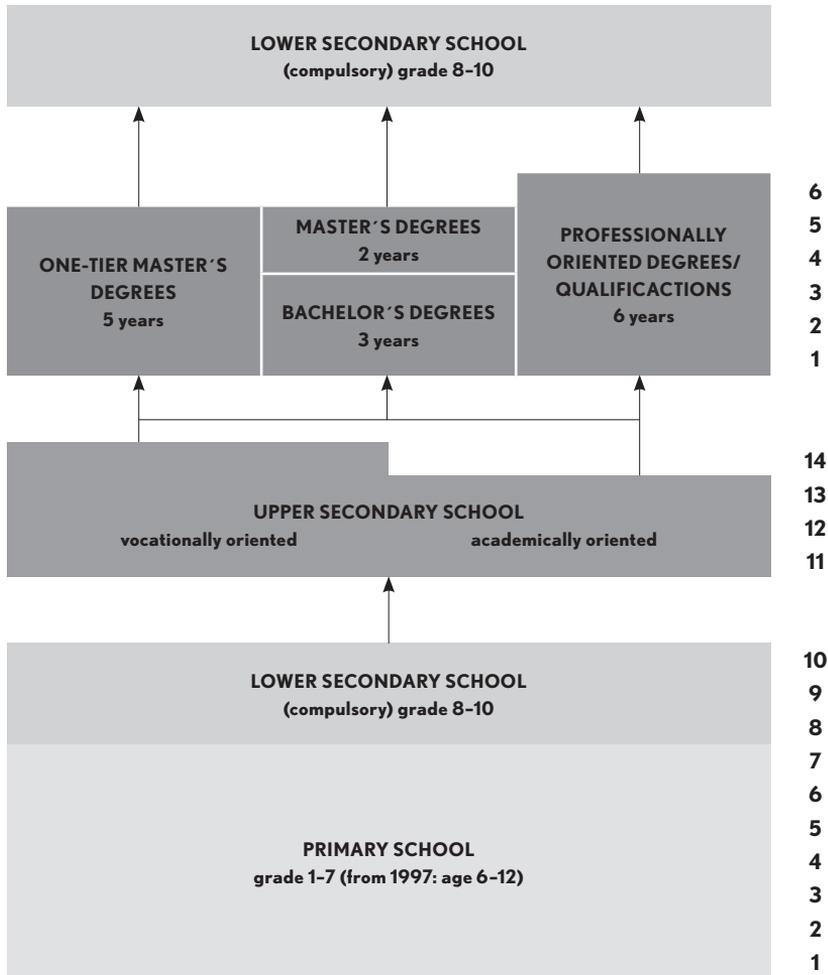
## 3) Iceland:



There are four levels of education in Iceland: pre-primary schools, compulsory (single-structure - primary and lower secondary education), upper and higher education

## 4) Norway:

## THE STRUCTURE OF THE NORWEGIAN EDUCATIONAL SYSTEM AND DEGREES



Exceptions not included in the diagram:

Master's degree in architecture from Oslo School of Architecture and Design, Oslo: 5 years

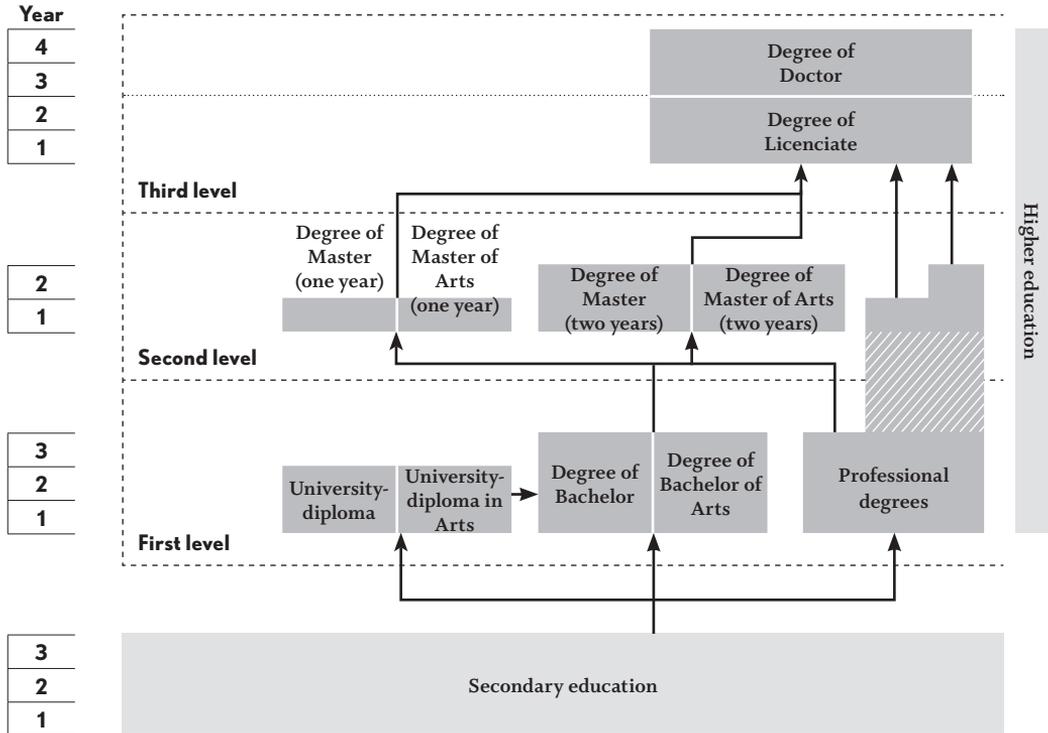
Master's degrees of 1-1 years duration

Bachelor's degrees of 4 years duration (music)

General Teacher Training: 4 years

Høgskolekandidat degree: 2 years

## 5) Sweden:



Exceptions not included in the diagram:

Master's degree in architecture from Oslo School of Architecture and Design, Oslo: 5 years

Master's degrees of 1-1 years duration

Bachelor's degrees of 4 years duration (music)

General Teacher Training: 4 years

Høgskolekandidat degree: 2 years



**The present report** is the outcome of the project conducted by the Nordic Quality Assurance Network in Higher Education (NOQA) in 2007–2008 entitled “Learning outcomes: Common framework – different approaches to evaluating learning outcomes in the Nordic countries”. ENQA publishes the report as part of a series of occasional papers that deal with developments in European quality assurance.



Occasional papers 15

ISBN 978-952-5539-35-6 (Paperbound)

ISBN 978-952-5539-36-3 (PDF)

ISSN 1458-1051