National Assessment and Grading in the Swedish School System

Skolverket
Swedish National Agency for

Order address:
Fritzes kundservice
106 47 Stockholm
Phone +46 8 690 95 76
Fax +46 8 690 95 50
E-mail: skolverket@fritzes.se

Order number: 05:921

ISBN 91-85009-95-4

Photo: Phil Boorman, Getty Images
Print: Edita Stockholm
Stockholm 2005
Distribution: 2 000

National Assessment and Grading in the Swedish School System

Foreword

This publication is aimed at an international audience and provides an overview of the Swedish school system in general, focusing on the system of national assessment in particular. A national test system cannot be described in isolation as it operates within a larger system. Therefore the Swedish school system is also described. Similarly, it is difficult to evaluate the current system of assessment without an understanding of previous national assessment systems. Therefore, previous systems are also discussed in this publication.

As weaknesses exist in any assessment system, the choice of system has to be made with regard to current priorities and preferences. Therefore this publication also aims to identify strengths and weaknesses of different types of assessment systems.

Kristian Ramstedt, head of the Unit for Knowledge Assessment, in co-operation with his staff, has written the report. Anders Auer has been responsible for the translation into English and layout.

Stockholm, August 2005

Staffan Lundh
Head of Division
Department of Research

Table of Contents

Introduction

Systematically and professionally constructed national assessments have existed in Sweden since the mid 1940s[1]. These tests were introduced as a response to the dramatic increase in applicants to secondary school and the large variation in skills and knowledge levels that the grades and marks[2], which formed the basis for admission, were found to represent. The national assessments were introduced and designed to standardize the national grading system in primary school, i.e. to develop a more fair and reliable grading system. In upper secondary school traditional oral and written examinations existed till the mid 1960s. These examinations were designed for certification and cannot be regarded as systematically and professionally constructed instruments as defined by today's standards.

The aim of this report is to give a brief summary of the Swedish school system and system of national assessment during the second half of the 1900s up to the present day. The report starts with the introduction of the 9-year compulsory school in 1962, and ends with the present system of national assessments that was developed in accordance with a government directive from 1994, later revised in 1999 and 2004.

The Swedish school system 1962-1994

During the 1940s and 50s, there was increased pressure on the education system. For some time, there had been a political and professional debate on the benefits or otherwise of a comprehensive compulsory school for all children up to the age of 15-16. Following a trial period during the 1950s, a 9-year compulsory school was introduced in 1962.

The upper secondary school was also reformed a couple of years later. The external examinations were abandoned and replaced by grades awarded solely by the teachers responsible for teaching the students. This system was applied to both the 9-year basic compulsory- and the upper secondary school.

Curricula were very specific and contained extensive instructions regarding content and recommended teaching methods. The degree of professional independence for teachers was strictly limited and the school system was highly centralised.

[1] Standardising tests for the basic compulsory school were introduced 1943/44. These tests were developed by Fritz Wigforss and relied on the assumption of a normal distribution of student performance. In that sens they can be regarded as the first systematically developed national assessments in Sweden.

[2] The word "grade" will be used from now on.

The grading system, introduced in 1962, was based on a scale of 1 to 5, where 1 was the lowest grade. It was a strictly norm referenced grading system where the distribution of grades was supposed to follow a normal distribution. The average grade should be 3 with a standard deviation of 1[3]. This rendered a national norm for the distribution of grades (see table 1).

Table 1. Grades and grade distribution in the norm referenced Swedish grading system 1962-94.

Grade	1	2	3	4	5
Proportion	7%	24%	38%	24%	7%

In practice, it was not possible for a teacher to judge his or her own group of students in relation to the national norm. A very common misunderstanding was that this distribution was expected to apply within each class (approximately 20-30 students). This misunderstanding prevailed for the duration of this grading system.

National assessments in the Swedish school system 1962-1994

In order to help teachers relate class performance to the national grading norm, national tests were introduced. In the 9-year basic compulsory school as well as in upper secondary school, tests in Swedish, English and Mathematics were introduced. For upper secondary school, tests in Physics, Chemistry, French, German and Business studies were also introduced.

The tests did not determine individual grades, but rather provided the teachers with a benchmark for the class average and distribution of grades. For example, if the mean grade score on the national test was 3.2 for any particular class in any particular subject, this meant that the mean final grade for the class should lie between 3.0 and 3.4. In other words, the teacher's mean final grade was not allowed to diverge more than 0.2 units from the mean grade score the class obtained on the national test. If the discrepancy exceeded 0.2, the teacher had to submit a written explanation to the principal.

Test scores were scaled

[3] This meant that the proportion within half a standard deviation around the mean 3, i.e. between 2,5 and 3,5, should be given the grade 3. This proportion is equivalent to 38% of the student population. Similarly, the proportion of students between 1,5 and 2,5 should be given the grade 2 and so on.

according to the norm by collecting tests from a representative sample of approximately 3000 students in each subject. The test results of these students formed the basis for the cut-off points for different grades. In accordance with the distribution in table 1, the cut-off point between grade 1 and 2 was situated at the 7:th percentile, the cut-off point for grade 3 at the 31:st percentile (7 % + 24 %), the cut-off point for grade 4 at the 69:th and the cut-off for grade 5 at the 93:rd percentile. The system was easy to manage since the scaling was strictly statistical, a form of scoring on the scale.

For consistency and fairness, teachers were able to submit questions regarding the marking of specific questions/answers. This resulted in marking guidelines that complemented the original guidelines of the test. The tests had to be undertaken in strict accordance with a set of rules. Tests were heavily standardised and were to be carried out under similar conditions.

There was no calibration of test grades or final grades between years. Each new cohort (year of students) was standardised according to the same mean and distribution. This meant that between years an equivalent grade did not necessarily represent the same level of knowledge or skills. The grades simply described the ranking order of the students that specific year.

An important aspect, and an unusual one from an international perspective, was that the teachers marked, and still do mark, the tests of their own students, although cooperation with colleagues is recommended. The advantages of this are that tests also function as competence enhancing, and also that teachers feel that they have the trust and respect of authorities.

Another advantage is that it is more economical compared to the use of external markers since teachers undertake marking within their own work hours. A disadvantage however, is the increased workload for teachers.

An argument commonly used by teachers against tests and marking is that marking reduces effective teaching time and other teaching activities. However, although such views are also expressed in Sweden, the majority of Swedish teachers still support the concept that teachers are responsible for the marking of their own class.

A potential risk with this system is that teachers might be tempted to "mark up" their own students compared to an external marker. Such tendencies exist but not to the extent that widespread demands

have been made for centralised marking. There is an informal consensus that the advantages of decentralised marking outweigh the disadvantages.

In subjects where no national tests were offered, final mean grades were not supposed to diverge more than 0.2 units from the mean test grade of a national test of a related subject. Hence, even subjects without national tests were to follow a normal distribution of grades.

Criticism and changes to the system

Over time various changes to the grading- and assessment systems took place. The number of national tests decreased, particularly in upper secondary school. The test format changed from being primarily multiple choice to consisting to a greater extent of questions requiring a short or longer response. Also in some subjects, the norm was raised from a mean of 3.0 to 3.3. This occurred, for example, in Mathematics and Science subjects in order to recruit more students to these subjects. Unintentional changes also occurred; grade inflation raised national mean final grades above 3.0 in many subjects over the years.

In upper secondary school, the same grade- and national assessment system was in place from the mid 1960s until the new curriculum, Lpf 94, was introduced in 1994.

The grading system in basic compulsory school however, had partly changed already with the implementation of a new curriculum in 1980 (Lgr 80). According to Lgr 80, there were still 5 grade levels with a mean national grade of 3.0. However, the national distribution of grades did not have to follow the normal distribution anymore. The only requirement was that grades 2 and 4 should be more common than grades 1 and 5.

The new basic compulsory school curriculum (Lgr 80) effectively reduced centralisation and increased the professional independence of teachers. The new curricula did not strictly dictate teaching content or which pedagogical methods should be applied. One effect of this decentralisation was a more flexible attitude to the previously strict norm referenced grading.

During the period of norm referenced grades and corresponding assessment system, from the early 1960s and until the introduction of the new system in 1994, the grading system and national tests were criticised more

or less frequently. On occasions, the national tests were even subject to boycotts. The major argument for introducing the norm referenced grading system was that they were thought to be the best tool for selection to higher education. Critics argued that they contributed to increased competition between students and prevented cooperation and teamwork.

This criticism is largely based on the fact that many teachers misunderstood the system, as was mentioned earlier, and acted as though there were only a limited number of, for example, grade 4s and 5s to distribute within each class. This implied that if student A helped student B so that student B got a higher grade, student A might miss out on that grade because there were no more left.

Another major argument against the norm-referenced system was that grades did not indicate skill- or knowledge levels of students, only the percentile intervals in which students were ranked in relation to the national distribution. This argument is of course applicable to every norm referenced grading system. Another interpretation of the norm referenced grading system was that students would not gain by putting in more effort if every other student also put in a similar amount of effort. The relative position, and thereby the grade, would be unchanged. Only if you worked harder than others could you improve your grade.

Sweden Unique

From an international perspective, the genuine norm referenced grading system that Sweden had for approximately 30 years was quite unique. As was previously mentioned, , the strongest argument for this system was that it was the best suited as a sorting instrument for higher education. Consequently, actual grades were very important.

The aim of the national tests was to guarantee reliability, equity and fairness of grading. The national system of assessment worked as a support for the grading system. From an international perspective this could have contributed to the significant importance that grades had and still have in Sweden, both in the political debate, in the public conscience and within various government commissions.

With the introduction of a new curriculum in 1994, the norm referenced grading- and national test systems were abandoned and replaced by a standard referenced grading system, which was supported by a corresponding new national assessment system.

The present school system

This section presents a brief overview of the present school system, followed by a description of some basic principles for grading in basic compulsory- as well as upper secondary school. The aim of the national assessment system, what it encompasses and its costs are described along with the current consensus of the new system according to teachers, principals and students. Finally, aspects that complicate the national test system and its application are discussed.

Organisation of the school system

The organisation of the present school system is presented in table 2.

Decentralisation of responsibility

A fundamental change that took place in the early 1990s was the decentralisation of responsibility for basic compulsory- and upper secondary education. Consequently, the national government is now only responsible for setting the goals and framework for the educational system, while municipalities are responsible for

Table 2. The Swedish school system 1994 - .

Phase of Education	Year/grade key	Typical age
Upper secondary education 17 programs (2 mainly academic, 15 vocational)	12	18 – 19
	11	17 – 18
	10	16 – 17
Basic Compulsory Education (Grundskola)	9	15 – 16
	8	14 – 15
	7	13 – 14
	6	12 – 13
	5	11 – 12
	4	10 – 11
	3	9 – 10
	2	8 – 9
	1	7 – 8
Pre-school class in the Basic Compulsory Education		6 – 7
		5 – 6
Pre-primary school (Förskola)		4 - 5
		3 - 4
		2 - 3

organising and allocating resources to schools operating within their municipality. Finally, teachers and principals 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 the quality of the whole school system, i.e. whether the national goals are achieved.

The implementation of the new curricula, Lpo 94 for the basic compulsory school and Lpf 94 for upper secondary school in 1994, marks the end of the old input controlled system and the beginning of the new output controlled school system.

Basic compulsory school

More fundamental changes to the exterior structure and direction of the basic compulsory school have not occurred since it was introduced in 1962. The curricula that were introduced in 1980 and 1994 brought about changes to the interior functioning and organisation of the school system. The professional influence of teachers has increased. The teachers' working climate is less individual and teachers are now expected to work together in small teams, i.e. focus has shifted from individual work to a more collaborative effort. In contrast, for students, focus has shifted from working as part of a class collective towards working individually with exercises and assignments in accordance with an individual plan.

The concept of equality, which previously was defined by every school having the same opportunities to supply an equal - and uniform – education to all students, has shifted increasingly towards the concept that every student should be treated according to his/her own individual circumstances. Also the participation and responsibility of the students has become more articulated and emphasised over the years.

Some changes in the national government organisation have taken place. For example, the earlier structure with a lower primary (year 1-3), primary (year 4-6) and lower secondary (year 7-9) has been abolished. Grades are introduced later in the schooling years so that students do not receive their first grades until after the first half of year 8. This is a politically controversial issue. The left wing coalition (dominated by the Social Democrats), currently holding

government, argues that children should not be exposed to the stress and risks of stigmatization that early grading is associated with. The more conservative opposition argue that early grading works as an incentive to increased effort and constitutes important information in order to assess the quality of education.

The different levels of Mathematics and English in the old syllabus, *general* and *advanced*, have been abolished. Today, only one level syllabus applies for all students. However, freedom of choice still exists within some subjects such as modern languages (French, German and Spanish). In practice, however, students are often streamed into groups with varying objectives.

The new curriculum for the basic compulsory school 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 the student's individual development, and the development of personal competencies in terms of the ability to cooperate and communicate with others, think critically and creatively, and so on.

The curriculum also contains goals related to knowledge, though they have less priority compared to previous curricula. Knowledge is defined in terms of four dimensions: *facts*, *proficiency*, *understanding* and *familiarity*.

The new curriculum and accompanying syllabi contain two types of goals:

1. *Goals to strive towards* are intended to form the foundation for the arrangement and organisation of the teaching. They give guidelines for the direction of the teaching and are presented as a series of short points (usually between five and ten).
2. *Goals to attain* describe knowledge and skills that the students should have developed by the end of the course and are also presented as a series of short points.

In the syllabi for the basic compulsory school, both types of 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, as well as

Table 3. The awarding of grades in basic 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”
Pass with special distinction (MVG)	Has attained all goals in the subject and satisfies the criteria for the award of ”pass with special distinction”

the 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 different grades[4].

A fundamental idea of the present curriculum is that the 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.

Awarding of grades

In year 5, no grades are awarded. However, meetings regarding the academic progress of the student should take place every term (from year 1 to year 9) and involve the teacher, parents and the student. In this forum, teachers convey their views on the general and academic development of the student.

Grades are awarded every school term after the first term of year 8, which means that each student is graded on four occasions on what can be considered to be either a 3- or 4-point scale (see table 3). In order to receive the grade “Pass” (G), the student has to attain all the goals. The goals to attain are stipulated as a number of short points and the fundamental principle for awarding a student the pass grade is that each of the stipulated goals is attained. This means that if a student has not attained all goals he/she cannot compensate this by demonstrating very good knowledge and skills that satisfy the requirements of other

[4] For English versions of syllabi, see http://www3.skolverket.se/ki/eng/comp.pdf (Note: the criteria for the award of grades are not included in the English versions)

goals.[5] If the student has attained all goals according to the criteria for either of the higher grades "Pass with distinction" (VG) or "Pass with special distinction" (MVG), the student will be awarded a higher grade.

The criteria for the award of grades are, like the goals, expressed as short points in very general terms so as not to influence the choice of content and working methods in teaching in any particular direction. Criteria therefore emphasise what types of knowledge, in qualitative terms, the student should develop in order to attain different grades.

The goals to attain stipulate the type of knowledge the student should have developed, while the grading criteria focus more on the ways the student can demonstrate how he/she has the types of knowledge that coincide with the criteria for the award of different grades.

A typical description of the criteria for the award of the grade Pass is that the student should be able to demonstrate, describe or in other ways reproduce acquired knowledge and skills. The higher grades generally require more independent thinking in terms of combining different sources of facts, analyses and reflections.

Since grades are awarded in year 8, and the national goals are only described for the end of year 9 (and year 5), the national goals and corresponding grading criteria have to be adjusted to suit the teaching content that has been planned and decided upon locally for year 8. Otherwise it would be too difficult for students to obtain the highest grades in year 8.

A grade is awarded for each subject and the teacher solely determines the final grade awarded to the student. In this grading process, the teacher should take into consideration all performance information available for that particular student.

In order to be eligible for upper secondary school the student needs at least a Pass (G) in the core subjects Swedish (or Swedish as a second language), English and Mathematics. If a student has not received a Pass (G) in all of those subjects, the student is referred to the "Individual" program in upper secondary school where he/she can supplement the missing grade.

In other subjects a Pass grade is not required and a student can continue to upper secondary school despite not getting a grade in all except the core subjects (Swedish, English and Mathematics). However, students without pass grades tend

[5] There is, however, a possibility to disregard specific goals if there are mitigating circumstances, such as if the student has some sort of disability.

to experience difficulties in their upper secondary school studies and are then often transferred to the Individual program.

In basic compulsory school a student has the right to repeat a year if he/she wishes. This is, however, quite unusual. On the other hand, the school cannot force a student to repeat a year. If a student has significant difficulties or has been absent due to illness for example, the school is obliged to provide the necessary educational support.

In the majority of municipalities, students can start on any upper secondary school program they desire in any school they desire (if there is more than one school). In some larger municipalities, however, there is more competition for places in the popular schools and therefore the selection of students is based on the average final grade from basic compulsory school.

Upper secondary school

The upper secondary school was subject to more significant changes with the introduction of the new curricula in 1994 (Lpo 94). Prior to Lpo 94, 3-year programs qualified for entrance into higher education while a number of 2-year vocational programs also existed. The new upper secondary school introduced 16 national programs (later extended to 17) that were all 3 years in length. Two programs are directly aimed at qualifying students for further education, while the others are primarily vocational. All programs, however, qualify students for admission to higher education. Approximately 98 percent of all students continue to upper secondary school.

Subjects and courses

In all programs there are 8 core subjects, including, for example, Swedish/Swedish as a second language, English, Mathematics, Social science etc. Within different programs it is possible to choose different profiles as well as different courses. All in all there are 870 different courses available[6]. Each course is allocated a certain number of points according to how extensive (in terms of workload) the course is. Depending on the choice of program and the student's choice of courses, the final grade certificate will comprise a combination of different courses. For all programs the total number of course points must add up to at least 2500. This usually means that the student will have grades from approximately 30 courses[7].

[6] For an overview in English, see: http:/www3.Skolverket.se/ki/eng/pgm_eng.pdf

[7] See for example: http:/www3.Skolverket.se/ki/eng/nv_eng.pdf for the science program or: http:/www3.Skolverket.se/ki/eng/bp_eng.pdf for a vocational program.

Table 4 The awarding of grades in upper secondary school.

Grade	Interpretation
Fail (IG)	Has not attained the goals
Pass (G)	Has satisfied the criteria for the award of grade Pass
Pass with distinction (VG)	Has satisfied the criteria for the award of grade Pass with distinction
Pass with special distinction (MVG)	Has satisfied the criteria for the award of grade Pass with special distinction

Grades

In contrast to basic compulsory school, the grade Fail (IG) can be awarded to students in upper secondary school who do not attain the goals. Otherwise the same grading scale is used (see table 4).

The awarding of grades follows the same principles as those for the basic compulsory school. In basic compulsory school, there is one comprehensive syllabus covering all subjects included. In upper secondary school, however, each program has its own program booklet containing the courses included. Each program has specific program goals, which in conjunction with national goals to strive towards form the basis for the development of teaching content. In addition there are goals to attain and grading criteria for each course, which grading assessment should be based on.

In upper secondary school, as well as in basic compulsory school, 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.

In summary, it could be said that the Swedish system consists of goals that, from an international perspective, are similar to "content standards" or perhaps rather "content 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.

One of the most important purposes of grades in upper secondary school is as a sorting instrument for higher education (where there is competition for

places). The present selection rules stipulate that at least one third of students should be selected on the basis of grades from upper secondary school (grade point average), at least one third on a special higher education test (a Swedish equivalent to the American SAT) and at least one tenth should be selected on the basis of locally determined selection criteria.

Every upper secondary school program qualifies students for admission to university or other higher education institutions on the condition that the applicant has at least Pass on 90 percent of the courses (points) included in the final grade certificate. Normally higher education programs require additional qualifications. For some programs, such as Medicine, students require a Pass with special distinction from every course in order to be competitive for a place.

A national objective in Sweden is that 50 percent of all people born in any one year should have started on a higher education course before 25 years of age. In 2002/2003 the proportion was 48 percent (55 percent for females and 41 percent for males).

The present system of national assessment

The present system of national assessment[8] is in accordance with the basic principles of assessment and awarding of grades in the current school system. As teachers, in collaboration with students, have the professional freedom to choose teaching content, the national test system has to accommodate special requirements. Also, the grading system is criterion referenced[9] (see above), making additional requirements necessary.

The present test system was developed after a government directive from 1994, later revised in 1999 and 2004, which stipulates the following purposes. The national test system shall, according to the directive from 2004:

- *Contribute to increased goal attainment by students...*
- *Exemplify course goals and grading criteria (assessment guidelines)...*
- *Assist in the process of setting fair and reliable grades (grading assistance)...*
- *Show students' strengths and weaknesses (diagnostic function)...*
- *By collating results, indicate the extent of goal attainment (monitoring).*

[8] Assessments and tests are henceforth used as synonyms without distinction between the two concepts.

[9] Strictly translated this would be called a "goals and knowledge" based system but it should be interpreted as a criterion referenced system or a standard referenced system.

The national test system shall not:

- *Influence the choice of teaching content and teaching methods (since this should be determined by teachers and students)...*
- *Function as final examination tests (as teachers should award grades based on the assessment of the student's accumulated work or demonstrated knowledge and skills).*

The role of the national tests, therefore, is to function as a means of assessment *for learning* (points 1-3) and as a means of assessment *of learning* (points 4 and 5).

Potentially negative effects such as "teaching to the test" and "narrowing the curriculum" should be avoided, as well as other negative effects the test could have if it were a high stake test.

National tests and national test grades[10] are thereby a support tool for teachers and are not to be seen as examinations in a traditional sense. Only the final grades set by the teachers and based on the teachers´ overall judgements of the students´ total results are recorded in the grade certificate.

Scope of national tests

National tests are provided for both basic compulsory school and upper secondary school. The national test system is managed by the Swedish National Agency for Education, while various university institutions in collaboration undertake test construction with representative teacher groups. The cost of producing each national test is approximately 1.0 – 1.3 million Swedish Crowns (SEK)[11]. The production time from the development of test items to the distribution of the final test is approximately 1.5 to 2 years.

Apart from the development of test items, production involves pilot testing on smaller and larger scales, the collation and analysis of student responses, statistical and other analyses of test items, the development of assessment guidelines, standard setting etc.

The total yearly cost for producing and providing national tests in Sweden is approximately 50 million SEK[12]. This cost does not include the additional time teachers have to spend marking the tests or other costs related to the internal administration at the schools, nor costs of collating, preparing, analysing and publishing results.

Basic Compulsory School

Table 5 summarises the tests and test material available for basic compulsory school. For basic

[10] Test grade is the grade awarded on the combined results of the different subtests.

[11] 120 000 to 150 000 US $.

[12] Approximately 7 million US $

Table 5. National test material in basic compulsory school

Year	Material	Subject
Preschool – Year 5	Diagnostic material (Voluntary)	Swedish/Swedish as a second language, Mathematics
Year 5	National tests (Voluntary)	Swedish/Swedish as a second language, Mathematics, English
Year 6 – Year 9	Diagnostic material (Voluntary)	Swedish/Swedish as a second language, Mathematics, English
Year 9	National tests (Compulsory)	Swedish/Swedish as a second language, Mathematics, English

compulsory school, the national test system comprises tests for year 5 and year 9, as well as diagnostic material that teachers can use as they require. Year 5 national tests are given in Swedish/Swedish as a second language[13], Mathematics and English. These tests are not compulsory according to basic compulsory school regulations. However, many municipalities impose requirements on schools to participate. Consequently, approximately 97 percent of all schools undertake the tests.

Year 9 tests comprise the same subjects. However, it is compulsory for teachers to conduct the tests, whereas the tests are not compulsory for students. For example, if a student is absent during the test due to illness, he/she is not required to undertake the test at a later date. It is, however, not uncommon that teachers or schools impose such requirements.

Diagnostic material for the early years, pre-school to year 5, is provided only for Swedish and Mathematics, while diagnostic material for year 6-9 also includes English. Teachers can use this material at their discretion to ascertain students´ academic progress. The use of diagnostic material is not compulsory.

Table 6 lists the tests and subtests for subjects in year 9 in basic compulsory school. The tests are undertaken separately at different times during the spring term (final term) of year 9. Written tests have set dates while oral tests are conducted in small groups and

[13] The same test applies for both Swedish and Swedish as a second language, but the marking guidelines are somewhat different.

can be conducted whenever the teacher deems this appropriate.

Each test is composed of a number of subtests (usually three) administered on three separate dates. The subtests within a test aim to assess the degree of attainment of various subject goals. In Swedish and Swedish as a second language and English, each subtest assesses various abilities, such as speaking, listening-reading or writing.

Mathematics also includes a subtest that assesses oral skills. This subtest is conducted in small groups where students are provided with various solutions to problems, which should be commented on and discussed. Teachers should observe and listen, making sure that all students are given a chance to speak. Student performance is then assessed in relation to certain criteria, such as how well students understand problems, how well they present their point of view, and how well they use correct mathematical terminology.

The elaborated guidelines for scoring and assessment provided with the tests, are possibly the most important aspect of the tests. These guidelines include original student responses (from pilot studies) that are discussed and commented on in detail in relation to course (subject) goals and grading criteria. Consequently, tests provide exemplification for teachers by demonstrating academic abilities that correspond to different grades. Teachers can also use the marking guidelines as a standard reference for assessments of other performance output by

Table 6. National subtests within each test (subject), year 9, basic compulsory school.

Subject	Subtest	Content
English	A	Oral interaction
	B	Receptive ability: Reading and understanding, Listening and understanding.
	C	Writing skills
Swedish and Swedish as a second language	A	Reading and understanding
	B	Oral skills
	C	Writing assignment
Mathematics	A	Oral test in group
	B	Basic- and everyday skills, advanced problem solving
	C	Mixed problems within a theme

students. In this regard, tests are designed equally for teachers and students alike.

By analysing students´ responses, teachers can also determine potential weaknesses in their students´ knowledge, thereby providing a basis for remedial measures. This diagnostic function is one of the benefits of teachers marking the tests of their own students.

Of course the results on the tests also have an impact on the teachers´ final grading of the individual student, but a more important aspect is that the aggregated results give a clue as to the overall performance and level of the class. For an individual student the measurement error could be considerable, but less so for the class.

Upper Secondary School

Upper secondary school tests comprise the same subjects as basic compulsory school (Swedish/ Swedish as a second language, English and Mathematics), but there are more national tests provided as each subject consists of two or more courses. In addition, many tests are offered once a term rather than once a year[14]. Since schools are free to organise the curriculum as they wish, the duration of courses and the times at which courses are given can differ from school to school. Some schools may conduct a course over two years, while in other schools the same course is completed in one term or less. This means that some schools require national tests at the end of the autumn term while others require them at the end of spring term. Some schools may even require them during both autumn and spring term.

National assessments in English are available for two courses, the so called core course English A and the more advanced course English B. In Mathematics national assessments are provided for four courses, Mathematics A to D. For the subjects Swedish/ Swedish as a second language, only one national test is provided each term, which is for core course Swedish B (There is no national test in Swedish A). Table 7 shows the national tests provided for upper secondary school.

National assessments in Swedish/Swedish as a second language subjects are offered on one specified date, while the assessments in English A and English B are divided into different subtests which are administered at different times during the term (see table 8).

[14] The majority of Swedish schools use an academic year consisting of two terms (autumn term and spring term).

Table 7. National assessments in upper secondary school.

Subject, Course	Status of course	Total test time (minutes)
English A	Core course, compulsory for all programs.	210
English B	Advanced course, compulsory for some programs.	230 (100+130)
Swedish/Swedish as a second language B	Core course, compulsory for all programs.	300
Mathematics A	Core course, compulsory for all programs.	180
Mathematics B	Advanced course, compulsory for some programs.	240
Mathematics C	Advanced course, compulsory for some programs.	240
Mathematics D	Advanced course, compulsory for some programs.	240

As for basic compulsory school, the same rules for participation apply, i.e. it is compulsory for teachers to conduct national tests, but it is not compulsory for students to sit the test. The majority of students usually take the test.

Marking guidelines and test grades

National assessments are marked in a similar way to national assessments in basic compulsory school. Marking guidelines are equally important in upper secondary school as an exemplification tool to facilitate fair and reliable awarding of grades. In Mathematics, one overall grade is awarded for the whole test. Marking guidelines describe how this test grade should be determined. For the subjects Swedish/Swedish as a second language and English, a grade is awarded for each subtest of the test. The grades of these subtests are then weighted and combined according to a prescribed method to obtain a single grade for the whole test.

Mathematics test results are based on scores. Test items and questions are marked by two different standards. One standard assesses achievements (qualities) at the "Pass" level (G level) while the second standard assesses achievements (qualities) at the "Pass with distinction" level (VG

Table 8. National tests and subtests in English, Swedish and Mathematics for upper secondary school.

Course	Subtest	Content
English A and B	I	Oral interaction (*Speaking*)
	II	Receptive ability: A. *Reading* and understanding, B. *Listening* and understanding
	III	Written production (*Writing*)
Swedish B / Swedish as a second language B	I	Oral skills
	II	Shorter essay (reading literacy)
	III	Essay writing
Mathematics A-D	I	Short answer, no calculator.
	II	Longer more comprehensive problems

level). In order to obtain a VG-grade, it is not sufficient to attain a given point score. An additional condition is a minimum number of points (marks) at the VG-level. In other words, broad mathematical knowledge is not sufficient. There must also be a certain depth of mathematical knowledge in order to gain a higher grade.

The grade "Pass with special distinction" (MVG), is awarded in a similar way, requiring students to demonstrate qualities of MVG standard.

In order to determine cut-off scores for different grades in tests or parts of tests that are score based, various methods of standard setting are used, usually the application of analytically directed methods (e.g. a modified form of Angoff-method[15]) or methods with a more holistic focus. Teacher groups participate in the setting of standards.

Responses and answers in the form of text blocks, e.g. essays, are assessed on the basis of reviewed and commented texts and graded student responses from pilot studies. Teachers participate and have an important role in the development of these marking and grading guidelines.

Every student that has undertaken a test or an assessment is given a test grade. In many

[15] See Cizek, G. J. (2001). *Setting performance standards: concepts, methods and perspectives*. Mahwah, NJ: Lawrence Erlbaum, 2001.

countries with examining tests, such test grades are included in the final grade certificate. This is not the case in Sweden. Test grades are used to assist teachers in their final assessment of students. In this process national tests are only one of several assessment components.

The single teacher solely determines the final grade of his or her students. This does not restrict teachers from consulting other teachers. Currently an awarded grade cannot be appealed[16] against. However, students can request to undertake a new assessment in order to obtain a new grade that can complement the old one or even replace the old one when applying for admission to higher education.

Publishing results

In Sweden, data is recorded and collated for all students leaving basic compulsory school and upper secondary school. This data includes information on the background of students (e.g. gender, migration background, parents' education etc.), as well as final grades in each subject. Since 2003, test grades from national tests in year 9 in basic compulsory school are also included in this data. For upper secondary school, test grades are collected from a representative sample of schools (approximately 120 schools and 10 000 students).

Additionally, original student test responses are collected from a smaller sample of students. These responses are analysed in detail by the university institutions that design the tests. However, the national tests are under embargo for 10 years, and therefore some analyses cannot be published in conjunction with the main results, for example questions and corresponding correct response frequencies. This also means that students are not allowed to keep test questions. They are however, allowed to view their own responses and the teacher's marking.

Analyses and results for basic compulsory school are published on the internet. Here results are presented as grade distributions by gender and by migration background[17] for all students, nationally and for each school. Audit reports from schools and municipalities as well as national audit reports undertaken by the National Agency for Education[18] are also published.

Direct comparison of school

[16] There is a proposal to amend this rule so that a student can appeal against his/her grade.

[17] A student with a migration background is defined as someone who was either born abroad him/herself, or has parents who were both born abroad.

[18] Since 2003, Sweden has a national auditing program with a six-year mandate to inspect all schools in Sweden.

performance results can be misleading as there is a well-established relationship between academic performance and socioeconomic background factors, and, therefore, adjusted mean grade scores are also published, taking into consideration parents' educational background, the proportion of students with a foreign background and the proportion of boys and girls[19] at each school.

In many countries, publishing results at school level has met strong opposition, but in Sweden it has attracted very little attention and there has been relatively little public debate on the question.

A comparison of national test grades and final grades

As was mentioned earlier, the national tests have more than one purpose. Selection to higher education is largely determined by final grades. Selection to upper secondary school is also, in some municipalities, based on mean final grades from basic compulsory school. Therefore, national tests have an important function in ensuring fair, standardised and reliable assessments. Individual test results also have an impact on the final grades of individual students, especially in upper secondary school. In basic compulsory school, teachers have taught students for a longer period of time and are better positioned to grade students according to their academic abilities. In basic compulsory school therefore, national tests are of less individual importance. In upper secondary school however, some courses are quite short and results from national tests contribute more to the total assessment for those courses.

Since an important function of the national tests is to facilitate fair, standardised and reliable awarding of grades, it is of interest to analyse how well test grade scores and final grades correlate.

Figure 1 illustrates how test grade scores and final grades compare at the national level in basic compulsory school for the subject of Swedish.

From figure 1 it can be seen that final grades are somewhat higher than test grade scores at the national level. If mean grades are calculated, the national test grade mean score[20] is12,1 and the national final grade mean is 13.2.

Figure 2 indicates the "net" proportion of students who have received higher final grades than

[19] In Sweden, as in most countries, girls outperform boys on average.

[20] Calculated using G=10, VG=15, MVG=20, Not attained goals (EUM) = 0.

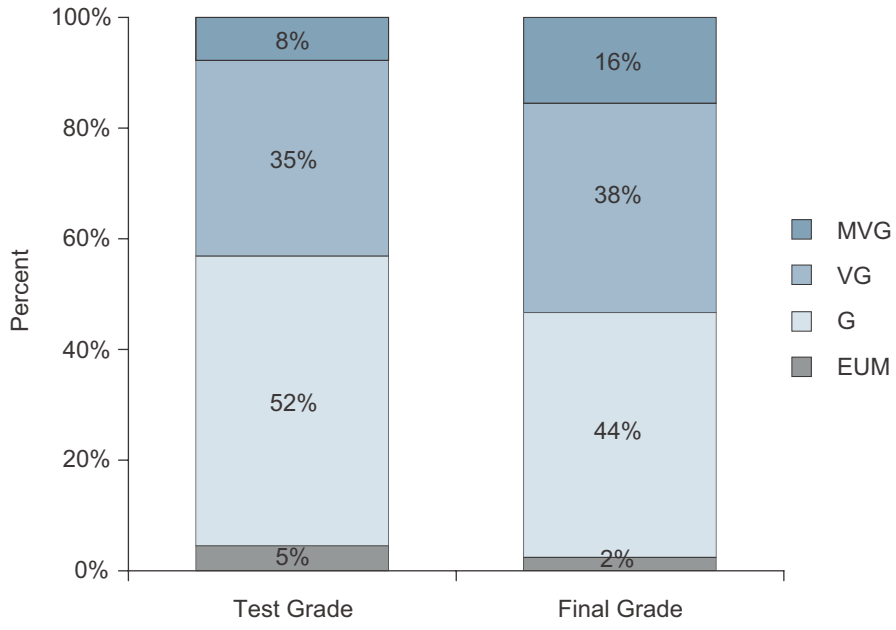

Figure 1. *National distribution of test grades and final grades in the subject Swedish, year 9, 2004. EUM=Not attained goals (fail), G=Pass, VG=Pass with distinction, MVG=Pass with special distinction.*

test grades (on average), at each of 1222 schools. For example, if a school has a "net" mean of 20 percent in the figure, it is possible that 30 percent of the students received a higher final grade than test grade, 10 percent received a lower final grade than test grade and 60 percent received the same final grade as test grade. In that way, the net difference between final grades and national test grades is 20 percent (30% - 10% = 20%) for that school.

Figure 2 shows that there is large variation in net difference between national test grades and final grades. In some schools the net difference is more than 40 percent, indicating that on average 40 percent of the students have received higher final grades than test grades. Only in a minority of schools do test grades exceed the final grades (on average).

If all schools consistently and to the same extent, awarded higher final grades compared to test grades, the system could still be regarded as reasonably fair. What figure 2 suggests however, is that students in some schools have to

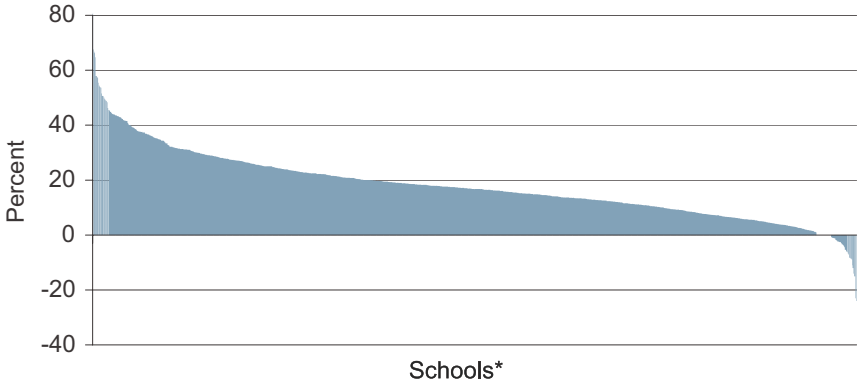

Figure 2. *Net difference between final grades and national test grades per school (1222 schools), in the subject Swedish, year 9, 2004.*
**Only schools with more than 15 students are included.*

perform much better on national tests in order to receive the same final grades (schools at the right end in figure 2) compared to students in other schools (schools at the left end in figure 2).

Such a skewed difference is a dilemma in a school system when, at the local level, there is a large degree of freedom for interpretation and assessment of syllabus goals and grading criteria. This system is heavily reliant on the integrity and professional assessment capacity of schoolteachers, but is also vulnerable to failure at the local level. In such a decentralized school system, it is difficult to apply a system of strictly regulated national tests for the purpose of assessment and setting grades. It is, however, important that final grades reliably reflect student performance. Therefore, schools are required to justify final grade deviations from test grades in audit reports. There may be a number of reasonable explanations, such as increased input of resources after national tests were conducted, or large discrepancies between taught content and national test content. In practice however, there is a lack of compliance at the local level, in terms of explaining and responding to discrepancies between the published school final grades and national test grades. At the national level there is also a lack of systematic research into and analysis of how fair and reliable the grading system is.

Stakeholders' opinion of national tests

What are the opinions of teachers, students and principals with regard to national tests? In many countries, there is strong resistance to national tests. This is not the case in Sweden. In different surveys, all stakeholders consistently express high confidence in national tests and regard them as an important tool in many respects. However, there has been no call for further tests in more subjects or other age groups, particularly within basic compulsory school and the lower school years. One explanation may be that tests are time consuming to mark, which is the main criticism delivered by teachers.

School principals and students are also generally positive to the national tests. Students are assured of fairness and reliability in the assessment of their ability when all students undertake the same test across the country. However, students feel that final grades are influenced by national test grades to a larger degree than what teachers claim. These differences in opinions pose no tangible conflict.

Universities and other higher educational institutions express confidence in the national tests. However, the contribution to standardised, fair and reliable grading is highly disputed, particularly for subjects where national tests are not offered. Final grades in most subjects tend to increase over time, at all school levels. There could be several explanations for this phenomenon, one of which is "grade inflation".

Internet based item bank

In addition to national tests, which are traditional pen and paper tests distributed as hard copies to the schools, there is also an internet based item bank. Currently, this item bank primarily serves upper secondary school, but there are plans to extend the bank to include tests and items also for basic compulsory school.

The item bank offers tests within the subject domains science (Chemistry, Physics and Biology) and modern languages (German, French and Spanish). In addition, assessment material is provided for some of the vocational programs in upper secondary school. The assessment material for vocational programs is primarily interactive and is undertaken directly on a computer. Tests in theoretical subjects are in a more traditional format but allow teachers to choose specific items, subtests or complete tests. Selection can be made from a variety of parameter formats such as knowledge domain

(e.g. electricity or mechanics etc), type of question (multiple choice, short answer or open ended), cognitive structure etc.. Marking guidelines and suggested grading criteria or cut off scores are also available.

The item bank is a valuable resource with several advantages. Firstly, the distribution of test material is much cheaper. Secondly, it facilitates immediate flexibility in the test system, improving the security of test content. Tests have become vulnerable to exposure due to technological advances. For example, it is very easy to take a photo of a test with a digital camera or mobile phone camera and then publish it on the internet. This has occurred on a number of occasions in Sweden. If tests are stored at an item bank on the internet, they can quickly be changed by the school as they can choose their own items from the item bank. This system is therefore more robust compared to a paper based system.

A disadvantage with such a flexible system is a loss of standardisation. Different versions of the test may vary in terms of difficulty, validity, reliability etc. However, these technical issues are manageable, especially considering that Swedish national tests should only constitute one assessment component in determining final grades at the individual level.

The trend in Sweden is towards the increased use of internet based tests. Reasons for this go beyond improved security and the distribution of tests. Test material will eventually take full advantage of the multimedia environment of computers, utilising sound and moving pictures. This facilitates an immediate interaction with students among other possibilities that computerised adaptive testing (CAT) allows.

The future national assessment system

As always, it is difficult to predict the future. Sweden has evolved from a highly centralised and regulated school system with strict norm referenced grading and national tests, to a decentralised and deregulated system with a standard referenced grade and assessment system. Municipalities and teachers have received increased responsibility and power. Curricula provide a general framework, rather than regulate teaching content and methods, which are now chosen by teachers. Fundamental values such as equal opportunity, anti-discrimination and democratic values have been given more emphasis in later curricula. Also, the emphasis

on more general competencies such as communication skills, collaborative skills, critical thinking, environmental awareness etc. has increased at the cost of more conservative school competencies.

National and international surveys and evaluations (PISA, TIMSS and PIRLS) indicate mixed results for the performance of the Swedish school system. Positive outcomes relate primarily to communication skills in Swedish and English. In contrast, TIMSS indicates a significant decline in Mathematics and Science competencies for Swedish students during the last decade. What the consequences of these results will be are uncertain, but an increase in resources for these subjects is inevitable. It is not clear how this will affect the national test system, as this is primarily a political question.

Political party views on national tests and grades differ. Generally, the conservative parties (the Moderate Party, Liberals, Christian Democrats and the Centre Party) advocate awarding grades at an earlier age, more refined grading scales (more grade levels) and more national tests. They generally argue that the current national tests do not standardise grading adequately and that national standardisation, regulation, enforcement and follow up is limited.

The left wing parties (Social Democrats, the Left Party and the Green Party), which have held government for the last ten years, are averse to increased grading and national tests. They are in support of the pedagogical discretion of teachers, local influence as well as the importance of not exposing children to stigmatizing assessments at a too young age. In general, however, and as in many other countries, Sweden is showing a trend towards an increase in national tests, evaluations, follow ups, audits and accountability.

Since the introduction of the new curricula in 1994, the system of national assessment has focused on supporting teachers and their pedagogical choices in the classroom, i.e. assessment *for* learning. In recent years, however, an increased demand for information about the school system and its performance has put increased demands on the national test system to provide information for various stakeholders, school agencies, parents and the general public. The trend has been towards a national test system as a tool for assessment *of* learning. It is unclear whether this trend will continue and intensify, or whether other alternatives will be favoured.

Skolverket
Swedish National Agency for Education

www.skolverket.se