



REGERINGSKANSLIET

Ministry of Education and Research Sweden

# **OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes**

## **Country Background Report for Sweden**

**September 2010**

This report was prepared by the Ministry of Education and Research as an input to the OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes. The document was prepared in response to guidelines the OECD provided to all countries. The opinions expressed are not necessarily those of the national authority, the OECD or its Member countries. Further information about the OECD Review is available at [www.oecd.org/edu/evaluationpolicy](http://www.oecd.org/edu/evaluationpolicy).

## Table of Contents

LIST OF ACCRONYMS AND GLOSSARY OF TERMS .....	3
EXECUTIVE SUMMARY .....	4
CHAPTER 1: THE SCHOOL SYSTEM .....	8
1.1 Brief history .....	8
1.2 The structure of the school system.....	8
1.3 Upper secondary education.....	10
1.4 Proposed changes.....	13
1.5 Division of responsibilities .....	14
CHAPTER 2: THE FRAMEWORK FOR EVALUATION AND ASSESSMENT .....	16
2.1 The Current Approach .....	16
2.2 The Context of Evaluation and Assessment Policies.....	17
2.3 Implementation of the system of management by goals and objectives .....	19
2.4 Key stakeholders.....	20
CHAPTER 3: SYSTEM EVALUATION .....	23
3.1 Current practices .....	23
3.2 Implementation of system evaluation .....	30
3.3 Policy initiatives and impact.....	31
CHAPTER 4: SCHOOL ASSESSMENT .....	32
4.1 Current practices in municipal and independent schools.....	32
4.2 Implementation of school assessment.....	38
4.3 Impact of school assessment and policy initiatives .....	39
CHAPTER 5: TEACHER APPRAISAL.....	40
5.1 Current practices .....	40
5.2 Using teacher appraisal results.....	42
5.3 Policy Initiatives .....	42
CHAPTER 6: STUDENT ASSESSMENT .....	43
6.1 Current practices .....	43
6.2 Implementation of student assessment.....	46
CHAPTER 7: OTHER TYPES OF EVALUATION AND ASSESSMENT .....	47
REFERENCES .....	48
APPENDIX A: THE STRUCTURE OF THE EDUCATION SYSTEM .....	50
APPENDIX B: SYLLABI.....	51

## **LIST OF ACCRONYMS AND GLOSSARY OF TERMS**

**BRUK:** Bedömning, reflektion, utvärdering och kvalitet (assessment, reflection, evaluation and quality)

**G:** Godkänd (Pass)

**IG:** Icke godkänd (Fail)

**IFAU:** Institutet för arbetsmarknadsrelaterad utvärdering (The Institute for Labour Market Evaluation)

**MVG:** Mycket väl godkänd (Pass with special distinction)

**NAE:** National Agency for Education

**SALAR:** Swedish Association of Local Authorities and Regions

**SIRIS:** Skolverkets Internetbaserade Resultat- och kvalitets Informations System (The NAE's Internet based result- and quality information system)

**SALSA:** Skolverkets Arbetsverktyg för Lokala Sambands Analyser (The NAE's instrument for analysis of local relations)

**SOU:** Statens offentliga utredningar (Swedish Government Official Reports)

**VG:** Väl godkänd (Pass with distinction)

## EXECUTIVE SUMMARY

### *Compulsory education*

i. The education system has been an integral component of the Swedish concept of the welfare state. The nine-year compulsory school program is for all children between the ages of 7 and 16 years. In Sweden today (school year 2009/10) there are 4,666 compulsory schools and 976 upper secondary schools. The vast majority of schools in Sweden are municipally run, which means that the municipality is the responsible authority. However, students and their parents are entitled to choose another municipal school, or a school that is run independently. The proportion of students in independent schools has grown considerably since the beginning of the 1990s; in 2008/09 the figure had grown to about 10%. The same trend may be observed in upper secondary education, where the percentage has grown to 20%.

ii. The curriculum for compulsory education dates back to 1994. It has a strong emphasis on goals in terms of norms and values, such as democratic values, equal rights and opportunities for everyone, irrespective of gender, race, ethnicity, religion or sexual identity. The curriculum also contains goals related to knowledge, defined in four dimensions: facts, proficiency, understanding, and familiarity. A fundamental idea is that teachers, in consultation with their students, decide on the teaching content and methods of instruction. The syllabi goals are formulated so that they can be applied to different teaching content. Grades are provided each semester year 8 and 9.

### *Upper secondary education*

iii. Everything that is mentioned above is also true for upper secondary Education. All young people in Sweden who have finished compulsory school are entitled to three years of schooling at the upper secondary level. Upper secondary schools offer 17 national programmes that last for three years. The upper secondary school is based on courses, depending on what programme the student follows. Student assessment takes place continuously and grades are currently issued in the end of each course. Most of the upper secondary schools are also headed by the municipalities and have the same full degree of responsibility as the compulsory schools have.

### *Proposed changes*

iv. The Government has proposed a new grading scale for the compulsory school, the upper secondary school and municipal adult education. The new grading scale will contain six levels plus a seventh code to indicate that a grade cannot be awarded. Furthermore, the current 17 national programmes will be replaced by 5 programmes preparatory for higher education and 14 vocational programmes. Both reforms will come into effect by autumn 2011. In addition to this the government has proposed a comprehensive revision of the Education Act in late March 2010.

### *Division of responsibilities*

v. The curriculum, national objectives, and guidelines for the public education system are laid down by Parliament and Government. Within this framework the municipality or the board of an independent school may determine how its schools are to be run. Each school has the responsibility of working within the established framework to achieve the goals established. Approaches adapted to local conditions are chosen on the basis of national steering documents. The municipalities and principal organisers of independent schools are responsible for financial management as well as follow-up and evaluation of their respective activities. Independent schools are obliged to participate in the national follow-up and evaluation.

vi. There are three school authorities on the national level that support and follow-up work on school quality and outcomes. The National Agency for Education (NAE) provides syllabi, is responsible for the national assessment system and Sweden's participation in international comparative studies but also supports schools on improving quality and outcomes from a national perspective. The Schools Inspectorate is responsible for assessing permit applications for independent schools, inspection of school providers and schools, and performance reviews on local level. The National Agency for Special Needs Education and Schools is responsible for the state's overall support for children, young people and adults with special needs.

#### *The framework for evaluation and assessment*

vii. Evaluation and assessment takes place on all levels (from student to national). The general objective of the evaluation is to report goal attainment and enhance measures for increasing it. The framework has not been designed as an integrated system but has evolved over time. However, seen as a whole system, it contains seven main parts. These range from student self-evaluation and teachers assessing individual students; school heads who see to the cultivation of education in the school; the monitoring and evaluation done by the local educational authority; individual schools and municipalities inspected by the Schools Inspectorate; the NAE evaluating the results and goal attainment of the Swedish school system; and, finally, to the Parliament and Government setting goals and guidelines for the other entities.

#### *The context of evaluation and assessment policies*

viii. A shift in governance from central to local decision making was introduced in the early 1990s. Management by goals and objectives, along with a decentralisation around municipalities and schools, was the focal point of the reform. Municipalities were given authority for schooling and, within municipalities; further decentralisation took place, with responsibility vested in the schools and school heads. New government guidelines aimed at developing professional responsibility while leaving scope for teachers' initiatives. The system has undergone four phases. The first (after 1990) was characterised by deregulation, municipal funding and decentralisation. During the second phase (after 1995) a larger variance was visible within the system. The management in many municipalities was weak, and in the general debate more governmental control and inspection was asked for. In the third phase (after 1999) goals continued to be inadequately met. This led to more governmental interventions (such as earmarked state funds) and the introduction of governmental school inspections. During the fourth phase (after 2003) the attainment of goals deteriorated further. Governmental steering mechanisms were strengthened, as were demands for stronger directives regarding municipal quality reports. The governmental Schools Inspectorate also expanded greatly. There are a number of stakeholders in the area of education, but none of them have any official role in the evaluation system.

#### *System evaluation*

ix. The responsibility for system evaluation currently rests with the NAE, which is also in charge of follow-up. The Schools Inspectorate plays a minor role with regard to system evaluation. The current practice on follow-up is to gather statistical data from schools on an annual basis. In addition to this, four main instruments are used to perform the system evaluation: national tests in years 3, 5, and 9, as well as in upper secondary education; participation in international student assessments; in-depth analysis of certain issues such as multiculturalism, the interplay between the physical environment and learning within schools, etc., and national reviews of policies. These studies aim at a deeper understanding and analysis of outcomes and relationships in school activities.

x. The purpose of the national tests are both to establish a sound foundation for fair and equitable grades for students and to act as a basis for analyzing the degree to which students achieve their targets on school, municipal, and national levels. The tests are in most cases corrected by the local teachers. The performance criteria and reference standards used in system evaluation are to be found in the curricula and

the syllabi. The syllabus and the grading criteria are, in turn, the foundation for the national tests. All data from follow-up and evaluation gathered by the NAE are published, either in reports or in databases publicly available on the Internet. The NAE also summarises its findings in an annual progress report regarding the overall performance of the school system, giving its judgement of the strengths and weaknesses of the Swedish school system. In addition to this, the Swedish Association of Local Authorities and Regions (SALAR) has recently started to publish their own analysis of the data gathered by the NAE and others. In order to focus the debate on the output of the education system, rather than the input and resources, they have released a study on success indicators in Swedish municipalities and have started to rank individual schools in order of quality and results.

#### *School assessment*

xi. The overall reason for school assessment is to ensure that all children and young people are attending schools which focus on safety and knowledge. Everyone must be given an equal opportunity to achieve goals, regardless of gender, social/economic conditions, or place of residence. Teachers and school heads are responsible for daily internal assessment in schools. The school head reports to the municipality. In what way and how often assessment is done differs from municipality to municipality. Independent schools have the same responsibility as municipalities to assess their students, teachers, school heads, and schools. It is not unusual to use instruments like Quality Score Cards, Qualis etc., but no data is available regarding how many municipalities and independent schools apply such instruments. Some municipalities use teachers from other municipalities as peer evaluators. There are also instruments for self-evaluation for teachers and schools developed by the NAE. Until recently there was an obligation imposed on schools concerning quality assurance and improvement in the form of an annual quality report. However, the limited use and impact of the quality reports did not justify all the work put into them and thus there is no longer an obligation to submit such reports.

xii. The Schools Inspectorate carries out inspections through regular supervision and thematic quality reviews. During regular supervision the main focus is legality, the purpose being to ensure the right of each individual in relation to the Education Act. In the thematic quality reviews, focus is on quality aspects in the teaching and learning processes in relation to the results and performance of schools. The aim is to affect the work of schools and local authorities in order to increase quality and standards of achievement. The process of inspection involves data collection, checks, analyses, assessments, and quality assurance. It is divided into four phases: preparation, on-site visits, analysis, and feedback. During the period from 2003 to 2009 the Inspectorate had the task to carry out inspections in all Swedish schools. These inspections included both legal and quality aspects. The Inspectorate publishes all the results of their inspections. These results are used by both the NAE in their annual progress report and by SALAR in making comparisons between municipalities and schools.

#### *Teacher appraisal*

xiii. Teacher appraisal is not a major issue in Sweden at present. Since the system for remuneration of teachers is based on an individual pay scheme, it is primarily a market issue. It means that schools can reward committed teachers and use some teachers' best competencies in an improved way, as well as link better performance to better pay. However, because the system is strongly labor market driven, it runs the risk of endangering the performance-related side of the system. Furthermore, it does not necessarily differentiate between performance and commitment. The performance of teachers is assessed by the school head, usually in an annual dialogue based on "salary criteria" decided on at municipal level.

#### *Student assessment*

xiv. The general approach to student assessment is based on the principal that the instructor teaching the student is the person best suited to assess that student. Formative assessment plays an important role in the Swedish school system. Teachers are to continually inform the student about his or her progress. At least once every semester, teachers are required to have discussions on progress with the student and the

student's guardian in order to come to a joint conclusion on how the student's knowledge and social development can best be supported, and to formulate and document this in an individual development plan. In compulsory schools summary student assessment takes place through end-of-semester reports at the conclusion of the autumn and spring semesters of years 8 and 9. When awarding grades teachers are to factor in national tests for each subject provided by the NAE. In addition, they should consider other achievements during the course.

xv. The grading system in the upper secondary school is related to the goals of each course as set out in the syllabi. Grading criteria stipulate the degree of knowledge required for each grade. Students are awarded grades when a course is completed, i.e., assessment is continuous. There are national tests in Swedish and Swedish as a Second language, mathematics and English. It should be emphasized that a national test cannot examine a student's knowledge against all targets or criteria. Therefore, test results can be only one part of the evidence that the teacher has to take into account when grades are awarded. How much weight is given to national test results in determining a student grade is not regulated, but determined locally.

Syllabi for compulsory and upper secondary school <http://www3.skolverket.se/ki03/front.aspx?sprak=EN>

## CHAPTER 1: THE SCHOOL SYSTEM

### 1.1 Brief history

1. The education system has been an integral component of the Swedish concept of the welfare state. Compulsory schooling was introduced as early as 1842. In the 1960s, Sweden had nine years of free compulsory education for those ages 7 and over. It provided a comprehensive education, with all children following a similar curriculum determined by the government. Upper secondary education was voluntary and offered different programmes, from vocational training to programmes preparing for university studies. Parallel to this, there has also been a strong tradition of public support for adult liberal education, encouraging the accumulation of social and human capital. The schooling system has focused on providing equality of opportunities and equivalence of outcomes. The result of this is that almost all Swedes now continue full-time education beyond the minimum age required. The adult education system reinforces this equality of opportunity to adults by also offering the possibility of a second chance to those who missed it the first time, giving another route to jobs with higher pay or better conditions.

2. By tradition Sweden has small ministries working mainly with strategic issues, and national agencies within the sphere of responsibility for each ministry. The Ministry for Education and Research which is responsible for early childhood education and care, schools, upper secondary schools, adult education, universities, university colleges and research has some 200 staff, which may be compared with the National Agency for Education with approximately 250 employees and the Schools Inspectorate with approximately 300 staff.

### 1.2 The structure of the school system

3. Compulsory schooling includes regular compulsory school, Sami school, special school, and programs for students with learning disabilities. Non-compulsory schooling includes preschool classes; upper secondary school, and upper secondary school for students with learning disabilities; municipal adult education, and adult education for adults with learning disabilities. All education throughout the public school system is free. There is no charge to students or their parents for teaching materials, school meals, health services or transport.

#### *The Education Act*

4. According to the Swedish Education Act, all children and youth shall have equal access to education. All children shall enjoy this right regardless of gender, where they live, or social or economic factors. The Education Act states that this education shall “provide the students with knowledge and, in cooperation with the homes, promote their harmonious development into responsible human beings and members of the community.” Consideration must also be given to students with special needs. (For the complete Education Act in English, see: <http://www.sweden.gov.se/sb/d/574/a/21538>)

#### *The school year*

5. The academic school year normally begins at the end of August and runs to the beginning of June in the following year, comprising a total of about 40 weeks. The regular school week is five days long



(Monday through Friday). A longer holiday of just over two weeks is taken from around the 20<sup>th</sup> of December to the beginning of January.

### *Compulsory Education*

6. The nine-year compulsory school program is for all children between the ages of 7 and 16 years. Upon the request of parents, a child may begin school one year earlier, at the age of 6.

7. Sami children can receive education in Sami School that covers grades 1-6. This schooling corresponds to the first six years of compulsory school.

8. Special schools offer a ten-year program for the deaf and hearing impaired. Programs for students with learning disabilities include compulsory school and training school for students with severe learning disabilities.

9. In Sweden today (2009/2010) there are 4,666 compulsory schools (see Table 2). During the first three to seven years the class can be taught by the same teacher, supported by specialist teachers responsible for handicrafts or sports as well as teachers for students with special needs and teachers in Swedish as a second language and teachers for students in their mother tongue. But as is up to each school to organize their work there are many different ways of doing this. Subject teachers are common during school years seven and nine. School size varies because there are many sparsely populated areas in Sweden. Therefore the numbers of teachers in each school also varies. The work is led by a school head, who not only manages the teachers, but also manages the people who work at the school in student care, counseling, health, maintenance, and food services.

10. The majority of schools in Sweden are municipally run, which means that the municipality is the responsible authority.<sup>1</sup> Many children attend a municipal school close to their home. However, students and their parents are entitled to choose another municipal school, or a school that is run independently. Independent schools are open to all children and must have been approved by the Schools Inspectorate. Teaching in independent schools is to have more or less the same objectives as those of the municipal school, but can have an orientation that differs from that of the municipal schools. If a school does not comply with current regulations, the Schools Inspectorate can withdraw its permit. It is common for independent schools to have a different orientation from municipal schools, including special teaching methods, e.g., Montessori or Waldorf (approximately 6% in 2008/09), a linguistic/ethnic orientation, or to have a certain religious profile (approximately 10% in 2008/09).

11. The proportion of students in independent schools has grown considerably since the beginning of the 1990s, although the sector is still quite small. In the school year 1990-91, about 0.9% of all Swedish students in compulsory education (approximately ages 7-16) were enrolled in independent schools, whereas in 2009/10 the figure had grown to about 11%. The same trend may be observed in upper secondary education, where the percentage has grown from 1.5% to 22% during the same period. Independent compulsory schools are established in 185 of the 290 municipalities in Sweden, and there are independent upper secondary schools in 114 municipalities. During the academic year 2009/10, 15% (709) of the compulsory schools in Sweden and 47% (458) of the upper secondary schools were independent schools. The urbanized areas of southern and central Sweden, in particular in the Greater Stockholm area, have the highest concentration of independent schools. Looking at the economic organisation of the independent schools, the distribution is as follows:

---

<sup>1</sup> There are 290 Swedish municipalities. Each of the municipalities is responsible for the use of taxes within several areas such as technical services (water, sanitary), elderly care, child care and schooling. The municipality has a local parliament representing the votes of the inhabitants and several boards with a political composition that also reflects local opinions.

**Table 1: Distribution of economic organisations for independent schools in 2008**

Limited companies	64%
Non-profit organisations	11%
Economic associations	11%
Private foundations	11%
Sole proprietorship	2%
Partnerships	1%
Other	1%

Source: The Swedish Association of Independent Schools

12. The curriculum for compulsory education, dated 1994, has a strong emphasis on goals in terms of norms and values, such as democratic values, equal rights, and opportunities for everyone irrespective of gender, race, ethnicity, religion or sexual identity. There is also strong emphasis on a student's individual development and the development of personal competencies such as of the ability to cooperate and communicate with others, think critically and creatively, etc. The curriculum also contains goals related to knowledge, defined in four dimensions: facts, proficiency, understanding, and familiarity.

13. In the syllabi for the compulsory school, goals are described at two different levels; year 5 and year 9. The syllabi are organised so that each of 20 subjects is described separately. Apart from the goals, the syllabus of each subject follows the same structure and describes, in addition to various goals, the purpose and role of the subject as a course, the character of the subject, and the focus of assessment. Finally, the syllabi also contain criteria for the award of grades. (The syllabus for Mathematics is included in Appendix B as an example.)

14. A fundamental idea of the present curriculum is that teachers, in consultation with the students, should decide on the teaching content and methods of instruction. In order to facilitate such freedom of choice, the syllabi goals are formulated so that they can be applied to different teaching content. The idea is that the national goals and the criteria for the award of grades will become explicit for the students by being reformulated and incorporated into the format of the locally chosen teaching content. (National Assessment and Grading in the Swedish School System, NAE 2005)

15. Student assessment takes place through end of semester reports. They are provided at the conclusion of the autumn and spring semesters of years 8 and 9. Certificates of completion are issued when a subject is completed or when compulsory attendance expires.

### **1.3 Upper secondary education**

16. All young people in Sweden who have finished compulsory school are entitled to three years of schooling at the upper secondary level. Almost all compulsory school students (98,5%) continue on directly to upper secondary school, and the majority of those complete their upper secondary education in three years. Upper secondary education is non-compulsory schooling.

17. Upper secondary education comprises the regular upper secondary school and upper secondary for young people with learning disabilities. Upper secondary school offers various types of programmes.

- 17 national programmes that last for three years. In upper secondary education there are two types of subjects; those common to all national programmes – core subjects; and those specific for each programme – programme specific subjects.
- Specially designed local programmes that combine subjects from the various national programmes.
- Individual programmes mainly for students who are not eligible for a national or specially designed programme, and recently immigrated young adults.

The national programs for the learning disabled, however, are fewer in number and specially oriented to vocational training. Upper secondary programs for the learning disabled are four years in length.

18. Most of the upper secondary schools are also headed by the municipalities and have the same full degree of responsibility as the compulsory schools have. In the upper secondary schools, all educational programs are kept under the same organizational roof. Students aspiring to go to universities work side-by-side with students that have chosen to follow a vocational programme. The teachers follow the students for one, two, or three years. Teachers usually work in teams to be able to use time in effective ways. The school head is the manager of an upper secondary school but may work together with several deputy school heads who usually have responsibilities that follow the special study areas the school can offer the students.

19. Municipalities are obliged to provide young people between the ages of 16 and 20 with an all-round choice of programmes, either under their own auspices, or in conjunction with other organisers. The national curriculum lays down the tasks and overall goals of the upper secondary school, as well as the values that should underlie teaching. The Swedish Parliament decides which programmes and core subjects are offered. The government sets out the programme goals of each national programme at the upper secondary level. The programme goals describe the purpose and objective of the course. The National Agency for Education adopts syllabi that then set out the goals of teaching in each individual subject and course.

20. Student assessment takes place continuously, and grades are currently issued in the end of each course. The upper secondary school has 138 subjects and there can be one or many courses in each subject (in total about 880 national courses).

**Table 2: Distribution of student and teachers numbers by type and level of school 2009/2010**

	Age range of students	No. of institutions and schools	No. of children and students	No. of Teachers/employees	
<b>Preschool education</b>					
Preschool education	1-5	9 866	446 080	96 620	83 207
Preschool class	6-7	3773	100 283	8 397	6 122
<b>Compulsory education</b>					
Compulsory school	7-16	4 660	891 727	97 079	85 559
Special school	7-17	8	500	343	302
Sami school	7-13	5	131	24	19
School for children with intellectual disabilities	7-19*	722	12 673	4 944	3 025
<b>Upper secondary education</b>					
Upper secondary school	16-20	976	394 771	37 726	34 064
School for students with intellectual disabilities	16-20	269	9 412	2 852	2 070

\* School for children with intellectual disabilities is for children and students 7-17 years but there can occasionally also be some students up to the age of 19

Source: National Agency for Education

***Special education and special schools***

21. The Swedish Education Act states that all children shall have equal access to education and that all children shall enjoy this right, regardless of gender, where they live, or social or economic factors. Special support shall also be given to students who have difficulty with schoolwork. Most students with a need for special support are taught in regular classes in compulsory and upper secondary schools. There are also a certain number of special remedial classes for students with functional disabilities and for students with social and emotional problems. However, most children who have difficulty learning attend a program for students with learning disabilities (Särskola).

***Special support and remedial teaching***

22. A student who for some reason has difficulty following lessons in class can receive support in one of several ways. Examples include having a special education teacher support and assist the child in the classroom, or teaching the child in a special remedial group outside the regular classroom. Students who are sick for an extended period of time, or who frequently miss school due to illness, are entitled to be taught at the hospital or in the home. This instruction is only given with the consent of a physician. The instruction given is to correspond as far as possible to regular classroom instruction.

***Students with functional disabilities***

23. The National Agency for Special Needs Education and Schools is responsible for providing special needs support to students, parents, schools, and municipalities, so that functionally disabled students may receive the best education possible. This support targets children with hearing and vision impairments, children with physical or multiple disabilities, as well as disabled immigrant students, vision-impaired preschool children, and deaf-blind adults.

### *Upper secondary school*

24. The principles of equal education for students with special needs, as well as the striving for integration, applies to upper secondary school as it does to compulsory school. The support measures available in compulsory school are also made available in upper secondary. Most youths with functional disabilities attend regular upper secondary schools. There are also special national secondary schools for the deaf, hearing-impaired, and physically disabled students.

25. The National Agency for Special Needs Education and Schools operate three national and five regional special needs schools. The regional schools offer education corresponding to compulsory nine-year comprehensive school to pupils with deafness or impaired hearing. The national schools cater for pupils with visual impairment and additional disabilities, deafness or impaired hearing combined with severe learning disabilities or congenital deaf-blindness, and severe speech and language disabilities.

## **1.4 Proposed changes**

26. The Government has proposed a new grading scale for the compulsory school, the upper secondary school, and municipal adult education. The new grading scale will contain six levels and a seventh code to indicate that a grade cannot be awarded. The five levels A-E will denote a passing grade and F a non-passing grade. If material for an assessment is non-existent due to substantial absenteeism, a grade will not be awarded, and this will be designated by a horizontal line. The new grading system is scheduled to come into effect by autumn 2011.

27. To create improved conditions for more young people to complete their upper secondary education the Government has proposed a comprehensive reform of the upper secondary school to better match the needs of all young people – both those aiming to proceed to higher education, and those who wish to start working or pursue advanced vocational education after upper secondary school. The new upper secondary school will provide both programmes preparatory for higher education and vocational programmes leading to a vocational degree. Programmes preparatory for higher education provide basic eligibility for higher education at the first cycle level. Students attending a vocational programme will also have the right to continue their studies to gain eligibility for higher education. To have a closer linkage between education and working-life in the vocational programs a pilot has started project with upper secondary apprenticeship training, in which at least half of the programme is carried out at a workplace. A pilot project is also being carried out with leading edge programmes covering areas such as mathematics.

28. The Parliament has decided according to the Governments proposal that the current 17 national programmes will be replaced by five programmes preparatory for higher education and 14 vocational programmes. The reform will come into effect by autumn 2011.

29. In late March 2010 the government proposed a comprehensive revision of the Education Act (Government Bill 2009/10:165). The Education Act is one of Sweden's most extensive Acts, covering all education from pre-school to adult education. The current Education Act of 1985 has become out of date and does not reflect actual conditions in the school sector, above all as regards the position of independent schools. The legislation has accordingly undergone a comprehensive review aimed at drawing up a new and modern law that better reflects the conditions in the school sector. The new Act is also better adapted to a management by objectives approach in the school system and to the current division of responsibilities between central and local government. (<http://www.sweden.gov.se/sb/d/12996>)

## 1.5 Division of responsibilities

30. The curriculum, national objectives and guidelines for the public education system are laid down by Parliament and Government. Within the objectives and framework established by Government and Parliament, the individual responsible authority – a municipality or a board of an independent school – may determine how its schools are to be run. Together with the Parliament, the Government and the national school agencies, the principal school providers (municipality, county council or independent school organiser), and the school itself are part of a management system by goals and objectives that provides a large measure of freedom at the local level. Decentralisation is meant to provide good opportunities for participation and for teachers, students, and parents to exercise influence. The frameworks and goals are set out in various national steering documents decided upon by the Parliament and the Government. Each school has the responsibility of working within the established frameworks to achieve the goals established. Working approaches adapted to local conditions are chosen based on national steering documents. The municipalities and principal organisers of independent schools are responsible for financial management as well as follow-up and evaluation of their respective activities. Independent schools are obliged to participate in the national follow-up and evaluation, and municipalities have a right to exercise some oversight with regard to independent schools and independent preschools.

31. The government and the Ministry of Education and Research is responsible for setting the goals and framework for the educational system, while municipalities are responsible for organising and allocating resources to schools operating within their boundaries. Finally, teachers and school heads are responsible for students achieving the educational standards and goals set by the national government. Evaluation and quality control by individual schools and municipalities is emphasized, as well as the overall duty of the national government to evaluate and follow-up on the quality of the whole school system, i.e., whether the national goals are being achieved. This is done by the national agencies. The role of the Ministry of Education and Research in terms of evaluation and assessment is to give general direction to the work of the National Agency for Education and the Schools Inspectorate, and to be the receiver of their reports and the accumulated results of their work.

32. Since autumn 2008 there have been three school authorities to support and follow-up work on school quality and outcomes. The National Agency for Education, supports, follows-up, and evaluates the work of municipalities and schools on improving quality and outcomes. The Schools Inspectorate is responsible for assessing permit applications for independent schools, inspection of school providers and schools, as well as performance reviews. The National Agency for Special Needs Education and Schools is responsible for the state's overall support for the special needs of children, young people, and adults with disabilities.

33. The National Agency for Special Needs Education and Schools was established in 2008 for the purpose of coordinating the government's support for special needs education. The agency takes over the former functions of the National Agency for Special Educational Support, the Swedish Institute for Special Needs Education, and the National Agency for Special Schools for the Deaf and Hearing Impaired. The aim is to ensure that children, young people, and adults with disabilities will be able to develop while receiving an education based on equality, participation, accessibility, and companionship. The function of the agency is to offer support to school management in matters relating to special needs education, promote access to teaching materials, run special needs schools, and allocate government funding to students with educational disabilities and to education providers. The overall aim is to help students fulfil their educational goals. The agency operates three national and five regional special needs schools. The regional schools offer education corresponding to compulsory nine-year comprehensive school for students with deafness or impaired hearing. The national schools cater for students with visual impairment and additional disabilities; deafness or impaired hearing combined with severe learning disabilities or congenital deaf-blindness; and severe speech and language disabilities.

34. The National Agency for Education (NAE) supports follows-up and evaluates the work of municipalities and schools. In relation to national goals and steering documents, the NAE establishes frameworks and guidelines for how education is to be conducted and assessed using goal documents, syllabi, tests, grading criteria, and general guidelines. The NAE is responsible for national school development on a system level, that is, supporting preschools and schools in their development mainly by publishing materials on the NAE website (see [www.skolverket.se](http://www.skolverket.se)). The support provided is to be given national priority. The NAE evaluates activities within the school system through in-depth studies and provides analyses to highlight areas requiring attention on a national basis. Finally, the NAE follows-up the prerequisites of the different activities, how they are conducted, and how the results appear, by the continual collection of data from municipalities.

35. In 2008, the Schools Inspectorate was established. Its purpose was two-fold. First, it was considered important to separate the body responsible for steering and support from the one responsible for inspection and control. Second, the purpose was to emphasize the importance of national inspection and to encourage a more forceful and rigorous inspection, carried out more frequently. The inspectorate has been given a broadened mandate accompanied by significant economical reinforcement. The Schools Inspectorate is responsible for educational inspection, investigation of complaints and approval of independent schools.

## CHAPTER 2: THE FRAMEWORK FOR EVALUATION AND ASSESSMENT

36. Since the Swedish education system is highly decentralised evaluation and assessment takes place on all levels of the system, from the student to the national level. The general objective of the evaluation is to report goal attainment and, where relevant and appropriate, measures planned for increasing goal attainment. Although the arrangement can be described as a top-down system where the next level is superior to and evaluates the former, this is only part of the picture. There are also a number of transverse means, support systems etc., developed at the national level to support teachers in their assessment of students, schools in their self-evaluation, and municipalities in their continuous monitoring and evaluation of schools. Municipalities and independent principal organisers are responsible for organising and allocating resources to schools operating within their control. They are also responsible for making sure that schools are monitored and evaluated. Finally, teachers and school heads are responsible for students achieving the educational standards and goals set by the Government.

### 2.1 The Current Approach

37. The framework for evaluation and assessment has not been designed as an integrated system. It has evolved over time and is actually not as top-down as the following description might imply. Seen as a whole system, it contains seven main parts. These range from student self-evaluation and teachers assessing individual students; the National Agency for Education evaluating the results and goal attainment of the Swedish school system; and finally the Parliament and Government setting goals and guidelines for the other entities. The different elements of the framework is briefly outlined below:

- a) The teacher is responsible for setting up an individual development plan for each student. The plan should state the goals of the individual student and should be regularly discussed and revised with the student and his or her care provider. The plan should, among other things, be used as an instrument for self-evaluation by which the student reflects on his or her own learning and achievements.
- b) Teachers assess students continuously and set grades in certain years. They are supported in this by the results of national tests in some subjects (see section 6.1).
- c) According to the Education Act, the management of education in the school shall be undertaken by a school head who must see to the cultivation of education in the school. School heads assess teachers work, which influences teacher remuneration through the decentralized individual pay scheme (see section 5.1).
- d) The school is monitored and evaluated by the local educational authority (the municipality) or the independent school organiser. Until recently this was done as part of an annual quality report. The purpose of the quality report was to promote the continuous work of developing the schools in the municipality. The reports also fulfilled the function of informing citizens and others about the performance of the municipal schools. In the future there will also be a quality assurance component that has to be documented. The way in which municipalities monitor and evaluate their schools differ. While some municipalities have developed fine-tuned monitoring systems and use different kinds of score cards in their administration, others operate more on an ad hoc basis. Individual schools and municipalities are inspected by the Schools Inspectorate, which looks at the school organization, the education of school head and teachers, the leadership of the school head, the evaluation system and the internal audit of the municipality, the evaluation system and the



internal audit of the school, and finally quality development work and systematic management of this work on the school and local authority level. They also check to see if quality assurance reports for each school and for the local authority were available and met statutory requirements. The Inspectorate itself is evaluated both internally and externally. Internally there are self-evaluations analysing the comparability of judgments made by different Regional Offices in order to reassure the objectivity and the equivalence of the Inspectorate's judgments. Questionnaires to representatives for teachers, school heads, local authorities and parents are planned in order to regularly investigate the public opinion of the Inspectorate and its work. Externally the Inspectorate submits an annual report to the Government containing both financial data and information about its activities.

- e) The NAE does follow-up on a systemic level by continuously gathering statistics from municipalities and schools on the conditions for the activities within the sector, how the activities are implemented and what the results are. The NAE provides and runs national tests in Mathematics, Swedish, Swedish as a Second Language, English (and beginning spring 2010 in Biology, Chemistry and Physics), diagnostic materials and an Internet based item bank. Furthermore, the NAE evaluates on a system level issues that need to be developed nationally. The evaluations should also provide a better foundation for school heads to develop their local schools. The studies and evaluations are either commissioned by the Government, initiated by the agency itself, or might be such international studies as PISA, TIMSS and PIRLS. As in the case of the Inspectorate, the NAE also reports annually to the Government both about its activities and its financial situation.
- f) The Swedish Parliament and Government set the goals and guidelines for work in the school system. This applies to all schools in Sweden and is to guarantee that education is of a high standard and equally good throughout the country. The Ministry of Education and Research is responsible for producing data for decision-making on Government proposals.

## **2.2 The Context of Evaluation and Assessment Policies**

38. Although it is true that the Swedish educational system has experienced extensive changes during the last 20 years, it should be noted that these changes took place after many years of discussion and a gradual relaxation of detailed steering from the central level. A shift in governance from centrally controlled to local decision making is probably the most important change. It implies that the Swedish Parliament and Government have overall responsibility for schooling, shape national school policy, set objectives, and adopt instruments for implementation and evaluation; and local municipal authorities have full responsibility for allocating resources, organising and operating school services and ensuring that schools have the necessary staff and that the students fulfil the goals.

39. The change in governance was decided on in the early 1990s. It was preceded by several years of political discussions and reform efforts to deregulate and increase local responsibility in the public sector. The idea was to enhance efficiency and allow for more local decisions in line with the needs of citizens and the prevalent ideology, often called New Public Management. This could probably be seen in light of a strong political commitment to egalitarian values entailing, among other things, the provision of more education for all, regardless of geographical location and socio-economic background. This ambition, coupled with other welfare reforms, made the public sector grow very fast during the 1960s and 1970s. It was accomplished by allocating more resources for public spending, which was possible since the economic growth rate was high during this period. The slowdown in economic growth rate near the end of the 1970s made it more obvious to policy makers that an expanded and improved quality of social services

could not be accomplished without improving efficiency in the public sector. The budget constraint facing the public sector also affected the resources that could be allocated to the educational sector. (Stråth, 2004)

40. The formation of the National Agency for Education in 1991 was associated with the closure of a large and long established authority, the National Board of Education. Political forces had long campaigned for a new division of responsibilities between central and local government, both within the school sector and in other areas. In the late 1980s the government sought a new management model that would meet modern democratic ideals and provide a more efficient government administration. Public spending could, they argued, no longer increase as before to get more out of the available funds by setting goals and assessing outcomes, instead of focusing on input. From these motivations and ideas a new agency was born. The change included a halving of the state school administration. The new agency was formed with relatively radical overtones, both in relation to the principles of school management and public management in general. National monitoring and evaluation can be seen as symbols of the main tasks of the new agency. (Björnsson 2003)

41. Management by goals and objectives along with the decentralization around municipalities and schools was the focal point of school reform in the early 1990s. It was, as stated by the government's bills and letters, a "linchpin" in the policies pursued during the early 1990s, a rhetorical framework in which results of the students are assessed and measured. It was a central idea behind the transformation of the operational framework for schools that was taking place between 1990 and 1994. Municipalities were given authority for schooling and, within municipalities, further decentralisation took place, with responsibility being given to schools and school heads. New government guidelines were aimed at developing professional responsibility and leaving scope for teachers' initiatives.

***The strategic importance of the evaluation and assessment framework within educational policy***

42. As regards the relation between the framework for evaluation and assessment in the school system, as well as evaluation and assessment policies in the general public sector, the Swedish Agency for Public Management stated in its report "Evaluation and Policy II: How does government evaluate?" (2002:21), that it is relatively rare that evaluations are thorough comparisons of the effects of different measures or activities. Evaluations often lack in quality. The Swedish Agency for Public Management remarks that the quality of evaluations is higher in cases where evaluations are made by authorities who have evaluation as a central task and do not have to implement the policies they evaluate. In another report (Evaluation: By whom and for what? A survey by the Cabinet Office assessment resources), the Swedish Agency for Public Management (2002:20) identifies education as one of the policy areas where there is a need for good access to evaluation resources. The Swedish Agency for Public Management notes in particular the evaluator's level of independence in relation to the activities to be evaluated. The Agency states that further resources for sector-specific evaluations would increase the prospects for an overall illumination of the activities of education, thereby improving the basis for targets and performance management.

43. In recent years there has also been a lively debate about the education sector. Education is important from several perspectives. Besides providing a basic education and training, it also aims at contributing to the economic development of society. The emphasis on adapting education to the needs and demands of the labour market has increased the interest in both educational expenditures and the measurement of its outcomes. Management by goals and objectives within the field of education presupposes the existence of a functional monitoring and evaluation system. As a consequence, the government has expressed the desire to obtain better access to decision making data of high scientific quality. Furthermore, reforms and measures need to be monitored and evaluated against the intentions which were the basis for decisions. Major financial investment in the education sector needs to be further analyzed from a performance perspective and from a broader socio-economic viewpoint. Against this background, in 2008 the Government appointed a commission to investigate how evaluation activities in the field of education can

be developed, quality assured, and organized. The commission has recently delivered its proposal which at the moment, is under consideration. (SOU 2009:94)

### **2.3 Implementation of the system of management by goals and objectives**

44. In summary the system introduced in the early 1990s, generally called management by goals and objectives, has undergone four phases. The first (after 1990) was characterised by deregulation, municipal funding, decentralisation and a shift of power from the state to the municipalities as well as the introduction of school choice and independent schools. During the second phase (after 1995) a larger variance was visible within the system. The management in many municipalities was weak, goals were not sufficiently attended, and in the general debate more of governmental control and inspection was asked for. In the third phase (after 1999) the insufficient attainment of goals throughout the school system continued, which led many to dispute the ability of municipalities to govern schools in an appropriate way. This, in turn, led to more governmental interventions (such as earmarked state funds) and the introduction of governmental school inspections. During the fourth phase (after 2003) the attainment of goals further deteriorated. Governmental steering mechanisms were strengthened, as were demands for stronger directives regarding municipal quality reports. The governmental Schools Inspectorate also greatly expanded. (Lundh and Ramstedt, 2009)

45. A key element in the system of management by goals and objectives is the idea that data from evaluations and assessment should be used by local authorities and schools for comparisons and improvement. This means that the distribution of results from national agencies is of key importance. To this end, the use of information technology to distribute the results of the monitoring, inspections, and evaluations, is of great significance. The NAE has developed three databases, called SIRIS, and SALSA, and the database for descriptive data (see: <http://www.skolverket.se/sb/d/3534/a/8785>). The databases contain statistics on schools and municipalities and are available to all interested parties online. (See Paragraphs 91-93) Evaluation reports and research overviews on different themes from NAE, as well as inspection reports and analyses from the Schools Inspectorate and other kinds of publications are available on the respective agencies' websites. Printed copies are available at a modest cost.

46. Besides making all data and results available online, feedback from evaluation and assessment is also given to individual schools, municipalities, and independent school providers. When the NAE has involved individual schools or municipalities in their evaluations, feedback is given to these schools and municipalities and the reports are published on the NAE website. After a visit by the Schools Inspectorate to a school for regular supervision, the inspectors give oral feedback directly to the school head. After a couple of weeks the results are published in a report for the schools concerned and the municipality. Reports from inspections are published on the website of the Schools Inspectorate. Finally, the inspectors return to the municipality and meet with the administration of the municipality and the different schools, as well as representatives of staff, students, and parents, in order to comment on the written reports and decisions, and to explain the assessments.

47. Over time different instruments for assessment and evaluation have been used and occasionally there is some overlapping. In 1997 quality reports were introduced. Schools must do an annual quality report to the local school authorities. They, in turn, prepare a quality report for all the municipal schools. These are sent to the NAE and later to the Schools Inspectorate. This instrument is now being dismantled. Municipalities are still responsible for a systematic assessment and evaluation of schools but are free to organise this according to their own preference, as long as the work is systematic and documented. Another instrument is the supervision of the school inspection. School inspection started in 2003 as an

activity inside the NAE, and as a programme side-by-side with the national evaluations and testing programmes.

48. Regarding the strategy for knowledge management in the evaluation and assessment framework, expertise is developed in several ways, although not planned or implemented by any central body. The Ministry of Education and Research and the national agencies hire staff with appropriate training, regularly participate in international surveys and other projects, and work continuously with researchers from universities. Researchers utilise and sometimes make further analysis of data from the agencies and from international surveys, both as part of their own research and at the request of the agencies. Municipalities and individual schools are supposed to work in similar ways. No particular mechanisms ensure that this happens, other than the needs of the different parties to have decision making data of the highest quality.

49. Similarly, there are no particular mechanisms in place to ensure that results from research, evaluation, and assessment are implemented in classroom practice, except the mechanisms described in the following chapters. Teacher training institutes are supposed to base their training on well-founded research and established practice. The same is true for municipalities, independent school providers, and individual teachers. If continuous assessments and evaluations show that individual teachers, schools, municipalities or the system as a whole does not perform in accordance with expectations and does not respond to feedback or criticism, appropriate actions are taken.

## **2.4 Key stakeholders**

50. There are at least seven key stakeholders in this area. One is the Swedish Association of Local Authorities and Regions (SALAR) (Sveriges Kommuner och Landsting). It has been established to contribute to the improvement of the conditions in Swedish municipalities, county councils, and regions with regard to their functions as employers, service providers, supervisory authorities, and community developers. SALAR works proactively with the Swedish government, as well as European institutions.

51. The Board of SALAR has expressed its satisfaction with the initiative to enlarge the number of mandatory national tests, but they object to the fact that the cost for carrying out the tests is supposed to be covered by the municipalities. As regards the new grading system, the Board has had no objections to the proposed system or the fact that grades might be given from year 6. But they have pointed out the need for nationally developed criteria for all grade levels. Also, they have highlighted the importance of making the new grading system a part of the initial training of teachers and the National School Leadership Training Programme, as well as offering in-service training for teachers on this topic. SALAR does not have an official policy on how municipalities should organise and handle their work on follow-up and evaluation but they do encourage their members to take these issues seriously. They also want to set a good example by publishing analytical reports on how to improve municipal school results with experiences from successful municipalities. SALAR has no official role in the evaluation system. (See: <http://english.skl.se/web/english.aspx>)

52. A second important stakeholder is the Swedish Teachers' Union (Läraryrskombundet). It is the largest union for teachers and heads of schools and the fourth largest professional trade union in Sweden. It has 225,000 members at all educational levels. Most Swedish teachers are women and make up 80% of the membership of the Swedish Teachers' Union. Their main goals besides making the teaching profession an attractive career choice are to have autonomous schools. Decision making should rest with individual schools. Heads of schools, teachers, and students should have a greater say in all decision making that affects their school or place of learning and in how resources are used, according to the Swedish Teachers' Union. The Teachers' Union has no official role in the evaluation system.

(See: <http://www.lararforbundet.se/>)

53. A third stakeholder is the National Union of Teachers in Sweden (Lärarnas Riksförbund). It has about 80,000 members and organizes teachers employed in primary, secondary and adult education. Their members are teachers, educational counsellors and vocational counsellors with an academic degree – in municipal as well as independent schools. The National Union of Teachers focuses on qualifications, professionalism and pride in the teaching profession. They strive to use their collective power to give members a strong voice. Both the National Union of Teachers and the Swedish Teachers' Union are officially consulted in many matters concerning educational policy and school organization. They are frequently asked to make official comments on government reports and bills, but have no official role in the evaluation system. (See: <http://www.lr.se/>)

54. A fourth stakeholder is the Swedish Association of School Principals and Directors of Education (Sveriges Skolledarförbund). The Association has about 7,300 members consisting of principals, assistant principals, and other individuals with leading positions within the school system. The majority of Sweden's school principals or school heads and directors of education with a career in school and education have chosen to join the Association. The Association strives to increase members' awareness of their situation as employees; increase the understanding of the members' importance for the improvement of the school system; ensure that school leaders are trained in such a way that supports and encourages their work in an organisation based on knowledge and leadership; support school leaders in working towards educational progress; ensure equal rights and equal opportunities for every individual; and ensure that the Association is actively engaged in important educational issues in politics. The Association has provided ethical guidelines for its members since 1991. These guidelines stress members' responsibility for school administration and for achieving educational goals; guaranteeing the equal rights of every individual; working in the best interests of the students; ensuring a good physical and mental work environment; and upholding values and professionalism. The Association has no official role in the system of evaluation. (See: <http://www.skolledarna.se/InEnglish/Sidor/inenglish.aspx>)

55. The Association for school heads and the Swedish Teachers' Union have approximately the same number of school heads in their organisations. There are no school heads within the other union for teachers: the National Union of Teachers in Sweden. Overall the cooperation between the three stakeholders functions well, particularly between the teachers unions. There is more of a tension between these three organisations and SALAR, since SALAR represents the employers.

56. A fifth key stakeholder is the Swedish Association of Independent Schools (Friskolornas riksförbund). They focus on three areas:

- promoting the interests of independent schools through active participation in the public debate over independent schools in Sweden and through lobbying
- advising members on laws and regulations that affect independent schools (excluding pedagogical issues and their role as employers)
- providing information and services of interest to members, in particular management and quality-assurance training

Membership is open to independent schools of all levels, from preparatory and primary/compulsory to secondary, including complementary vocational. In 2009 there were about 830 member schools. Board members represent the broad spectrum of independent schools (in terms of size, whether confessional or not and type of legal organisation). Individual schools and authorities responsible for one or more independent schools are responsible for evaluation and assessment within their school or schools, but the Association of Independent School has no official role in the evaluation system.

(See: [http://www.friskola.se/Om\\_oss\\_In\\_English\\_DXNI-38495\\_.aspx](http://www.friskola.se/Om_oss_In_English_DXNI-38495_.aspx) /)

57. The sixth stakeholder that should be mentioned consists of the different parent organisations. One is the Parent's Association (Hem och skola), which is a democratic organization whose goal is to bring together parents and care providers in Sweden to encourage children and young people's best interests, as well as promote the Swedish school by facilitating interaction between people working inside schools and school authorities. Sweden formerly had a strong parents organisation, but during the 1990s it was severely weakened by internal problems. They are now slowly growing in numbers and gaining strength again. The organisation is working both on the local and national level with matters ranging from general political issues regarding the school sector, school architecture, campaigns against bullying, the fight against alcohol, tobacco and drugs, etc. (See: <http://www.hemoskola.se/>)

58. Another parents organisation is the Children's Agency (Barnverket), which is a political unbiased national network for parents and other adults working for the good for children in preschools, schools, and day care centres. In relation to schools their primary goals are to see to it that schools live up to every child's right to leave compulsory school with at least Pass in all core subjects; that the teacher per student ratio increase in school to the 1990 level (an increase of 20%); that each child in school should have access to special educational support, a school nurse, a school social worker and a psychologist; and that local councils with a parent or student majority are implemented in all schools. (See: <http://www.barnverket.nu/web/index.php>)

59. A third parents organisation is the Swedish Alliance of Parents (Föräldraalliansen Sverige), which also stresses their politically unbiased position. The mission of the organisation is to monitor and act on education policy issues, as well as other issues affecting children, youth, and parents from a parent's perspective; to promote greater cooperation between parents, schools, and other social institutions; to support parents associations in their work; to collaborate with other organizations and agencies; and to work towards seeing that a parent's role and influence in the school, preschool, and society in general is strengthened. (See: <http://www.foraldraalliansen.nu/>)

None of the parents' organisations have any official role in the evaluation system.

## CHAPTER 3: SYSTEM EVALUATION

60. The purpose of the evaluation and analysis done by the NAE is to increase the understanding of how the system works in relation to the intentions and the underlying causes and relations effecting the attainment of goals. The overall aim is to uphold equity and the quality of the school system. The results of the evaluations are openly published in order to stimulate stakeholders on all levels to contribute to the improvement of the school. Results are also reported to the government in order to provide the basis for changes in governmental regulations relating to the school system. If an evaluation indicates deficiencies in one area, this might lead to the initiation of development efforts.

### 3.1 Current practices

61. The responsibility for system evaluation rests with the National Agency for Education. The NAE has among other things the task of following up and evaluating preschools, school-age childcare, schools and adult education. The purpose of monitoring and evaluation is to make comparisons on a national and international level and thus provide the basis for decisions on actions at the national and local level. The NAE is to use national studies to increase the understanding of how the school sector develops in relation to national objectives and identify the causes of fluctuations in effectiveness between the various municipalities and schools. The NAE is also responsible for Sweden's participation in comparative international assessments of knowledge and other surveys.

62. The following instruments are used to perform the evaluation of the school system: national tests, international student assessments, in-depth analysis of certain issues and national reviews of policies.

63. In addition to this, statistical data and quality reports from schools and municipalities are gathered on an annual basis. Statistics Sweden (the central government authority for official statistics) is commissioned by the NAE to collect large quantities of data, which is then processed by the NAE. The data is presented at different levels, from aggregate figures at the national, county and municipal levels to the specific school level. The authority produces a number of annual statistical reports. The generation of statistics has increased in recent years due to a rising interest on the part of the media, municipalities, and the general public for school results. The data is regularly collected through questionnaires sent to the responsible authority – either the municipality or an authority responsible for one or more independent schools. The Education Act states that the responsible authorities also are obliged to submit information on school activities to the Government or the central authorities designated by the Government. Follow-up activities provide an ongoing description of school activities in terms of their basic conditions and results. The follow-up by the NAE mainly focuses on: What is being achieved? At what cost? Under what organisational conditions? At what quality and with what service?

64. The NAE is further charged with monitoring changes in educational outcomes and attempting to explain them. Outcomes are defined here as student attainment levels and values in relation to stipulated goals for compulsory schools taken as a whole – both in terms of democratic and academic aspirations. Such goals are formulated in curricula and syllabi. International studies are used as a way to study the results and achievements of Swedish students in relation to their peers in other countries. Other relevant aspects, also included in these outcomes, are student attitudes towards and interest in school; their self-esteem; and self-assessment of their own physical and psychological health. The NAE carries out a comprehensive survey on the attitudes of students and parents every third year. The next survey will be conducted during 2010.

65. Evaluations carried out by the NAE entail in-depth study and analysis in specific areas. This aims at a deeper understanding and explanation of outcomes and relationships in school activities than can be provided by follow-up. Evaluation is closely related to the stated goals and has the dual purpose of checking the school system and providing a basis for its further development. Examples of evaluations carried out during 2010 include drop-outs from upper secondary schools, the development of results by highly gifted children, absent children and the right to education, the physical education and health in relation to equality and gender, etc. (Verksamhetsplan, Utvärdering 2010) Specific evaluation projects may be started to explore future needs that the school system will have to meet. Another reason for initiating a specific evaluation might be that observations are made that deviate from those expected, or that deviations are not observed where they were expected. Finally, evaluations can be launched by the NAE to analyse the effect of reforms. The Government also initiates evaluations, with focus on topics of concern for political or other reasons.

66. To perform its tasks the NAE has divided its department for evaluation into three units. These units reflect the broad mission of the agency.

- The first is the unit for educational statistics. It is responsible for the presentation of data at all levels of the education system, except university level statistics. The national follow-up system provides quantitative, recurrent data on the development in the education system.
- The second is the unit for evaluation of results. It deals with national evaluations, international studies, and comprehensive reports gathering research results on different issues, such as multiculturalism, the interplay between the physical environment, and learning within schools, etc.
- The third is the unit for analysis and reviews, which is responsible for environmental analysis and intelligence work, thematic analysis, and process-related evaluations.

67. In addition to these tasks, all units also perform governmental missions from time to time. The collected results from the national follow-up and the evaluations and results from the quality reviews of the Schools Inspection form the basis for an annual progress report from the NAE to the Government. In the annual progress report the agency gives its assessment and a judgement of the results and the overall situation in the Swedish school system. This is where the NAE concludes if the education system reaches its objectives or not. Problems discovered when the analysis for the annual progress report is done may result in further analysis or actions of a different kind. The NAE might also bring the problem to the Ministry of Education and Research, which in turn might take action. One example of such a further analysis is the report on “Factors Influencing Educational Achievement in Swedish Compulsory Schools” (see Paragraphs 80-85).

68. The Schools Inspectorate has three tasks that relates to system evaluation. They are responsible for:

- Asserting the right of each individual to knowledge and personal development. According to the Swedish Education Act, all children and youth shall have equal access to education. All children shall enjoy this right, regardless of gender, place of residence, or social or economic factors. The Education Act states that an education shall provide students with knowledge and, in cooperation with the home, promote their harmonious development into responsible human beings and members of the community. Ultimately, the inspectorate strives to assert the right of children, young people, and adults to receive care, education, development, and knowledge. One of the most important tasks is to observe whether everyone actually has access to the high standard of childcare, schooling, and adult education they are entitled to.
- Asserting national equivalence. The school system in Sweden is highly decentralised with a great degree of local responsibility. A decentralised system has its benefits and its risks. One of the major risks is increasing disparities between municipalities and schools. It is a fact that there are



big differences in economic and social conditions between different municipalities in Sweden. There are differences in the educational level of teachers and in the quality of the teaching between schools. There are also big differences in student performance between and within schools. The inspection strives to decrease the educational inequality by controlling if and how schools work to compensate for the factors that lead to low levels of achievement.

- Contributing to higher national educational standards. Even though Swedish schools achieve a relatively high standard and Swedish students generally perform at a level above the OECD average, PISA studies show that there has been a slight decline in recent years. One of the tasks for the inspectorate therefore is to ensure that the quality of the Swedish educational system is good enough to contribute to the economic and social prosperity of the country.

### ***Procedures used in system evaluation***

69. National subject tests are carried out every year. These national tests have several purposes. They are to enhance educational achievement, concretize goals and grading criteria, clarify goals, indicate strengths and weaknesses in individual learners profiles. Furthermore, the national tests should enhance equity and fairness in assessment and grading, and provide statistics for local and national analysis of educational achievement. The national tests measure and describe a student's knowledge, skills, and results achieved. Equitable and fair grading is important for the legal rights of the student and it is the obligation of each school and school organiser to strive for just and unbiased grades. This means that normally teacher assessments of a student's responses and national test results should be in good agreement.

70. The system is to contribute to increased goal attainment by students and provide assessment guidelines by exemplifying course goals and grading criteria. Furthermore, the system should assist in the process of awarding fair and reliable grades (grading assistance) and have a diagnostic function by showing student strengths and weaknesses. Finally, by collating results the system should indicate the extent of goal attainment (monitoring).

71. The national test system should not influence the choice of teaching content or teaching methods (since this is determined by teachers and students) or function as a final examination tests (because teachers should award grades based on the assessment of a student's accumulated work or demonstrated knowledge). (National Assessment and Grading in the Swedish School System, NAE 2005)

72. National tests are given in the following school years and subjects:

- Year 3: Mathematics, Swedish and Swedish as a second language
- Year 5: English, Mathematics, Swedish and Swedish as a second language
- Year 9: English, Mathematics, Swedish and Swedish as a second language, Biology, Physics and Chemistry.

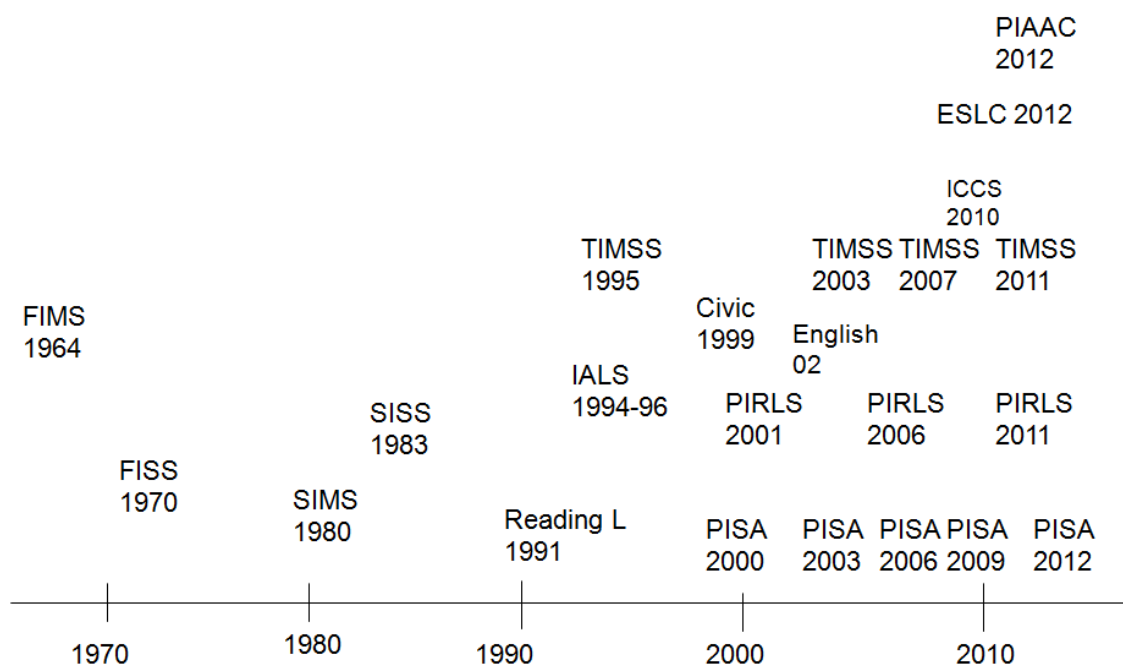
73. Beginning 2012 national subject tests also will be used in year 6 in English, Mathematics, Swedish, and Swedish as a Second Language. These will replace the tests in year 5. The purpose of these national tests are both to establish a sound foundation for fair and equitable grades for students and to act as a basis for analyzing on the degree to which the students achieve the targets on school, municipal and national levels. It should be noted that the tests are corrected by the local teachers. Rather than being sent to a central unit for grading. It is the same teacher who has taught the students who corrects their tests.

74. The performance criteria and reference standards used in system evaluation are to be found in the curricula and the syllabi. There are direct links between the syllabi and the national tests. The national syllabus for every subject states, among other things, the learning goals for students at the end of the fifth and ninth school year. Also, there are nationally established grading criteria in each subject, building on the syllabi. The syllabus and the grading criteria are, in turn, the foundation for the national tests.

75. The results of the national tests are publicly available on the website of NAE (<http://www.skolverket.se/sb/d/2913>). They are also published in reports commenting on the outcomes. The results form an important part of the basis upon which teachers give grades to their students. Student engagement with learning is part of the evaluation of student and parent attitudes towards school carried out every third year by the NAE. Evaluation of a student's knowledge, skills, critical thinking, and engagement with learning is also a part of some of the international projects (such as PISA and TIMSS) in which Sweden participates. Numbers of students passing and drop-out rates are measured and published on the municipal level by the NAE on a yearly basis. Differences between municipalities in terms of the socio-economic background of students and gender are also measured every year by the NAE in order that the equity of the school system is evaluated.

76. Other instruments used to evaluate the school system are international student assessments. Sweden has a long tradition of participating in international surveys, as is apparent from Figure 1.

**Figure 1. Overview of Sweden's participation in international assessment of competencies and skills 1964-2013**



**Designations:**

- FIMS: First International Mathematics and Science Study
- FISS: First International Science Study
- SIMS: Second International Mathematics Study
- SISS: Second International Science Study
- Reading L: IEA's Literacy Survey
- IALS: International Adult Literacy Survey
- TIMSS 95: Third International Mathematics and Science Study
- Civic 99: Civic Education Study by IEA
- PISA: Programme for International Student Assessment
- PIRLS: Progress in International Reading Literacy Study
- English 02: The Assessment of students' skills in eight European Countries
- TIMSS (after 1995): Trends in International Mathematics and Science Study
- PIAAC: Programme for the International Assessment for Adult Competencies (OECD)
- ESLC: European Survey of Language Competencies

Source: Respective organisations

77. National reviews of policies are done both nationally and by participating in international policy reviews, such as the OECD reviews on equity in education (2005), vocational education and training (2008) and the thematic review on migrant education (2009) to mention the most recent studies. Results from international surveys are used to mirror the development in Sweden with comparable countries. Some surveys indicate declining results from Swedish students in science and mathematics which, among other things, has caused the Ministry of Education and Research to launch an initiative to improve teaching materials for mathematics. A similar response is the Boost for Teachers (Lärarlyftet), a comprehensive programme for in-service training of teachers with a particular focus on deepening their subject knowledge and didactics, (running 2007-2011).

78. National reviews of policy are done on an ad hoc basis by the NAE. Recently published reviews include an evaluation of earmarked governmental support to increase basic skills in reading, writing, and mathematics; how to prevent discrimination and work proactively for inclusiveness in schools; an analysis of the relationships between national tests and the setting of grades in upper secondary education; an analysis to identify the causes of the deterioration of school achievement in compulsory schools; and the needs regarding access and use of ICT in education, etc.

79. The overall performance of the school system is primarily monitored by the NAE. One way this is done is by looking at the percentage of students leaving compulsory school each year that is eligible to move on to a national programme in upper secondary school. This is part of the follow-up data gathered by NAE. In addition to monitoring, the NAE does evaluations and analysis – both process-related and thematic evaluations. Sometimes work done within all parts of the agency as well as independent research is put together in a broader analysis of a multi-faceted aspect or theme.

80. The NAE concluded in a comprehensive report published in 2009 that the Swedish school system, particularly at the compulsory primary and lower secondary levels, does not achieve its objectives as well as expected (National Agency for Education, 2009b). The NAE was commissioned by the Government to present an overall assessment of developments in each type of school, particularly focusing on the deteriorating results in Swedish compulsory school. This was done on the basis of statistical data and results from evaluations of different kinds done by the NAE itself, as well as international reviews, comparative studies, etc.

81. In the report the NAE concludes despite the difficulties to ascribe any reform impact, either in space or time (especially since reforms often do not have a clear beginning or end) an increasing differentiation of levels of attainment coincides with comprehensive changes in the Swedish school system that have occurred since the beginning of the 1990s. Changes in Swedish compulsory schools can be said to be related to general societal change as well as to the educational reforms themselves. The review takes a broad approach and contains a summary of the significance of various factors within four main areas: societal changes, educational reforms, resource allocation, and the inner workings of schools.

82. The systematic review describes a broad range of factors in evaluation research regarded as having a significant impact. These factors can be separated into different areas that are linked to individuals, the home, the school, and teachers and teaching, which in turn are echoed in a recent, comprehensive summary of international research dealing with factors that impact on student learning outcomes. Thus, there is strong evidence, in both Swedish and international research, that “the curriculum of the home” has a significant impact on learning outcomes. Swedish compulsory schools are usually described as equitable, with only small between-school variations. But Sweden is no longer in the “top of the class” regarding this issue. One conclusion is that the impact of parents’ level of education on learning outcomes has assumed greater significance, including an increase in the impact of school choice. Furthermore, the study shows

that municipal allocation of resources is only to a minor extent based on the varying needs of schools, which can further contribute to increased dispersion in levels of learning outcomes between schools.

83. A comprehensive compulsory school with late tracking towards upper secondary school and integration as a defining principle has been a characteristic of Swedish compulsory schools. However, in terms of educational organisation, the report based on Swedish research indicates that mainstreaming, as a means of dealing with individual differences between students, has evolved as an organisational principle within the unified compulsory school. Mainstreaming solutions have become common. Students are often dispersed into different classroom groups based on special support needs or attainment levels, resulting in increasingly homogeneous groups. Research results indicate that such solutions generally do not have a positive impact on learning outcomes.

84. A significant amount of research supports the view of the importance of teachers, but also points to significant differences in how well teachers succeed in helping students attain their goals. Subject-related didactic competence is of greater importance than knowledge in only that subject. In other words, a teacher's competence is closely linked to how teaching practice is organised and delivered. Patterns of teaching practice in Swedish compulsory schools have moved in the direction of individualisation, which can be described in general terms as a shift of responsibility away from teachers to students and, in the longer term, as a move from the school to the home. There has been an increase in students' responsibility for their own learning, with the result that schoolwork is more individualised and teachers adopt more passive roles.

85. Finally, the report concludes that the "map" of Swedish evaluation research presented in the review would seem to indicate a need for building a more long-range, systematic and comprehensive knowledge base. It is evident from the systematic review that studies highlighting changes in Swedish compulsory schools from a perspective of equity are rare. The summary analysis points to four general tendencies in Swedish compulsory schools that are all well-grounded in evaluation research, namely: segregation, decentralisation, mainstreaming and individualisation.

86. The overall performance of the school system is also reviewed by looking at the percentage of students leaving compulsory school in a given year who are eligible to move on to a national programme in upper secondary school. This is part of the follow-up data gathered by NAE.

#### ***Competencies to evaluate the school system and to use evaluation results***

87. As mentioned above the responsibility for the system evaluation rests on the NAE. It is the only agency involved in system evaluation on a daily basis. The NAE is complemented by the Institute for Labour Market Evaluation and to some degree the Swedish Agency for Public Management, which, from time to time evaluates issues related to the performance of the school system (see Chapter 7). In addition, the Swedish National Audit Office may review the work of the other agencies.

88. The national agencies build capacity to effectively evaluate by ensuring that they employ people with a variety of the competencies. In the NAE it has long been a clearly stated policy to mix employees with different competencies, such as educators, statisticians, political scientists, sociologists, economists, lawyers – to mention a few. The agency also has a long established cooperation with individual researchers and research departments at several universities regarding the design of the national tests, among other things. It should also be mentioned that the Government provides funds for educational research at universities and university colleges. The Committee for Educational Science (Utbildningsvetenskapliga kommittén) within the Swedish Research Council (Vetenskapsrådet) also distributes funds for this purpose.

89. Although no reliable information exists on the competencies of the employees at the municipal level, it can be assumed that at least the larger municipalities try to create a mix of competences. Some of the

larger cities do have specialists in their own staff, as well as units specializing in evaluation and statistics. At the school level, school heads are trained through the National School Leadership Training Programme to demonstrate knowledge of the requirements for follow-up and evaluation of activities and results.

### *Using system evaluation results*

90. All data from follow-up and evaluation gathered by the NAE are published, either in reports or in the databases SIRIS, SALSA, and the database with descriptive data on municipal level, which are all publicly available on the Internet. The NAE also publishes a yearly report called "Descriptive data on childcare, schools, and adult education in Sweden". This report provides a general description of current childcare and educational organisation in Sweden, showing student and staff strengths, along with expenditure and results for the various types of schooling. The report describes conditions in all types of schools that fall within the sphere of responsibility of the NAE. The report also describes differences between different responsible school providers and course organisers and important changes compared with previous years. The statistical information has been largely obtained from the national monitoring system and is based on information reported by the responsible authorities to Statistics Sweden.

91. SIRIS contains information on all the schools in Sweden. The database is open to anyone. It contains results from national knowledge tests, summations of student grades, the annual quality report, national quality reviews and basic information about specific schools such as size, costs, composition of students by sex, foreign background, and educational level of the parents. The information is aggregated and presented at the school level. For each school it is possible for the user of the system to find the above-mentioned information, and it is also possible for anyone to make comparisons between different groups of schools. For example it is possible to find out in what way a local school compares with other schools that work under the same conditions. Information that is stored from different schools makes it possible for the user to make comparisons over time, as the information from recent years is kept available.

92. SALSA gives another presentation of school results. On basis of a well-established research showing that a mixture of students with different socio-economic and national backgrounds, together with the gender composition of the students, explains a large proportion of the statistical variance, the results of the schools are recalculated using analysis of regression. The calculated residual effect is used as a measurement of the relative achievement of the school, an approximation of the value added that the school produces. The measurement does not reflect the quality of the individual school, but the result enables the school to understand the value of its own achievement. No ranking is made between schools, but the yearly presentations of information have given some newspapers an opportunity to make such comparisons. Schools and school leaders use the open presentations of school results for internal discussions of the quality of the work at the school. The material is also used in the dialogue between the school and the municipality about the distribution of different resources to achieve improvement of the schools.

93. Finally, the database with comparative statistics provides data on the municipal level showing child/student and staff strengths along with expenditures and results for the various types of childcare and schooling. The database describes conditions for all types of childcare centres and schools that fall within the sphere of responsibility of the NAE. The database also includes data on differences between school providers and course providers, and important changes compared with previous years. The statistical information has been largely obtained from the national monitoring system and is based on data reported by the school heads to Statistics Sweden. Data includes, for example, the number of children in school-age childcare, the percentage of students not attaining the goals in different subjects, the percentage of students eligible for national programs in upper secondary school, the number of students per class, the number of students per school, cost per student for school meals, cost per student for premises etc. Longitudinal data is most often provided from the mid or late 1990s.

94. As previously mentioned, the NAE summarises its findings in an annual progress report regarding the overall performance of the school system, giving its judgement of the strengths and weaknesses of the Swedish school system (see Paragraph 66). This report is particularly directed at the Government but also available to the public. When results from the analysis and tests show deficient results from students that calls for comprehensive action, the Ministry of Education and Research commissions the NAE to provide municipalities and schools with general support or more information. As cited above (see Paragraph 77), the Ministry of Education and Research sometimes launches specific programmes to address problems.

95. The Schools Inspectorate also publishes all the reports of their inspections on the Internet. These two agencies make use of their own information in reporting to the Government. Municipalities are also encouraged to make use of these data. Other agencies doing ad hoc analysis of the performance of the Swedish school system, such as the Institute for Labour Market Evaluation, the Swedish Agency for Public Management, as well as the Swedish Association of Local Authorities and Regions (SALAR), also make their publications available for free on the web or as hard copies at low cost.

96. As shown in the previous paragraphs, data, information and analysis from evaluations are made publicly available as much as possible. But how these results are actually used on different levels is a complex issue and there is no reliable information available on this subject.

### **3.2 Implementation of system evaluation**

97. The fact that the Government is taking several steps in the direction of strengthening the evaluation, inspection, the grading and testing systems can be taken as an expression of concern about the current evaluation of the school system. Also in 2008 the Government commissioned an investigation into how evaluation activities in the field of education can be developed, quality assured, and organized. (SOU 2009:94) The results of this investigation are currently under consideration by the Government. It should also be noted that the NAE is doing further analysis of the data from the international student assessment studies in order to inform policy.

98. The recently conducted review of factors influencing educational achievement in Swedish compulsory schools concludes that while a systematic review may provide a broad picture, certain lacunae are evident. (National Agency for Education, 2009b) In the review a number of areas requiring further research are highlighted. The “map” of Swedish evaluation research presented in the review would seem to indicate a need for building a more long-range, systematic, and comprehensive knowledge base. Knowledge about how various factors co-vary in certain contexts needs to be developed. There are strong reasons for tracing change through the entire chain when systemic goal-setting and assessment practices are the target of reform.

99. SALAR has recently started to publish their own analysis of the data gathered by the NAE and others. (Swedish Association of Local Authorities and Regions, 2009) They have released a study on success indicators in Swedish municipalities and have started to rank individual schools in order of quality and results. In order to focus the debate on the output of the education system, rather than the input and resources. In the view of SALAR the presentation of data in the NAE databases it is not sufficiently user-friendly, at least not for decision makers and decision shapers on a local level. By presenting the statistics as a ranking order and focusing on the achievement of results, they hope to shift the focus of the public debate.

100. According to the former National Agency for School Improvement (2007) schools clearly react in different ways when compared to other schools, but negative results are sometimes perceived as a

challenge. Such schools are stimulated to improve themselves and are eager to show other schools that the results were only temporary. One of the reasons why schools react in this way may be because these evaluations cover topics where a lot of people at the school share the responsibility for the results. Rather than a single person being picked out and shown to others, it is a collective achievement that is evaluated. As the municipality is responsible for the financing of the schools, a bad evaluation result may be used as a tool to get more resources to a school that has not done well.

101. Apart from the initiative from SALAR, there are no official statements or positions from the different stakeholders mentioned in Chapter 2.3 regarding system evaluation.

### **3.3 Policy initiatives and impact**

102. The policy priorities of evaluation and assessment are best shown by current activities in the area. As mentioned, school inspection was recently strengthened in terms of both resources and mandate. A new grading system with a six-point scale instead of the old three-point scale will be introduced. There are plans of introducing grades to students in the 6<sup>th</sup> school year. The national testing system is being enforced with mandatory tests in years 3, 5, 6 and 9. There are discussions about strengthening the national evaluation system. Finally, Sweden participates in a number of international evaluation and student assessment studies.

103. The most important policy initiative during recent years is the establishment of an independent Schools Inspectorate in 2008, with a broadened commission compared to the National Agency for Education and with significant financial resources. However, the Inspectorate has been operational for less than a year-and-a-half, which makes it a bit premature to look for any impact.

## CHAPTER 4: SCHOOL ASSESSMENT

### 4.1 Current practices in municipal and independent schools

104. School assessment and supervision has a tradition in Sweden that goes back to the late 1950s. In 1990 the Swedish National Audit Office (Riksrevisionsverket) criticized the way supervision was carried out, and in 1991 this work was reorganised along with the closure of the National Board of Education and the formation of the NAE. In 1992 the NAE began to systematically supervise schools. In 1994 a new critical report appeared on the way supervision is carried out. This time it came from the Parliamentary Auditors (which was closed in 2003). In brief the report stated that the NAE must be more active in this field. In 1998 a specific board for quality assessment was established within the NAE as a step in its efforts to strengthen its work on school assessment and supervision. This board was closed in 2002, and in 2003 the NAE was divided in two separate agencies – one for school improvement (closed in 2008) and the NAE. From 2003 to 2008 the NAE was given school assessment and inspection as its most important task and began to do full inspections in all Swedish schools within six years (see Paragraph 119). In 2008 the Schools Inspectorate was established and took over the task of inspection and school assessment. (Source: Skolinspektionen, 2009)

105. The overall reason for school assessment is to ensure an equitable school in which every student has the opportunity to reach the goals set in the curriculum and syllabi. As in the case of evaluation, school assessment takes place on different levels in the educational system. The system for assessment has evolved out of the needs of schools, municipalities, and other school providers, as well as the national agencies and the Ministry of Education and Research. This means that all parts of the system might not be explicitly coordinated with each other.

106. Teachers and school heads are responsible for daily internal assessments in schools. The school head reports to the municipality. But in what way and how often the assessment is done, the methods and criteria used, whether it is systematic or ad hoc, differs from municipality to municipality and sometimes between schools within the same municipality. It is not unusual that municipalities use instruments like SIQ – an instrument developed by the Swedish Institute for Quality; Quality Score Card; Qualis – a certification model developed especially for the schools sector, or similar instruments. But no data is available regarding how many municipalities apply such instruments in a systematic way. Some municipalities organise their own knowledge tests according schemes they have developed (see: <http://www.haninge.se/sv/Barn--Utbildning/Kvalitet-och-resultat/>). Others organise their schools assessment using a kind of municipal school inspectors (see Stockholm, 2008). There is no information available on how many municipalities have done this, and these so-called inspectors have no relation to the Swedish Schools Inspectorate.

107. The NAE has developed an instrument for self-evaluation for teachers and schools called BRUK (see Paragraph 113), with indicators based on the national curriculum and syllabi (see Chapter 4.2). Furthermore, some municipalities join forces and use teachers from neighbouring municipalities as evaluators. Typically, such teachers are prepared by their home municipality with a short introduction, but receive no formal training in the practice of evaluation. Again, no data is available as to how common such peer evaluations are. The use of other external evaluators, such as researchers or evaluation consultants, seems rare. If used at all this is done in conjunction with specific projects.

108. As regards independent schools, they have the same responsibilities as municipalities to assess their students, teachers, school heads, and schools. They have different follow-up systems assessing students, teachers, school heads, and schools, both on segment level and on the overall level.



109. It is known that small independent schools, as well as some municipalities, use external consultants to assess their schools. However, there is no information available as to how many municipalities or independent schools do this.

### ***Quality reporting and self-evaluation frameworks***

110. Until recently there was an obligation imposed on schools concerning quality assurance and improvement. In accordance with the ordinance on quality reporting (since 1997), which is now under revision, quality reports must be prepared as one stage in the continual process of following-up and evaluating school activities (“systematic quality work”). This systematic quality work was aimed at continually identifying the necessary prerequisites for working towards the national goals, developing work processes, assessing results and goal fulfilment, and taking appropriate measures. To ensure that improvements were sustainable and that quality was improved, the trend was to be monitored over time. Quality reporting was seen as a tool for regularly checking how far the organisation had come in striving for continual improvement. Every municipality was obliged to draw up a quality report at the municipal level with regard to all municipally run pre-school activities, school-age childcare and school activities. Every school also had to prepare a quality report at the operational level. But the obligation to submit a yearly quality report created a lot of paperwork for teachers and school heads. Furthermore the process of drawing up quality reports and the use of their results did not have the strong effects anticipated. The limited use and the failing effects did not justify all the work put in to the reports. Thus, there is no longer an obligation for schools to submit such reports. This decision should also be seen in the light of the ongoing discussion that teachers spend too little of their working hours together with students and too much time doing other things.

111. The standpoint of the Inspectorate about the inspection of school self-evaluation is that the ordinance on quality reporting has not been very successful. According to the Schools Inspectorate, schools have had great difficulty understanding why and how quality reports are to be drawn up, and such reports have not been used as the tool for self improvement as they were meant to be. Subsequently, the Government has abolished the demand for quality reporting for the time being. The Inspectorate is investigating the possibility of elaborating a self-evaluation instrument closely linked to the inspection as a way to stimulate schools and municipalities to self-improvement and as a means of collecting information prior to an inspection.

112. The NAE has already developed a tool for the self-assessment of quality in all curriculum-driven activities, called BRUK (Bedömning, Reflektion, Utvärdering, Kvalitet) [in English: Assessment, Reflection, Evaluation and Quality] see: <http://www.skolverket.se/bruk>). The self-assessment uses indicators that are developed on the basis of national policy documents. BRUK can be of help to a team of teachers, a school, or a municipality. The tool can be used to start development processes and as part of the systematic quality work. It is supposed to be used in the ongoing process of setting goals, implementation, assessment of effectiveness, analysis and formulation of operational objectives, and ongoing development processes. BRUK has three main areas: processes, attainment of goals and framework factors. It has five levels beginning with those already mentioned to areas of indicators, and down to individual indicators and criteria. A criterion is a statement about the operations. The idea is to see to what extent the operations live up to the statement. Each criterion has a six-level scale starting from the statement that “the criterion does not characterise the operations at all”, through “the work has begun and we are on our way”, to “this criterion fully characterises the operations”. When the estimation is done and the teachers have concluded their assessment of the present situation they are supposed to discuss possible actions. According to web statistics from the NAE, the website (where BRUK is described and where it is possible to download the guidelines) had more than 11,000 visitors in the nine months from April to December 2009.

113. Students in both compulsory school and upper secondary school are guaranteed by law some influence in the school. Teachers are requested to involve their students in the planning of the education flow and school leaders are expected to involve the students in the decision making process at the school. Thus, it is not uncommon to ask students to assess their school and teachers. This is done by the NAE every third year in their surveys on student and parent attitudes toward schools. It is also often carried out at the municipal level. factors that are asked about in annual surveys include comfort, security, and degrading treatment; skills and learning; and student possibilities of exercising influence.

### ***The Inspection of Schools***

114. The overall purpose of school inspection is to make sure that all children and young people are attending schools which focus on safety and knowledge. Everyone must be given an equal opportunity to achieve goals, regardless of gender, social/economic conditions or place of residence. It is the responsibility of the Schools Inspectorate to make sure that every school meets these requirements. The Schools Inspectorate makes sure that those responsible for schools, i.e., primarily local authorities and those in charge of running independent schools, follow the laws and regulations that apply.  
(<http://www.skolinspektionen.se/PageFiles/1854/SwedishSchoolsInspectorate2009.pdf?epslanguage=sv>)

115. The educational inspection is carried out through regular supervision and thematic quality reviews. During regular supervision the main focus is legality; the purpose is to ensure the right of each individual in relation to the Education Act and regulations that apply. In the thematic quality reviews focus is on quality aspects in the teaching and learning processes in relation to the results and performance of schools. The aim is to affect the work of schools and local authorities in order to increase quality and standards of achievement. Both regular supervisions and quality reviews are to be proportionate. The Inspectorate is elaborating methods for risk analysis and for identifying good and poor performing schools.

116. The Schools Inspectorate has several times criticized the municipalities and schools for not being persistent and systematic enough in their follow-up and evaluation of their schools. (Skolinspektionen, 2009b) But looking at how an individual municipal school might organise its work, it should be noted that Swedish schools often have a rather flat organisational structure. They are typically divided into smaller units in which a group or team of teachers works together and shares the responsibility for organising their work. The results from the biannual individual discussions with the students on their progress and development is analysed for the school as a whole, in addition to the analysis done by each teacher of his or her own students. The analysis may be done by the school head or a specific group. The result of the analysis is given to the students and teachers as a basis for continuous development. Evaluations are usually done by the group of teachers to which they pertain. Evaluation can be followed up by discussions in smaller groups that are documented or by personal written reflections from teachers that are later discussed in a larger group. The group that did the evaluation is responsible for the documentation. Issues of concern to the whole staff are generally discussed at planning sessions in which everyone participates. The basic idea is to involve as many people as possible in the processes of follow-up and evaluation, as well as the ongoing work to improve the school.

117. The Schools Inspectorate carries out full inspections, regular supervision, thematic quality reviews, and investigations of complaints. The inspection within the six-year mandate 2003-2009 was carried out as a *full inspection* including both legal and quality aspects. The inspection targeted three key areas with attention paid to both the conditions of the operation and the results of the work:

- Results, standards of achievement, learning, and teaching. The inspectors collected information about what students learned in view of the objectives in the national curriculum and how the schools were working to increase standards of achievement; how teachers adapted their teaching to the individual needs of each student; if and how they followed up the results and evaluated the teaching; and if and how they supported children with special needs.

- The inspectors also studied how schools succeeded in teaching students the norms and values of a democratic society. The inspectors assessed the school ethos, and how the school works to prevent bullying and discrimination.
- Finally, the management and internal audit were inspected at both the municipal and the individual school level. The inspectors studied how the municipalities ran and managed the schools and how they implemented the curriculum.

118. Since the end of 2009, when all schools and all municipalities had been inspected, inspections are performed as either regular supervision or thematic quality reviews. In the *regular supervision* the main focus is on legality and ensuring the right of each individual in relation to the Education Act. The Inspectorate has a mandate to act forcefully and the possibility of using sanctions is discussed. However, today the Inspectorate cannot close down schools or issue penalty fines. If this becomes a reality the legal system may become involved.

119. In the *thematic quality reviews*, the focus is on quality aspects in the teaching and learning processes in relation to the results and performance of schools. The aim is to affect the work of schools and local authorities in order to increase quality and standards of achievement. These evaluations are carried out as in-depth reviews of areas of strategic importance, with emphasis on teaching and learning processes. These areas include quality assessment and the assessment of the work of a particular school within a specific field. The assessments are based on steering documents such as the national curriculum also and on research and best practice.

120. The Schools Inspectorate often receives reports from parents or others (approximately 1,400 per year) calling attention to apparent inconsistencies in a school. If the Inspectorate judges there to be grounds for a review, an investigation is conducted into what happened and the accountability of the relevant authority or school in question. A complaint is investigated from a strictly legal point of view. The aim is to find out whether or not the responsible authority – a municipality or an independent school board – has fulfilled its responsibilities in relation to the regulations, and if the rights of students have been respected.

### ***School assessment procedures***

121. The former general guidelines for school and municipal quality reporting aimed at providing support in the drawing up of quality reports and at explaining their role in the quality work. As they were directed toward several different operations, the guidelines were usually formulated in a general way. The responsible organisation needed to set their own goals, plan the work, and follow-up on the results. Each year, responsible schools are to describe how well they did in relation to the national objectives. The quality reports, which are still publicly available to anyone who wants information about a specific municipality or school, were the result of an internal audit and assessment of the school's performance. Basic questions included: Do our operations provide adequate conditions for students to develop and learn as intended? Do students develop and learn as described in the curricula?

122. The Schools Inspection carries out regular supervisions and thematic quality reviews. The process involves data collection, checks, analyses, assessments, and quality assurance. Irrespective of the type of inspection, the process is divided into four phases: preparation, on-site visits, analysis, and feedback. Prior to an inspection, a survey is completed of both the responsible authority, which may be a municipality or the board of an independent school, and of the individual schools. Existing materials, such as statistics, quality reports, previous supervisory decisions, and reports from quality inspections, are used during this process. The aim is to get an overview of the responsible authority's activities and identify any shortcomings. Also the inspectors collect as much academic experience, knowledge, and information as possible from different kinds of studies, research, and investigations.

123. In a regular supervision, all schools in a municipality are visited. Staff members in various categories are interviewed, as well as students, parents and the politicians in charge. Within a thematic quality review selected authorities and schools – municipal and independent – are visited. The authorities and schools are chosen from certain perspectives that differ according to the topic of the evaluation. Both good and poorly performing schools are selected for the purpose of supporting those in need as well as to disseminate best practice.

124. The information is documented and collated. All results are to be triangulated from various sources. The interpretation of what is gathered is carried out jointly within the team, against a background of professional expertise and the national steering documents. After a visit to a school, oral feedback is given to the school head. Before publishing the report the responsible authority and the school head are given the opportunity to comments on the inspectors' preliminary report. A formal decision is made on the position which the Schools Inspectorate will take, based on the inspection. The decision is aimed at the responsible organisation, and is to include a summary of the overall assessments. Finally, the inspectors return to the municipality and meet with the administration there and the different schools, as well as with representatives of staff, students, and parents, in order to comment on the written reports and decisions and explain the assessments.

125. The inspected local entity has to report in writing within three months on the work carried out to rectify shortcomings. If the Inspectorate believes that the requirements have been satisfied, it will conclude the inspection. If not the Inspectorate requests additional measures from the responsible organisation. When an independent school is involved, the Inspectorate can rescind its approval or the entitlement to funding, in which case the school cannot continue operating.

126. Currently, approximately 50% of inspection activities are carried out as quality reviews. In a thematic quality review the focus is on quality aspects in teaching and learning processes in relation to the results and performance of schools. Prior to the yearly planning process, an orientation survey is conducted in order to find those educational areas where the Inspectorate and others have defined certain problems or shortcomings. The following topics were subject to thematic quality review in 2008 and 2009:

- Teaching of Mathematics
- Teaching of Swedish
- Teaching of Physics
- Teaching of Modern Languages
- Teaching of Swedish for immigrants in adult education
- Teacher's level of education
- Drop-outs
- Education for newly arrived immigrant students
- Bilingual children's language and knowledge development
- Education for students with physical disabilities
- Education for students with intellectual disabilities
- School's compensatory work
- Adult education performance
- Education for young people in institutional care

- Follow-up and evaluation of teaching and learning results
- Bullying, harassment, and discrimination in schools
- Childcare for schoolchildren

127. Regarding the processes and methods in thematic quality reviews a survey of research and development is generally conducted as an important part of the initial investigation. The inspectors collect as much academic experience, knowledge, and information as possible from different kinds of studies, research, and investigations in order to target the right perspectives for the evaluation. The working methods used in quality reviews are observation, interviews, questionnaires, triangulation etc.

128. The results collected from the quality reviews are given to the NAE and forms part of the basis of their annual progress report.

### ***Competencies to assess schools and to use assessment results***

129. As noted several times municipalities and the independent school authorities are responsible for assessing their schools. There are currently no regulations on how this should be done as long as it is done, in a systematic way and the process and the results are documented. Each school authority chooses the methods it to be the as best. There are currently no statistics or other kind of general information available as to how different municipalities organise the work of school assessment.

130. In a decentralised system the school heads play a key role. The National School Leadership Training Programme aims at providing school heads with the knowledge and skills required to be able to manage their responsibilities for the students to achieve the goals and objectives that have been established. The training programme includes school legislation and the role of exercising the functions of an authority; management by goals and objectives; and school leadership. On completion of the training, the school head is to demonstrate knowledge of the requirements for follow-up and for evaluation of activities and results.

131. Within the Schools Inspectorate the majority of the inspectors have their professional background in the educational field. Some of them have experience from working as senior administrators in a municipality, others were researchers in pedagogy and have been involved in teacher training. In order to widen the perspectives and to get as broad a base of knowledge and experience as possible the Inspectorate is even recruiting inspectors with different backgrounds. People trained in law, the social sciences, as well as researchers and analysts in different disciplines, are now employed as inspectors. Irrespective of background all inspectors must have a university education or equivalent and broad knowledge and experience in their professional field. There is no specific recruitment examination or test, although assessment procedures are under consideration. All new employees undergo a probationary period of six months beginning on the first day of their employment.

### ***Using school assessment results***

132. As cited earlier the NAE and Schools Inspectorate publish the results of their evaluations and inspections. SALAR uses them in a new strategy for increased focus on results by open comparisons between municipalities and schools. On the compulsory school level, SALAR has published reports comparing results from national tests and resources spent on schooling since 2006. They also publish an online list that ranks upper secondary schools with best results in terms of grades, percentage of students with general entry requirements for higher education, and student completion rate. The purpose of the reports and the ranking is said to be to strengthen the focus on outcomes rather than input in the public debate. The kind of questions asked include: What are the results of our school programmes in relation to the goals set? What resources does the school have and how effectively is the organisation operating? Do we achieve the educational outcomes we expect from the resources we invest in our schools? Is there a clear and deliberate strategy of the municipality to increase student effectiveness? How good are the

achievements of our students compared to students in other municipalities? What can we learn from other municipalities? (SALAR, Öppna jämförelser 2009, Grundskola) No information is available on the impact of the ranking and the publication of the reports mentioned. There is also no information available regarding perceived risks within SALAR from the ranking or publication of comparative results.

133. The databases SIRIS, SALSA, and the database with descriptive data have so far been used by municipalities in their quality reports. The systematic work on evaluation and assessment on the local level is supposed to proceed in similar ways, although the requirement to submit annual quality reports have been abolished.

#### 4.2 Implementation of school assessment

134. Statistics from the Schools Inspectorate shows that during 2008 they made regular inspections of 791 compulsory schools in 56 municipalities, and 88 upper secondary schools in 45 municipalities. The preliminary statistics from 2009 are shown in Tables 3 and 4.

**Table 3: Preliminary statistics of regular inspection of schools in 2009**

	No. of assessed compulsory schools	No. of compulsory schools where action is needed	Share of compulsory schools where action is needed	No. of assessed upp. sec. schools	No. of upper sec. schools where action is needed	Share of upper sec. schools where action is needed
The school carries out systematic quality work, i.e., planning, monitoring and evaluating its operations, takes advantage of the results, and translates them into actions to improve effectiveness.	984	701	71%	172	90	52%
The quality work is documented in a quality report that meets the requirements.	981	926	94%	172	140	81%

Source: The Schools Inspectorate (figures to be confirmed later in spring 2010)

**Table 4: Preliminary statistics of regular inspection of municipalities in 2009**

	No. of assessed municipalities	No. of municipalities where action is needed	Share of municipalities where action is needed
The municipality monitors and evaluates knowledge results in all types of schools and the outcome of the work with care, development, and learning in preschool and school-age childcare.	72	69	96%
The municipality pursues a systematic quality work, i.e., planning, monitoring, and evaluating their activities taking advantage of the results, and translating them into actions to improve school effectiveness.	71	67	94%
The quality work is documented in a quality report that meets the requirements.	72	69	76%

Source: The Schools Inspectorate (figures to be confirmed later in spring 2010)

### 4.3 Impact of school assessment and policy initiatives

135. The Swedish National Financial Management Authority (Ekonomistyrningsverket – ESV) did an evaluation of the work of the school inspection from 2003 to 2006. (ESV 2006) The inspection was then still a part of the NAE and was in the midst of doing a full inspection of all schools in Sweden. On the basis of a survey sent to local politicians, civil servants, school heads, and teachers in 38 municipalities and complemented by a few case studies, the National Financial Management Authority concluded that both the inspectors and the inspections were given positive judgements. Although the purpose of the inspections was perceived as a way of controlling their operations, many of the respondents felt that they were given support in their development. The evaluators declared that the inspectors generally found the most important and relevant deficiencies, and that when the inspectors called the attention to these deficiencies this seldom came as a surprise to the responsible stakeholders. The complaints were used constructively by the schools to improve their work. The most important impact was that the inspections brought about improvements earlier than would otherwise have been the case.

136. In 2009, when the task of making full inspections in all Swedish schools was completed, the Schools Inspectorate summarised its findings in a publication. (Skolinspektionen 2009b) They concluded that many schools failed to follow-up on the achievements of the students and failed to support them as they should. They found important deficiencies in the way schools tried to counteract offences against students and they attempted to strengthen the responsibilities and influence of students. Finally, the Inspectorate criticized the schools for not doing enough to ensure that students get fair and equal assessments and grades.

137. As mentioned earlier, a number of actions have recently been undertaken to improve school assessment and the effectiveness of system evaluation. A number of decisions that have been made still are waiting to be implemented. Most important during recent years is the establishment of an independent Schools Inspectorate in 2008, with a broadened commission compared to the National Agency for Education and with significant financial backing.

## CHAPTER 5: TEACHER APPRAISAL

### 5.1 Current practices

138. Teacher appraisal is not a major issue in Sweden at present. Since the system for remuneration of teachers is based on an individual pay scheme, it is primarily a market issue, as will be explained in detail below. Much more controversial is the fact that some municipalities have initiated a system where students assess individual teachers. At least in one of the municipalities student appraisal of teachers will form part of the basis for their future salaries. The system has been developed together with the teacher unions. The basis for this could be said to be found in the curriculum which states that the democratic principles of being able to influence, take responsibility, and become involved should embrace all students.

139. The Swedish system for remuneration of teachers is unique from an international comparative perspective in that it does not involve fixed pay scales, but is based on a decentralised individual pay scheme. Currently there is no ceiling but an agreed minimum salary after one year of probationary employment for newly qualified teachers. The system was implemented in 1996, following years of negotiations between teacher unions and local employment authorities.

140. The reason for introducing a decentralised, individualised pay system was to give the employers responsibility for setting pay rates in order to stimulate improvement in effectiveness, productivity, and quality in the workplace. An important part of this reform was to improve the recruitment and retention of teachers and to link pay to performance.

141. The shift in responsibility from the state to local municipalities did not involve a change in the pay system. It was not until 1995 that the system with a fixed scale was replaced by an individualised pay scheme. This was the result of several talks and discussions between the Swedish Association of Local Authorities and Regions (SALAR), the organisation representing the employers (i.e., the country's 290 municipalities) and the two teacher unions.

142. The conditions of employment for teachers with regard to pay and working time are governed by agreements between the employer's organization (SALAR) and the teacher unions. In 1996 SALAR (then called SALA) and the teacher unions concluded a five-year agreement that entailed dramatic changes in teacher working time and pay conditions. The centrally agreed on salary scheme with fixed pay scales was replaced by an individual-based pay system determined locally. The first five-year agreement was succeeded by a second one. The first agreement was meant to be a transition from the old system of centrally regulated working time and fixed pay scales that had a long-standing tradition within the school culture. The agreement was intended to provide local stakeholders with the opportunity to determine the way to deal with the new changes and create consensus on what solution would be appropriate to achieve the objectives of the agreement. A major part of this was to also decide on local priorities in school development and how to relate these two means of rewarding effective teachers. (Stråth 2004)

143. Moreover, the first agreement contained several yearly guarantees when it came to teacher pay raises; these were revised twice a year. The first one was more general, whereas the second revision was meant to give the employer a chance to reward teachers who had made an extra effort or contribution to school improvement. It was agreed by all parties that the second revision would lead to a 10% additional increase in teacher pay collectively over the five-year period. It has been argued that this was also one of the conditions that persuaded teachers to agree to accept individualised pay. The first agreement contained an agreed minimum salary after one year of probationary employment as well as an agreed minimum



salary after five years of employment. The guaranteed salary after five years was relaxed in subsequent agreements.

144. The second agreement which entered into force on April 2000 was a further development of the first one. The new agreement differed on two accounts:

- (1) There are fewer guaranteed amounts in terms of a raise.
- (2) The link between performance and pay was more clearly spelled out so that the agreement firmly stated on what grounds pay setting should be based.

145. On top of the increase in teacher salaries some improvements of the working conditions for teachers were introduced. Among other things teachers were to receive a personal working space in the school building and the amount of time that could be used for the development of teacher competence was increased from 5 to 13 annual days. A teacher has the right as well as the duty to develop his/her competence. The need of a single teacher to improve a specific, individual competence area must be balanced with the need to cover and improve competence areas in the school as a whole. Today schools use this time resource for collective actions among the teachers, as well as time for individual development.

146. The system of individual salaries means that schools can reward committed teachers. The system makes it possible to use some teachers' best competencies in an improved way. The system can link better performance to better pay. However, the system combines several objectives and, in that sense, certain aims still have not been entirely implemented, although the system has been in place for more than a decade. Because the system is strongly labour market driven it runs the risk of endangering the performance-related side of the system. The salary system seems to serve the purpose of attracting young teachers rather well. The system has led to higher salaries for young teachers, but it is not as well geared to give recognition to experienced teachers who have reached high standards of professional performance. Even before they have demonstrated their competence, new teachers can demand a high salary in order to begin working at a school. When the school is in a region where teacher shortages are high, the school will be inclined to give in to the high salary demands of beginning teachers. This system absorbs funds that can no longer be invested to reward high standards of performance. (Improving School Leadership, 2007)

147. As a result the system does not necessarily differentiate between performance and commitment. Teachers who are prepared to take on more jobs and responsibilities can be better rewarded. The same is true for teachers who are performing very well, but there are no clear, objective indicators available. The system does not explain just how evidence that teachers have reached higher standards of performance can be measured in ways that are credible to teachers and to the public. There seems to be a lack of clear processes for evaluating the performance of teachers in many schools.

148. Economic conditions vary between schools. School leaders are fully dependent on and expected to work within the financial framework that the municipality assigns to a school. In today's compulsory school, approximately 20,000 non-teacher-educated persons are working with teaching. Within the framework of assigned money, school leaders also have to handle the development of salaries for teachers and other staff. The lack of qualified teachers may lead to a situation where young and inexperienced teachers can negotiate their salary to a relatively high level. (Improving School Leadership, 2007)

149. As regards teacher appraisal in independent schools, there is no overall information on systems and procedures. The variation between such schools is probably as great as between municipal schools. But within the larger companies that operates a number of independent school all over the country it seems as if follow-up systems as well as teacher and school head appraisal is more systematic, if for no other reason than economic necessity.

## **5.2 Using teacher appraisal results**

150. The performance of teachers is assessed by the school head. This is usually done through an annual or biannual dialogue about the individual salary of each teacher. The basis for this discussion is “salary criteria” that usually are decided on at the level of the municipality and have been accepted by the representatives of the teacher unions. As there are 290 municipalities in Sweden, there are many variations in which ways the criteria are described and used in the salary discussions.

151. According to the former National Agency for School Improvement (2007), quality assessment meetings between a teacher and his or her school head are no longer uncommon but it is not a rule that every school leader assesses each teacher annually. If the work of a teacher is of very low quality, the school leader is the one who is responsible for finding a solution. It is very rare that a teacher with a tenured post is discharged. In that case, the teacher has usually committed some kind of an offense. If a teacher is lacking in competence, the school leader together with people from the personnel department of the municipality, tries to find another position in which the poorly functioning teacher can work with something else. There is so far no research regarding the impact of performance-related pay for teachers based on teaching practices.

### ***School heads***

152. Since the school head is identified in the legislation as being responsible for a number of key tasks, the performance of school heads is supervised by the Schools Inspection. Even though the Schools Inspectorate has no responsibility for hiring or firing staff, promotion, or other administrative or managerial acts (these responsibilities are in the hands of the local authorities and the schools alone), the inspection may lead to consequences for an individual school head. If the inspection identifies a malfunctioning school head, the inspectors inform the responsible body and the inspection may lead to replacement or dismissal of the person in question, even though the decision is not made by the inspectorate. The inspectorate does not assess the performance of teachers or other staff but an inspector may also identify a malfunctioning teacher. If so, the inspector informs the school head, who has to decide how to handle the problem.

## **5.3 Policy Initiatives**

153. An inquiry, has proposed a system for registered teachers (SOU 2008:52). At present the Ministry of Education and Research has also prepared a memorandum which has been circulated for formal consultation. According to the proposal the new teacher should undergo an introduction year after the completion of initial teacher training. During the introduction year a mentor, who is supposed to be an experienced and qualified teacher, should be assigned to the teacher. After the introduction year, the teacher applies for being registered to the National Agency for Education. If the school head has assessed the teacher as suitable for the profession, the teacher will typically be registered. The register will state for which type of school, grades, and subjects that the teacher is qualified to teach. A teacher can then be employed for an indefinite period. To encourage teachers to continue their professional development after they have been registered, it has also been proposed to establish a qualification stage in the form of governmental appointments. These proposals are currently under consideration by the Government.

## CHAPTER 6: STUDENT ASSESSMENT

154. The general approach to student assessment is based on the principal that the instructor teaching the student is the person best suited to assess that student. The assessment should be an ongoing process – formative assessment plays an important role in the Swedish school system. Teachers are to continually inform the student about his or her progress. Thus, when the student receives his or her first grades, the results should not come as a surprise but as a confirmation of the on-going dialogue between the teacher, the student and his or her care provider. The teacher should also have a continuous dialogue with his or her colleagues regarding the performance of the students. Furthermore, the teacher is supported in the task of assessment by results from the national tests.

### 6.1 Current practices

155. Teaching methods and materials are not subject to central regulation. The individual teacher decides on the appropriate teaching methods, the selection of topics to be covered in the lessons (within the framework of the syllabus and local plans), and the choice of teaching materials. Under the terms of the Education Act and the curriculum, students should have an influence over the organisation of teaching and, as they get older and more mature, should be given increasing responsibility for their own work at school.

156. As mentioned earlier student assessment takes place through end-of-semester reports at the conclusion of the autumn and spring semesters of years 8 and 9. Certificates are issued when a subject is completed or when the period of compulsory attendance expires. Students are no longer obliged to attend school after the end of the spring semester of the calendar year in which they turn 16. End of semester reports and terminal certificates are set by the teacher using the following grade notation:

- Pass (G)
- Pass with distinction (VG)
- Pass with special distinction (MVG)

157. In assessing the certificates for school year 9, the teacher must assume that the objectives included in the curricula have been met for the grade G. There are nationally established criteria for grades VG and MVG. Grades in end-of-semester reports are awarded in relation to the set national objectives for a subject. If the student does not achieve the objectives of the Pass grade in a subject or a subject block, no grade is awarded for either the subject or the subject block. In that case, a written assessment displaying the student's achievement based on curriculum objectives is provided instead. The support measures undertaken must appear in the assessment.

158. At least once every semester, teachers are required to have discussions on progress with the student and the student's guardian. The purpose of these discussions is to come to a joint conclusion on how the student's knowledge and social development can best be supported, and to formulate and document this in an individual development plan. The individual development plan must contain assessments of the students' knowledge in relation to the objectives of the course of study and the syllabi. The school head of the individual school decides on the wording of the evaluation, and if an evaluation is to be provided regarding the student's development within the framework of the course of study in general. This can be about the student's ability to take responsibility and to respect other people's intrinsic value. The conversation and the individual development plan should be based on a comprehensive evaluation of the student's development so far. Furthermore, the development plan must summarize the contributions needed in order to ensure that the student will achieve the objectives and in general develop as much as possible within the framework of the course of study and syllabi.

159. Furthermore, teachers solely decide on the awarding of grades based on their comprehensive assessment of a particular student's accumulated performance in relation to goals and grading criteria valid for that specific course. From an international perspective the Swedish system consists of goals similar to "content standards" or "contents strands", since they rarely contain specifications about teaching matter. The grading criteria, on the other hand, resemble what is usually referred to as "performance standards" since they stipulate what students have to demonstrate in order to qualify for a certain grade.

160. Throughout a student's compulsory schooling, the school must keep students and parents regularly informed of progress at school. The basic contact between school and home is in the form of a verbal personal development dialogue focusing on the student's progress, knowledge, and social skills. The dialogue should result in an individual development plan for the student. Teachers monitor student progress through continuous assessment. The grading system used is goal and attainment related.

**Table 5: The awarding of grades in compulsory school**

Grade	Interpretation
–	Has not yet attained all goals in the subject
Pass (G)	Has attained all goals in the subject
Pass with distinction (VG)	Has attained all goals in the subject and satisfies the criteria for the award of "pass with distinction"
P with special distinction (MVG)	Has attained all goals in the subject and satisfies the criteria for the award of "pass with special distinction"

Source: National Agency for Education, 2005

161. The grade Pass (G) is equivalent to meeting the goals to attain in the syllabi. The grade criteria for Pass with Distinction (VG) and Pass with Special Distinction (MVG) are set up by the Swedish National Agency for Education. The goals to attain are stipulated as a number of short points and the fundamental principle for awarding a student a pass grade is that each of the stipulated goals are attained. If a student does not fulfil the requirements for a passing grade, no grade is awarded in the subject. As mentioned earlier, the Government has proposed a new grading scale for the compulsory school, the upper secondary school, and municipal adult education that is planned to come into effect by autumn 2011.

162. Grades are first given at the end of the autumn semester in the 8<sup>th</sup> year and thereafter at the end of each semester. The teachers award grades in different subjects. The curriculum states that when awarding grades, teachers should make use of all available information on the student's knowledge in relation to the requirements of the syllabus and make a comprehensive assessment of this knowledge. The certificate of completion awarded in the 9<sup>th</sup> year is determined with the aid of nationally-devised grading criteria in conjunction with the course syllabus for each subject. In grade 9 the national tests in Swedish, Swedish as a Second Language, English and Mathematics are important tools to ensure that grading is comparable between schools.

163. When awarding grades in Swedish or Swedish as a second language, English, or Mathematics, teachers are to factor in national tests for each subject provided by the NAE. In addition they should consider other achievements during the course. In addition to the compulsory national tests, the NAE is responsible for a test bank of national tests in different subjects and courses, including modern languages, biology, physics, and certain vocational subjects.

164. One policy option under consideration is whether schools should be allowed to give grades from year 6.

165. As regards upper secondary school, the grades are the following:

- Fail (IG)
- Pass (G)
- Pass with distinction (VG)
- Pass with special distinction (MVG)

166. The upper secondary grading criteria determine what level of knowledge a student is to have achieved to receive a certain grade. To obtain a certificate of completion from a national or specially-designed programme, the student is to have been awarded a grade for all courses and for the project work that is included in the student’s course. To obtain a certificate of completion for an individual programme, the student is to have completed his or her individual study plan.

**Table 6: The awarding of grades in upper secondary school**

<b>Grade</b>	<b>Interpretation</b>
Not passed (IG)	Has not attained all goals in the subject
Pass (G)	Has attained all goals in the subject
Pass with distinction (VG)	Has attained all goals in the subject and satisfies the criteria for the award of “pass with distinction”
P with special distinction (MVG)	Has attained all goals in the subject and satisfies the criteria for the award of “pass with special distinction”

Source: National Agency for Education

167. The grading system in the upper secondary school is related to the goals of each course as set out in the syllabi. Grading criteria stipulate the knowledge required for each grade. Students are awarded grades when a course is completed. If a student has not been present for a sufficient number of classes no grade is awarded. Students can obtain a transcript of their grades for completed courses. Normally, grades are presented in a separate document at the end of each semester. The school head is responsible for the official documentation of a student’s grades. Students receive a final grade when they have completed a national or individual programme, and have received grades for all courses as well as the project work that is part of their programme. A student who has pursued an individual programme will receive a final grade after completing his or her study plan.

168. Student assessment is done for different purposes but it should be emphasized that a national test cannot examine a student’s knowledge against all targets or criteria. The criteria used to assess the student are those in the syllabus for each subject. As mentioned earlier (see Paragraphs 12-14), the curriculum and syllabi not only emphasis subject knowledge, but other competencies as well. Therefore, test results can be only one part of the evidence that the teacher has to take into account when grades are awarded. How much weight is given national test results in determining a student grade is not regulated, but determined locally. This means that there is no “high stake test” such as a final exam or single test that alone determines the grade for the student. Test results should always be complemented by other results.

169. The competence in how to assess students and award grades is part of initial teacher training as well as the new School Leadership Training Programme (see: Goals of the National School Leadership Training Programme, National Agency for Education, 2009a). How this is implemented by the different programmes is up to the individual universities and teacher training institutions. Universities also offer in-service training to municipalities regarding these issues, but there is no information available as to what extent this is done.

170. There are no official statements or positions from the different stakeholders mentioned in Chapter 2.3 regarding the national tests and the way they are used as a basis for awarding grades to students.

## **6.2 Implementation of student assessment**

171. Formative assessment, defined in OECD (2005) as “frequent, interactive assessments of student progress and understanding to identify learning needs and adjust teaching appropriately” is frequently used. Teachers using formative assessment approaches and techniques are better prepared to meet diverse students’ needs by means of differentiation and adaptation of teaching to raise levels of student achievement and to achieve a greater equity of student outcomes.

172. In 2009 the NAE issued a report stating that there are great differences between how teachers rate students in relation to their performance on national tests. (Likvärdig betygssättning i gymnasieskolan? Skolverket, 2009) This was the case with teachers within the same school and between schools. Which grade students will receive in relation to their test results will depend more on which teachers the student has than which school the student goes to, but the differences between schools are also of concern. Major differences between teachers and between schools’ grading in relation to the national tests is an indication that grades are not given on equivalent basis. The conclusion is that there is a structural equivalence problem regarding grades in upper secondary education in Sweden. A weakness in the equivalence of grading is a legal problem for students because it risks distorting the competition of individuals for admission to university programs.

173. The problem appears to be that some teachers set grades which are significantly higher than test results, others parallel test results and some assign grades lower than the test results. If there were another instrument to measure the knowledge of the students, it would be possible to analyse these differences, but at the moment no such instrument is available for upper secondary education. These differences do not seem to change over time in spite of a number of measures taken by authorities at both the national and local levels. Several initiatives have been taken and more are underway, but so far most of them concern only compulsory schools.

## CHAPTER 7: OTHER TYPES OF EVALUATION AND ASSESSMENT

174. The evaluation and assessment of school heads is an internal issue for the municipality or the independent school provider. As mentioned earlier (see Paragraph 157) the Schools Inspectorate may alert a municipality if they discover a malfunctioning school head. But it is the responsibility of the school provider to make sure that the school heads perform their duties.

175. As regards the evaluation of municipal education authorities and independent school organisers, that is done by the Inspectorate by assessing whether there are individual schools not functioning as they should, either in terms of the achievements of students or in terms of legal issues (see Section 4.3).

176. There are a number of agencies and other actors doing ad hoc evaluations, either of specific aspects or themes in education or of the performance of such national agencies as the NAE and Schools Inspection. These are listed below.

177. The Institute for Labour Market Evaluation (Institutet för arbetsmarknadsrelaterad utvärdering – IFAU) is a research institute under the Swedish Ministry of Employment. IFAU's objective is to promote, support and carry out scientific evaluations. This assignment includes, among other things, studying and distributing information about the labour market effects of educational policies. The focus is on how different education policies affect both school and future labour market outcomes. Different categories of individuals are separated in the analyses (for example, according to sex, age, and social background).

178. The Swedish Agency for Public Management (Statskontoret) supports the Government in evaluating and following-up state and state-financed activities. During 2009 the Agency had the task of evaluating the Governmental programme on in-service training for qualified teachers "Boost for Teachers", the relation between the special school and the municipalities, and the future economic responsibility for the so-called national upper secondary schools.

179. The Swedish National Audit Office (Riksrevisionen) is responsible for auditing the activities of the entire Swedish state and, in this way, promoting the optimum use of resources and efficient administration. One important role of the National Audit Office is to ensure democratic transparency, i.e., provide citizens with the opportunity to see how democratic decisions are made and implemented, how their tax money is spent, and whether public administration follows directives, rules, and regulations and achieves the objectives set for it. The Swedish Parliament and the Government are the most important recipients of the findings from the audits. The audits are used to support decisions, for the purposes of accountability, and to facilitate informed public discussion.

180. The Swedish National Financial Management Authority (Ekonomistyrningsverket) has the task of developing and implementing efficient and appropriate financial management in order to ensure effective controls in central government finances, resource allocation in accordance with political priorities, and high levels of productivity and efficiency. It is their mission to be the government's expert in performance and financial management, to be responsible for good accounting practices in central government, to possess unique knowledge of central government finances, to offer cost-efficient administrative support systems, to work at all levels in central government, to work in close cooperation with the Government Offices and government agencies, to work internationally, to continually monitor external developments, to participate in major networks, to have expertise in all aspects of financial management, and to maintain a comprehensive overview of the financial management field.

## REFERENCES

- Association of Independent Schools information: [http://www.friskola.se/Om\\_oss\\_In\\_English\\_DXNI-38495\\_.aspx](http://www.friskola.se/Om_oss_In_English_DXNI-38495_.aspx)
- Björnsson, M (2003): "Elva år med Skolverket – en myndighet under påverkan" Magisteruppsats vid Försvarshögskolan maj 2003.
- Children's Agency (Barnverket) information: <http://www.barnverket.nu/web/index.php>
- Education Act (1985): <http://www.sweden.gov.se/sb/d/574/a/21538>
- Government Bill ( 2009/10:165) Regeringen (2010): "Den nya skollagen - för kunskap, valfrihet och trygghet", <http://www.regeringen.se/sb/d/12493/a/142364>
- Haninge Municipality information: <http://www.haninge.se/sv/Barn--Utbildning/Kvalitet-och-resultat>
- Lund, S. and Ramstedt, K. (2009): "Studiebesök från Finland, oktober 2009", PowerPoint-presentation.
- National Agency for Education (2005): "National Assessment and Grading in the Swedish School System"
- National Agency for Education (2009a): "Goals of the National School Leadership Training Programme"
- National Agency for Education (2009b): "Factors influencing Educational Achievement in Swedish Compulsory Schools". A Systematic Review and Summary Analysis, Fritzes 2009.
- National Agency for Education information of BRUK: <http://www.skolverket.se/bruk>
- National Agency for School Improvement (2007): Improving School Leadership. Background Report Sweden, February 2007.
- National Union of Teachers in Sweden (Lärarnas Riksförbund) information: <http://www.lr.se>
- OECD (2005): Formative Assessment: Improving Learning in Secondary Classrooms, Paris, 2005.
- Parent's Association (Hem och skola) information: <http://www.hemoskola.se>
- SALAR (Sveriges Kommuner och Landsting) information: <http://english.skl.se/web/english.aspx>
- Schools Inspectorate (Skolinspektionen) (2009a): "The Inspectorate of Educational Inspection of Sweden"
- Schools Inspectorate information:  
<http://www.skolinspektionen.se/PageFiles/1854/SwedishSchoolsInspectorate2009.pdf?epslanguage=sv>
- Skolinspektionen (2009): "Vi vässar pennan. Skolinspektion med mycket fokus på kunskap och kvalitet," Fritzes 2009.



Skolverket (2009): Likvärdig betygssättning i gymnasieskolan?

Skolverket (2010): Verksamhetsplan, Utvärdering

Skolverket: Information of national tests are publicly available on: (<http://www.skolverket.se/sb/d/2913>).

Skolverket: Information of SALSA and SIRIS: <http://www.skolverket.se/sb/d/3534/a/8785>

SOU (2008): "Legitimation och skärpta behörighetsregler" (SOU 2008:52)

SOU (2009:94): "Att nå ut och nå ända fram. Hur tillgången till policyinriktad utvärdering och forskningsresultat inom utbildningsområdet kan tillgodoses"

Stockholms stad, Utbildningsförvaltningen (2008): Stockholms stads skolinspektörers årsrapport 2007-2008, Grundskola – Förskoleklass– Skolbarnsomsorg.

Stråth, A. (2004): "Teacher Policy Reforms in Sweden: The Case of Individualised Pay", International Institute for Educational Planning, Paris December 2004

Swedish Alliance of Parents (Föräldraalliansen Sverige) information: <http://www.foraldraalliansen.nu>

Swedish Agency for Public Management (2002:20) Evaluation: by whom and for what?" Utvärderingar – Av vem och till vad? En kartläggning av Regeringskansliets utvärderingsresurser,

Swedish Agency for Public Management (2002:21): Evaluation and Policy II: How does government evaluate? "Utvärderingar och politik II – Hur använder regeringen utvärderingar?",

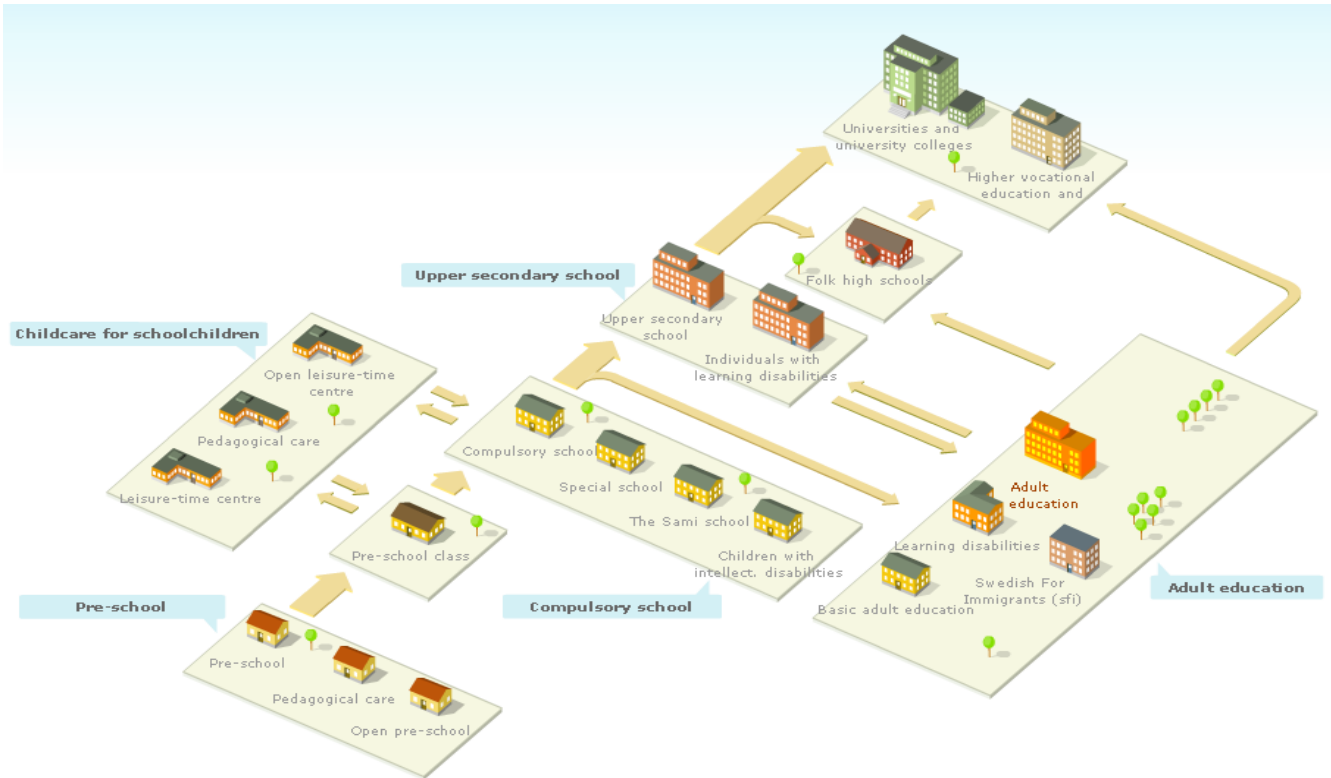
Swedish Association of Local Authorities and Regions, (Sveriges Kommuner och Landsting) (2009) "Analys: Öppna jämförelser. Konsten att nå resultat – erfarenheter från framgångsrika skolkommuner"

Swedish Association of School Principals and Directors of Education (Sveriges Skolledarförbund) information: <http://www.skolledarna.se/InEnglish/Sidor/inenglish.aspx>

Swedish National Financial Management Authority (Ekonomistyrningsverket) (2006) "Skolverkets utbildningsinspektion - ger den några effekter? Effekttvärdering genomförd på uppdrag av Skolverket,

Syllabi for compulsory and upper secondary school: <http://www3.skolverket.se/ki03/front.aspx?sprak=EN>

## APPENDIX A: THE STRUCTURE OF THE EDUCATION SYSTEM



Source: National Agency for Education

## APPENDIX B: SYLLABI

The basic regulations for the compulsory school are set out in the Education Act (1985:1100) and the Compulsory School Ordinance (1994:1194). The Government and Parliament through the curriculum lay down the fundamental values that are to permeate the school's activities and the goals and guidelines that are to be applied. Apart from these regulations governing the activity of the school, there are also the syllabi. These are binding regulations containing the requirements the state imposes on education in different subjects.

The introductory text to the syllabus covers *the aim of the subject and its role in education*, and makes clear how the subject contributes to fulfilling the goals of the curriculum, as well as the reasons for studying the subject in order to fulfil different societal and civic needs.

*Goals to aim for* express the direction the subject should take in terms of developing students' knowledge. They clarify the quality of knowledge which is essential in the subject. These goals are the main basis for planning teaching and do not set any limits to the students' acquisition of knowledge.

The section on *the structure and nature of the subject* deals with the core of the subject and specific aspects, as well as essential perspectives, which can provide the basis for teaching in the subject. Since the subjects are different, they are described in different ways.

*Goals to attain* define the minimum knowledge to be attained by all students in the fifth and ninth year of school. The goals thus set out a basic level of knowledge required in the subject from both these time perspectives. Goals to attain in the ninth year of school are the basis for assessing whether a student should receive the "Pass" grade. The majority of students will advance further and should, of course, also advance further in their learning.

The syllabuses are designed to make clear what all students should learn, at the same time as they provide great scope for teachers and students to choose their own materials and working methods. The syllabuses do not lay down ways of working, organisation or methods. On the other hand, they lay down the qualitative knowledge which teaching should develop and thus provide a framework within which the choice of materials and methods are to be locally determined. At each school and in each class, the teacher must interpret the national syllabuses and together with the students plan and evaluate teaching on the basis of the student's preconditions, experiences, interests and needs.

Common to all subjects in the compulsory school is that they should impart pleasure in being creative and a desire to continue learning. In their education students should develop the ability to draw conclusions and generalise, as well as explain and be able to provide the reasons for their thinking and their conclusions. Based on their own experiences and questions, students can develop good judgment and get a feeling of what is important.

Both the curriculum and the syllabuses should serve as the foundation for planning teaching. Fundamental values such as people's inviolability, the freedom and integrity of the individual, the equal value of all people, equality between women and men, and solidarity with the weak and vulnerable, should not only permeate all teaching in each subject, but should also influence the organisation and co-ordination of teaching in different subjects, as well as the choice of working methods. The goals in the curriculum lay down the orientation of the teaching and the guidelines set out the principles on how the work is to be carried out.

The following sections deal with the syllabuses in alphabetical order. The subjects of biology, physics and chemistry are presented under the heading *science studies* and the subjects of geography, history, religion and civics under the heading *social studies*. The common texts for science studies and social studies, and the syllabuses for individual subjects in each of these groupings together set out the national task of education in these subjects.

The division into subjects is a practical way of organising the contents of the education, but the aim is not, however, to create boundaries between them. Co-operation across subjects is necessary in order to make possible the all-round, meaningful development of knowledge in accordance with the fundamental values of the curriculum, its goals and guidelines.

## **Mathematics**

### *Aim of the subject and its role in education*

The compulsory school has the task of providing students with the knowledge in mathematics needed for them to be able to make well founded decisions when making different choices in everyday life, in order to be able to interpret and use the increasing flow of information and be able to follow and participate in decision-making processes in society. The subject should provide a sound basis for studying other subjects, for further education and lifelong learning. Mathematics is an important part of our culture and the education should give students an insight into the subject's historical development, its importance and role in our society. The subject aims at developing the student's interest in mathematics, as well as creating opportunities for communicating in mathematical language and expressions. It should also give students the opportunity to discover aesthetic values in mathematical patterns, forms and relationships, as well as experience satisfaction and joy in understanding and solving problems. The subject should give students the opportunity to practise and communicate mathematically in meaningful and relevant situations through actively and openly searching for understanding, new insights and solutions to different problems.

### *Goals to aim for*

The school in its teaching of mathematics should aim to ensure that students

- develop an interest in mathematics, as well as confidence in their own thinking and their own ability to learn and use mathematics in different situations,
- appreciate the important role mathematics plays in different cultures and activities, and become familiar with historical contexts, where important concepts and methods in mathematics are developed and used,
- appreciate the value of and use mathematical forms of expression,
- develop their ability to understand, carry out and use logical reasoning, draw conclusions and generalise, as well as orally and in writing explain and provide the arguments for their thinking,
- develop their ability to formulate, represent and solve problems with the help of mathematics, as well as interpret, compare and evaluate solutions in relation to the original problem situation,
- develop their ability to use simple mathematical models, as well as critically examine the assumptions, limitations and uses of these models,
- develop their ability to make use of pocket calculators and computers.

The aim should also be that students develop their numerical and spatial understanding, as well as their ability to understand and use:

- basic numerical concepts and calculations with real numbers, approximate values, proportionality and percentages,
- different methods, measuring systems and instruments to compare, estimate and determine the size of important orders of magnitude,
- basic geometrical concepts, properties, relations and propositions,
- basic statistical concepts and methods for collecting and processing data and for describing and comparing important properties of statistical information,
- basic algebraic concepts, expressions, formulae, equations, and inequalities,

- properties of different functions and their corresponding graphs,
- the concept of probability in concrete random situations.

### *Structure and nature of the subject*

Mathematics is a living human construction involving creativity, research activities and intuition. Mathematics is also one of our oldest sciences and has been considerably stimulated by the natural sciences. The subject of Mathematics is based on the concept of number and space and studies concepts with well-defined properties. All mathematics contains some degree of abstraction. Similarities between different phenomena are observed and these are described in mathematical terms. A natural number is one such abstraction. Applications of mathematics enable problems in everyday life, societal life and in scientific activities to be formulated in mathematical models. These are studied through mathematical methods. The value of the results achieved depends on the extent to which the model describes the problem. Powerful computers have made it possible to apply more precise models and methods in areas where previously this was not practically feasible. This has also led to the development of new research areas in mathematics, which in their turn have led to the development of new applications.

Problem solving has always occupied a central place in the subject of mathematics. Many problems that are directly connected to concrete situations can be solved without using mathematical expressions and methods. Other problems need to be removed from their context, and be provided with a mathematical interpretation and solved with the help of mathematical concepts and methods. The results can thereafter be interpreted and evaluated in relation to the original context. Mathematics may also be used to solve problems, which are directly linked to concrete reality. In order to successfully apply mathematics, a balance is required between on the one hand creative, problem solving activities, and on the other knowledge about mathematical concepts, methods and forms of expression. This applies to all students, not only those who need special support, but also those who need special challenges. Mathematics is closely connected with other school subjects. Students obtain experiences from the surrounding world and can thus use this as a basis for expanding their mathematical skills. Goals which students at the minimum should have attained by the end of the third year in school Goals specify the lowest acceptable level of knowledge. The school and its organiser are responsible for ensuring that students are given the opportunity of attaining this. Most students can and should exceed more than this level specifies. Students should have acquired a basic knowledge of mathematics needed to:

- be able to interpret information of a mathematical nature relevant to their specific contexts,
- be able to express themselves orally, in writing, and through their actions in an understandable way by means of everyday language, basic mathematical concepts and symbols, tables and pictures, and also
- be able to explore mathematical problems related to their specific contexts, and try out and choose methods of solution and calculation, as well as be able to assess and reflect over solutions and their reasonableness.

Within this framework, students should concerning numbers and their representation:

- be able to read and write numbers, and also show by its position the value of an integer in the range 0-1 000,
- be able to compare, order and divide integers in the range 0-1 000,
- be able to divide integers into different combinations, and also be able to describe, compare and show parts as simple fractions,
- be able to describe patterns in simple number sequences, and
- be able to handle mathematical equivalences for integers in the range 0-20, concerning calculations with positive integers
- be able to explain what the different methods of calculation represent, and their relationship with each other by using e.g. concrete materials or pictures,
- be able to mentally use the four methods of calculation where numbers and answers are integers in the range 0-20, and also for simple integers in higher ranges, and

- be able to add and subtract numbers using written methods of calculation where numbers and answers are in the range 0-200, concerning spatial relationships and geometry
- be able to describe the location of an object by using common and simple ways of describing position,
- be able to describe, compare and name common two and three dimensional geometrical objects,
- be able to draw and represent simple two dimensional figures, and also follow instructions for building simple three dimensional figures, and
- be able to continue and construct simple geometrical patterns, concerning measuring
- be able to make simple comparisons of different lengths, areas, masses, volumes and times, and
- be able to estimate and measure lengths, masses, volumes and time using standard units of measurement, concerning statistics
- be able to interpret and present simple and everyday information in tables and diagrams.

*Goals that students should have attained by the end of the fifth year in school*

Students should have acquired the basic knowledge in mathematics needed to be able to describe and manage situations, and also solve concrete problems in their immediate environment. Within this framework, students should

- have a basic understanding of numbers, covering natural numbers and simple numbers in fractions and decimal form,
- understand and be able to use addition, subtraction, multiplication and division, as well as be able to discover numerical patterns and determine unknown numbers in simple formulae,
- be able to calculate in natural numbers – in their head, and by using written calculation methods and pocket calculators,
- have a basic spatial understanding and be able to recognise and describe some of the important properties of geometrical figures and shapes,
- be able to compare, estimate and measure length, area, volume, angles, quantities and time, as well as be able to use drawings and maps,
- be able to read off and interpret data in tables and diagrams, as well as be able to use some elementary co-ordinates.

*Goals that students should have attained by the end of the ninth year in school*

Students should have acquired the knowledge in mathematics needed to be able to describe and manage situations, as well as solve problems that occur regularly in the home and society, which is needed as a foundation for further education. Within this framework, students should

- have developed their understanding of numbers to cover whole and rational numbers in fraction and decimal form,
- have good skills in and be able to make estimates and calculations of natural numbers, numbers in decimal form, as well as percentages and proportions in their head, with the help of written calculation methods and technical aids,
- be able to use methods, measuring systems and instruments to compare, estimate and determine length, area, volume, angles, quantities, points in time and time differences,
- be able to reproduce and describe important properties of some common geometrical objects, as well as be able to interpret and use drawings and maps,
- be able to interpret, compile, analyse, and evaluate data in tables and diagrams,
- be able to use the concept of probability in simple random situations,
- be able to interpret and use simple formulae, solve simple equations, as well as be able to interpret and use graphs for functions describing real relationships and events.