ASSESSMENT: GENERAL OVERVIEW OF INTERNATIONAL PRACTICE

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Assessment: General Overview of International Practice

Introduction

Some form of judgement on progress is an essential part of any kind of learning. Informal evaluation - "Yes, that's right", or "You may want to work more on that" is part of the daily classroom routine between teachers and students: *indeed 90% of all learner evaluation takes place in classrooms, not outside it*, and provides immediate feedback that is helpful to both teacher and learner.

All types of educational evaluation - classroom feedback, testing, examinations, national assessment - send a powerful message about what is "valued" in learning. Unfortunately, this message often tells students, teachers, and policy-makers that the system values the memorization of facts, and the passive recognition or repetition of single, correct answers. The message also tells them that a single, high-stakes test can determine what students know, can do, and are likely to be capable of in future.

The best way to improve evaluation is not to say that "testing is bad", but to change the message it sends into the classroom. Good assessment accepts *and uses* the power of the message it sends, and ensures that the message reflects what we truly *"value"* in learning - skills like critical thinking, clear communication, and problem solving. Then, evaluation becomes a positive force. The notion of "testing for learning" has now replaced the previous notion of "testing for measuring results" in educational thinking.

Two major shifts

Throughout much of the world, two trends in learner assessment are evident. The first is a movement towards international and national *standards*, while at the same time greater autonomy is demanded by local authorities or even by schools. The second trend is towards a more student-centred, *competence-based* approach to education in general and assessment in particular. There is a clear move from a heavily content- or knowledge-based system to one which values competence and application of skills.

With regard to **standards,** for example, all 50 states in the US, a growing number of European countries, and all Australian states now have explicit, written guidelines that define what a state expects its students to know *and be able to do* as a result of their schooling. Moreover, there is a worldwide interest in aligning standards internationally, to reflect greater student mobility[1] and compare achievement for example through large-scale international studies such as TIMSS and OECD/PISA[2].

With regard to **competence-based** assessment, the shift from specifying content and "seat-time" to specifying desired student achievement expressed in operational terms ("The student will be able to....") is reflected in new types of performance-based assessment where students have to show a range of skills as well as knowledge.

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[1] For example, there are important conventions of mutual recognition of diplomas among 44 European countries, such as the Lisbon Convention; and movements towards international frameworks for higher education, such as the Bologna Process. The EU is formulating a set of key indicators and benchmarks for evaluating standards (see below).

[2] Third Mathematics and Science Study (TIMSS, 1995 et seq., 38+ countries, grade 8) and OECD's Programme for International Student Assessment (PISA, 2000 et seq, 32+ countries, age 15).

International Convergence: European Benchmarks

Although education systems and their standards reflect the values and aspirations of the nations they serve, and are therefore based on *national* views of quality in education, there is also a growing recognition that many of these values and aspirations are *common across national boundaries*, and that it is possible - and desirable - to identify common ground.

One important recent development is the "Mandate of Prague", June 1998, adopted by all Ministers of Education from the European Union and acceding countries[3]. The final communiqué established a Working Committee of national experts from all 26 countries, with the objective of identifying key indicators and benchmarks to assist national evaluation of system quality and achievement of learning standards.

European Indicators

A limited number of indicators (16 at the time of this writing, in four main groups) have been proposed. These include:

- **Learner attainment** (mathematics, reading, science, foreign languages, learning-to-learn, ICT, and civics)

- **Success and transition** (drop-out rates, completion of upper secondary education, participation rates in tertiary education)

- **Monitoring** of school education (systems of quality monitoring, parental participation, evaluation and self-assessment of school quality)

- **Resources and structures** (education expenditure per student, education and training of teachers, participation rates in pre-primary education, number of students per computer).

The indicators are selected on the basis of three selection criteria: political relevance of the area; comparability; and validity of the data. Special attention has been paid to areas covered by data which already exists. The choice of indicators will consequently be subject to changes over time in the light of the political agenda (relating to school standards) both of the Member States and of the Union as a whole, and the availability of valid and comparative data.

European Benchmarks

On 5 May 2003 the Education Council of the European Commission adopted "reference levels of European average performance" or European benchmarks. These will be presented at the 2004 Spring European Summit.

The Council set five benchmarks for the improvement of education and training systems in Europe up to 2010. They are:

- by 2010, an EU average rate of no more than 10 % early school leavers (drop-out before end of compulsory schooling) should be achieved.

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[3] Education Ministers from all 15 EU countries, 11 acceding countries, and - as observers - Education Ministers of associated countries of Central and Eastern Europe.

- the total number of graduates in mathematics, science and technology in the European Union should increase by at least 15 % by 2010 while at the same time the level of gender imbalance should decrease.

- by 2010, at least 85 % of 22 year olds in the European Union should have completed upper secondary education.

- by 2010, the percentage of low-achieving 15 years old in reading literacy in the European Union should have decreased by at least 20% compared to the year 2000.

- By 2010, the European Union average level of participation in Lifelong Learning, should be at least 12.5% of the adult working age population (25-64 age group)

Although these indicators and benchmarks are still "under construction", they promise to be an important Europe-wide tool for assisting national evaluation of educational standards. In due course, it is likely that they will become a common reference point among EU nations and elsewhere, especially because of the steady increase in migration and labour mobility.

A Good Assessment and Examinations System: Key Characteristics

Good testing, done right, is a good thing. But what does a "good" test look like, and what does "doing it right" entail? The following are key characteristics[4]:

- Fitness for purpose
- Equity, integrity and public confidence, of *all* types of assessment (not only exams!)
- Efficiency and cost-effectiveness
- Transparency of procedures
- Positive effect on classroom practice.

The indicators in the following Table may serve as a checklist when evaluating a system.

CHARACTERISTIC	DESCRIPTION	INDICATORS
Fitness for Purpose	The assessment papers and the marking system should produce scores that are both reliable and valid.	• Acceptance by teachers and students that the assessments are according to the syllabus: i.e. few complaints. • Statistical evidence of the assessments' technical quality (e.g. reliability, level of difficulty) • Adequate quality control measures resulting in very few errors on assessment papers.
Equity, Integrity and Public Confidence	The conduct of the assessment system should be deemed fair and achieve a high level of public acceptance. The assessment should ensure that no particular candidate or group of candidates has an unfair advantage	• The public has confidence in the results of the assessment system • High level of trust in the honesty of assessment agency staff • High level of trust in the honesty of supervisory staff • Little evidence of candidates resorting to dishonest practices (bribery, cheating).

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[4] Cited from the World Bank and the International Association for the Evaluation of Educational Achievement (IAEA) web site, http://www.worldbank1.org/education/exams

	over others.	• Assessment authority has procedures for rechecking of marks and an appeals procedure. • Special support is available for disadvantaged candidates. • The question paper does not contain culturally inappropriate questions, or questions in a language with which some students are relatively unfamiliar. • The grading system is applied equally to all students.
Efficiency and Cost-Effectiveness	The assessment authority should deliver the required services making the best possible use of physical, financial and human resources. External exams should be administered according to agreed schedules and, in particular, results should be issued on time.	• Exam fees, if used, do not place an excessive burden on parents and students. • Assessment authority can demonstrate the cost-effectiveness through its accounting procedures. It can give a breakdown of costs including staffing, question paper preparation, printing, distribution, supervision, correcting, research, publications and exam costs borne by other agencies. • Assessment authority is efficiently staffed. • Assessment papers are printed in the most cost-effective way without compromising security. • Pre-assessment administration is carried out in a timely manner. • Results are issued in time and in an appropriate form for decision making (e.g. selection for the next highest level of education). • Feedback on assessment performance is given to schools in time for it to influence instruction.
Transparency	The examination process should, as far as possible, be open to public scrutiny. Exams should not be shrouded in mystery.	• Non-confidential materials including regulations, syllabuses and sample/past assessment papers are widely available. • Assessment authority involves teachers in the examining process e.g. in syllabus construction and in marking. • Reports, including statistical data, on assessment performance available. • Marking system and criteria for award of grades available. • Criteria for employment of full and part-time officials are published. • Assessment authority maintains records of administrative practices, results and marking schemes.
Beneficial effect on classroom practice	The assessment system should promote good teaching and learning practices. It should include/provide systematic feedback of information to teachers.	• Assessment encourages the development of higher-order thinking skills and does not place emphasis on recall of facts. • Assessment promotes development of performance skills e.g. listening and speaking (languages), practical skills (sciences), production (music, drama, art)

| | | • Assessment pressure does not exclude the development of non-cognitive skills (e.g. physical, aesthetic appreciation) |
| | | • High quality subject reports for teachers and other interested parties (e.g. textbook boards) distributed regularly. |

How Countries Measure: Four Basic Types

- Classroom-based and school-based assessments are the most familiar. Teachers and/or schools check progress against curriculum goals, students receive marks, parents receive report cards. The advantages here are clear: assessment is closely linked to classroom work, performance-based methods (such as oral questioning or practical work) can be used; and assessment can be continuous over a whole term or school year. The disadvantages are, first, that (contrary to popular belief) teachers are *not* necessarily the "best judges" of the quality of their own students' performance, especially not in comparison with other students outside the class, school, or district; second, that the immediate link with the previous lesson encourages memory-based and superficial questioning; and third, that few teachers are adequately trained to assess the development of higher level thinking skills linked to national standards.

- Public (national) examinations are next. They are conducted by, or on behalf of, the state and are open to all those who meet defined entry criteria. They are typically competitive: they bring benefits to those individuals who are successful. Their main - and socially important - objective is to select the most able, on the basis of merit rather than wealth, birth, or connections. Of course, in reality there are many ways in which this high purpose can be subverted. Better-off, urban, and majority-language students have advantages over poor, rural and minority-language ones. Also, these high-stakes public examinations invite malpractice: bribery, cheating, intimidation, manipulation of results. Nevertheless, most countries now have some form of public examination for certification or selection purposes. In transition countries, new systems have been (or are now being) introduced in Albania, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, the Russian Federation, Serbia, the Slovak Republic, and Slovenia.

- National assessments (whole-population or sample-based) systematically measure typical levels of learner achievement in relation to national standards. Although they are based on the same curricula and use many of the same assessment methods, they differ from public examinations in that (1) they measure performance of the *system* rather than of individuals; and (2) the results are used as a "snapshot" of general achievement among a particular age group or level, and as a basis for monitoring national standards over time. For example, in the UK there are *whole-population* national assessments linked to explicit targets at various key stages, in core subjects such as mathematics, English and science. *Sample-based* national assessments are quicker and cheaper, and can give valuable information about performance in a particular subject. The "stakes" of national assessment are low, and therefore there are fewer security and malpractice risks.

- International assessments are a relatively recent but important development. These are large-scale, multiple-country, sample-based assessments aimed at comparing the performance of a specific age group (e.g., 13-year-olds) in a specific subject or group of subjects across a large number of countries. Examples are the Third Mathematics and Science Study (TIMSS, grade 8; 1995 et seq., 38+ countries) and the OECD's Programme for International Student Assessment (PISA, age 15, emphasis on reading, mathematical, and scientific literacy; first run in 2000 in 32 countries). The purpose of these studies is to provide internationally comparable evidence of achievement, so that countries can monitor learning outcomes within a common framework. Results are a basis for

policy dialogue and a better understanding of the causes of observed differences in performance. The growing importance of international assessments points to a wider consensus about the knowledge and skills all students need, as they enter adult life in a world that is ever more globally inter-dependent.

In most countries, <u>a mixture</u> of these four basic types is used to support national objectives and standards.

> Clarity of purpose is essential to the design of any type of learner assessment. Good, reliable assessment takes time, specialist expertise, and money: unless purposes are clear, resources will be wasted and the educational impact of findings will be minimal. **The first set of policy decisions in any country will need to clarify exactly which purpose(s) are to be served by each type and level of assessment to be used -** continuous assessment in classrooms; external formal exams; national "snapshot" assessments; and international comparisons.

Public Examinations and Internal (School-Based) Assessment

Public examinations are typically formal, summative, and controlled by an agency external to the school where the student has studied. It has been argued that education would be better served by less formal, continuous (formative) school-based assessment.

In highly competitive situations, *external examinations* are usually preferred because these allow greater standardisation of tasks and conditions and therefore better comparability of results. Where rigorous grading is not required, *school-based assessment* is usually preferred because it allows the teacher to match the assessment more closely to both the curriculum and the individual student.

In many public exam systems, a mixture of external tests and internal assessments is used. Scores are then combined, by the examining body, to produce the student's final score.

Example 1: Science

| Theory Papers: written tests set and marked externally	+	Practical Assessment Tasks: conducted in schools and assessed by teachers according to prescribed criteria	ð	Final Score derived from theory and practical components

Example 2: Foreign Language

| Written tests of, for example, grammar, usage, writing, reading comprehension, set and marked externally | + | Listening Test: audio tape recorded externally and responses marked externally | + | Speaking Test: conducted in schools and assessed by teachers according to prescribed criteria | ð | Final Score derived from all components |
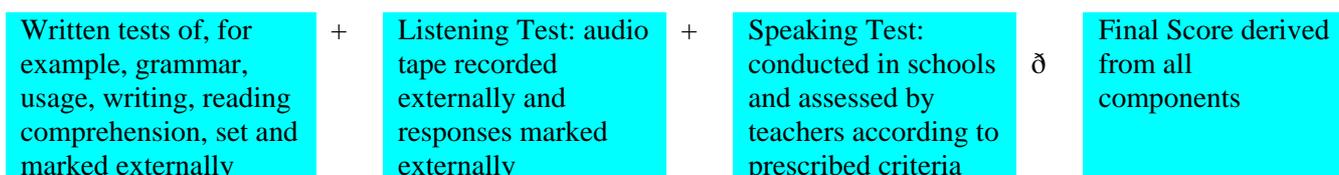
Public Examinations and National Assessments

Assessment of student achievement may serve several purposes: certification of achievement, selection, and monitoring of educational standards.

Certification and selection are best served by public examinations. However, the function of *monitoring standards* is best achieved by a system of national (sample-based or whole-population) assessment. This is the systematic measurement of *typical* (rather than individual) levels of learner achievement.

Public examinations and national assessments are similar in many respects. They often cover the same curriculum areas, use identical methods of assessment, and require similar administrative systems. However, they differ in two fundamental ways:
- The level of aggregation of data. Public exams provide data on individuals - national assessments are typically concerned with the performance of the system as a whole.
- The use of information. Exam results are used to make decisions about the individual student. National assessment findings are used to make judgements about general levels of education, and to implement measures to improve standards.

Further differences are outlined in the Table[5] below:

EXAMINATIONS	NATIONAL ASSESSMENTS
May be taken by all eligible students.	Usually conducted using a small, representative sample.
Generally test across a broad curriculum.	Generally focus on a limited number of selected 'core competencies'.
Do not investigate background variables and attitudes.	Results are systematically analysed against a broad range of background variables including attitudinal characteristics.
The same pattern of examinations has to be repeated regularly e.g. annually.	The same pattern of assessment does not have to be repeated regularly - different subjects and different age groups can be targeted in a rolling program.
Exam 'standards' and year-on-year equivalencies are rarely fixed by sophisticated psychometric techniques.	National assessments require psychometric techniques for test calibration, year-on-year comparisons, etc.
The associated stakes (for students) are high.	The associated stakes (for students) are low.
Stakes are high – teaching and learning may be distorted by 'teaching to the test'.	Stakes are low – teaching and learning should be distorted less.
Stakes are high – exams may be used to influence classroom practice (i.e. positive backwash effect).	Stakes are low - the backwash effect is weakened.
Stakes are high – security risks are great.	Stakes are low - security is rarely a problem.
In many countries, students pay examination fees.	Students will not pay for national assessment

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[5] *(Reproduced by kind permission of the National Assessment and Examination Service, Romania)*

Use of Examination Results as Indicators of School Effectiveness

There is increasing interest in the use of examination results to monitor the effectiveness of schools and to hold them responsible for their performance. England operates a comprehensive system for reporting and using examination and national test data in this way.
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There are, however, many critics of the use of examination results for school evaluation. In a number of Western countries, the notion of "Value Added" analysis - whereby these differences are measured in relation to baseline data - is now gaining ground. For example, the School Curriculum and Assessment Authority (then called SCAA, now QCA) in the United Kingdom commissioned a "Value Added National Pilot" in 1994, which showed how difficult it is to create a *national* "Value Added" system. A "Value Added" formula was in fact devised, but it proved to be too complex for use by schools. The use of "Value Added" approaches was further complicated, in some parts of the UK, by high population turnover (pupils moving from one school to another); in countries with complex internal and external migration patterns, this would also present a problem.

Arguments *for* the use of test results as measures of school effectiveness
- In most systems they are the only common measure of student achievement which has an acceptably high degree of reliability.
- They can be collected, analysed and reported easily from existing databases.
- They represent important outcomes for most students and their parents.
- The public has a 'right to know' - especially parents making decisions about where and what their children should study.
- The government has a right to know what returns it is getting for its substantial investment in education.

Arguments *against* the use of test results as measures of school effectiveness
- The use of assessment (especially exam) results as the most important indicator of school effectiveness ignores other factors which contribute to performance e.g. socio-economic environment from which students are drawn, physical conditions within the school.
- The simplistic use of assessment results as the most important output indicator ignores variation in input. In particular, the level of achievement on entry will affect final exam results. What is needed is a measure of improvement, or "value-added" by the school, but these indicators are difficult to estimate.
- Focusing on test results ignores many other important outcomes of schooling, e.g. physical well being, confidence. It may also lead to a narrowing of the curriculum due to the neglect of non-examined subjects.
- Using assessment (especially exam) results for accountability purposes encourages schools to focus their efforts on borderline students, neglecting both the very able and those for whom success is unlikely.
- Where parents with social and/or economic advantage are encouraged to support schools with good results, morale and performance in poorer performing schools can be depressed. In extreme cases, this may lead to 'ghettoization'.

"League Tables"

League tables of school performance, based on Key Performance Indicators or other types of attainment targets or indicators, have become an important (though controversial) part of the management of some education systems, for example in England. Politicians justify their use on the grounds that increased school accountability from these high-stakes indicators will "drive up" overall

performance. These "league tables" are published in the media, and the Ministry intended for them to be used by parents when they make school choices for their children. However, league tables can also have unintended effects, put pressure on schools to raise performance at all costs, and be harmful and demoralizing to medium- or low-performing schools and the students in them.

- League tables based on exam results can provide good information <u>for the system</u> to know how well it is performing; but the publication and public (mis-) understanding of these tables places undue pressure on schools and students who are, in most cases, in no position to do very much about their "results" or placement on these tables.

- There is general awareness that straight ranking of schools according to exam results is misleading and unfair; however, thus far any attempt to produce a *workable* formula for the notion of "Value Added" (see section below) has failed, even though some very valuable research has been done on the matter.

- To some extent, *all* performance indicator systems *can* have dysfunctional implications for the management of, and behaviour in, schools, <u>whether or not</u> league tables are used. A recent comparative study of English and Scottish primary schools (English primary schools have league tables; Scottish ones do not) listed the following key findings:

- English schools concentrated more on meeting targets, at the expense of other important objectives;
- Target-setting and testing processes had a narrowing effect on the curriculum in England, and increased a "blame culture" in schools (i.e., trying to find out who is to "blame" for unsatisfactory performance), rather than trying to find the cause)
- English schools were more likely to concentrate on improving their league table position, for example by concentrating resources on getting "borderline" children across target thresholds;
- Schools in both Scotland and England felt they were under similar pressure to meet targets (*this implies that league tables, by themselves, are no worse than other, less public techniques*).
- Parents in England were NOT more likely than their Scottish counterparts to check out their schools' test results. (*This of course questions one of the fundamental justifications for league tables - the idea that parents, as "consumers", will use this information to put pressure on their schools to improve their ranking. This* does *not* seem to happen in reality.)

In summary, league tables or other forms of public "ranking" of schools according to performance should only be used with caution. There may be a message here for the CATS accountability system in Kentucky (see Kentucky's system matrix, annexed to this overview paper), as well as other systems that are devising accountability systems linked with rewards and sanctions for schools according to their exam performance.

> "If each part of a system, considered separately, is made to operate as *efficiently* as possible*, the system as a whole* will *not* operate as *effectively as possible."[6]*

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[6] Andy Wiggins and Peter Tymms, "Dysfunctional Effects of Public Performance Indicator systems: A Comparison Between English and Scottish Primary Schools". (English primary schools have league tables; Scottish ones do not. In most other respects the two systems are similar.) The research was done in 1999. Paper presented at the European Conference on Educational Research, Edinburgh, September 2000.

Value-Added Indicators

 Value-added assessment of institutions has a complex history, starting in the 1970s, and more recently has shifted its focus to the overall development of students (as distinct from value added by the institution). This revised model requires far more statistical sophistication, with complex multivariate studies on student-ability and school-context factors at work. No entirely satisfactory solution has yet been found, but some countries are starting to publish value-added indicators. The most common approach is shown below:

> Measure student achievement on entry to school.
> ?
> Find mathematical model relating entry level to likely exit level for the population.
> ?
> Measure student achievement on exit from school.
> ?
> Apply model to predict how a particular school's cohort should have performed.
> ?
> Compare achieved level with predicted level to estimate 'value added' by school.

Value-Added Indicators, and "School Improvement Index"

The international literature related to **general education indicators** is voluminous. Possibly the best known are indicators developed by the OECD (Paris) reflected in their annual publication *Education At A Glance* which offers comparative information for OECD and some non-OECD countries. The 2001 edition[7] contains comparative information on 31 indicators chosen to provide a balance between showing where countries stand and how things are changing; addressing new policy needs; and providing stability in the indicator set over time. Almost half the indicators relate to outputs and outcomes of education, reflecting the progressive shift away from control over resources and content of education towards results. Finally about one-third of the indicators look at variations *within* countries, focussing on equity issues, gender differences, life-long education and training, and employment.

In relation to **Value Added performance** indicators, in spite of a large number of research studies and models, there is still no satisfactory formula that is simple to use at the school level while providing accurate information about school performance.

It is important to distinguish between "normal academic progress" and "value-added". Normal academic progression is the average progression that would be expected, over a particular period, for students from a given starting point. The "value-added" is the extent to which these students may, over that period, *have exceeded or fallen below the expected progression* for a given starting point. These quantities can be estimated by using test or examination data about previous and subsequent academic attainment (i.e., input data at the starting point compared with attainment data at the end point). While all data are derived from individual student results, it is more practical, administratively, to aggregate them to produce *school-level* data, unless there are important reasons against this, such as small cohort sizes or student mobility from one school to another.

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[7] *Education at a Glance: OECD Indicators.* 2001 edition. Paris: OECD. Statistics underlying the indicators are accessible via the internet, at www.oecd.org.els/education/ei/index.htm

As an example, the system used in Kentucky (see system comparisons and matrices annexed to this overview) takes the value-added concept to its logical extreme, where testing is concerned. Traditional comparability has been dropped altogether: instead of comparing schools to each other, schools are compared *to themselves,* over time, in terms of the increase in the percentage of students - again over time - who meet very tightly-defined performance standards based on more reliable classroom-based and portfolio assessments.

Another issue is the use of a single, national scale on which performance can be expressed. While this would greatly simplify the calculation and use of value-added data, in practice this has not proved possible. One practical possibility is to calculate the mean score per student for each school on a (say) 10-level scale, and use these mean scores both for input and outcome variables for each defined period of schooling. This would yield a simple linear model. Another solution is to use broadly differentiated academic variables, for example three broad bands of attainment for (say) Grades 1-3 - the top 25%, the middle 50%, and the bottom 25% as derived from standardised test scores and school-based assessment.[8]

Warning*!*

Some critics suggest that most current strategies for reporting 'value added' are flawed because:

- models used for predicting output from input are simplistic and ignore other significant factors;
- determination of input levels is subject to error of measurement; and
- determination of output levels is subject to error of measurement.

For example, one criticism made of the Kentucky system cited above is that the Kentucky Education Reform Law calls for greater precision in measurement than is possible, especially when dealing with small schools.[9]

School Improvement Index

One method of presenting value-added performance data could be to report the performance of a school over a number of years, rather than year-by-year. This could then provide a "school improvement index". The idea behind this is that each school would be encouraged to look at the extent to which it has improved, in comparison with its own previous performance. This is not an alternative to the development of value-added indicators, but offers a useful supplement.

Schools often use public (national) examination scores obtained by their students. The School Improvement Index is then derived by first calculating the average point score per student for a school by dividing the total number of exam scores for the school divided by the number of students enrolled in that year group. (This ensures that schools cannot improve their ratings by simply excluding weaker students who are likely to achieve few passing scores.) The average points score

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[8]   The simplest standard technique is to plot a linear regression line using the 'least-squares' method. This regression line is the best estimate or prediction of the outcome score for a given input score. In principle, it enables the performance of individual schools to be judged against the average performance of all schools with the same input score. When plotting a school-based regression line , school averages should be weighted to reflect the number of students involved, so that a school with (say) 200 students in the relevant age group counts for twice as much as a school with 100 such students. See "Value-Added Performance Indicators for Schools", 1994, London: School Curriculum and Assessment Authority.

[9]   Grant P. Wiggins, *Assessing Student Performance*, 1999, p. 180.

per student for a school for successive years can then be compared by, e.g., calculating the ratio of the school's score in the present year to the score in the previous year(s).

Such a School Improvement Index has a number of advantages. It would encourage schools to focus on improvement and trends. *All* schools would have a chance to excel, not just those with high scores. Also, it takes account of the performance of *all* students, not just those who get high marks; and it is simple to calculate and easy to understand for parents and the public at large. Finally, it is based on information already available (exam results), and will not lead to extra work or testing by schools.

Of course, indicators other than exam results can - and probably should - be included in a School Improvement Index. Examples would be student attendance data, drop-out and repetition rates, staff qualifications, staff turnover, percentage of financial resources spent on building maintenance and improvement, etc.

> The essential characteristic of a useful School Improvement Index project is self-assessment by the school of its own performance over time, and setting targets for continuous improvement.

Use of Test Results as Indicators of Teacher Performance

Some ministries are interested in using test (especially exam) results to judge the effectiveness of individual teachers and, as a logical extension, linking results to rewards and penalties. In general, it is not considered sound (and therefore it is not recommended) to use the results of learner achievement measures (such as test and examination results) for purposes of teacher appraisal. Many governments have tried to make such a link, but while superficially there is a connection between pupil achievement and teacher competence, it is unfair to teachers to use that link as a basis for teacher appraisal. Many teachers work in difficult conditions with inadequate resources in areas where pupils come from disadvantaged backgrounds; others work in relatively well-resourced schools which select pupils, or whose pupils come from more affluent families. The relative success of these groups of children on standardised tests is likely to be quite different, and the difference will be due to a number of factors, not merely the competence or hard work of teachers.

Building Capacity to Implement Standards-Based Reform in Education:

The "architecture" of standards-based reform is now in place in many countries, not only in OECD member countries but also in an increasing number of countries in Southern, Central and Eastern Europe and in the Baltics. Academic content standards, performance standards for students, compatible tests, incentives and accountability systems to reinforce them have been - or are in the process of being - introduced. At the same time, many countries have restructured their governance systems to delegate more authority to local decision-makers and to schools.

But clearly defined learning goals and accountability systems do not, by themselves, yield *continued improvement in student learning*. Problems remain; for example, lack-lustre student performance, drop-out, gaps in achievement between children of majority and minority populations, lack of opportunity for children with special educational needs, discrepancies in performance between affluent and deprived areas, etc.

> Clear standards are not enough to improve learning. What is needed are 'capacity-building strategies' at classroom/school, regional/municipal, and national level.

Underlying Assumptions:

(1) The ministry of education should set standards, but not minutely prescribe curricula or methods of delivery; (2) instructional decisions are best made locally; (3) schools should be held accountable for performance results against standards; (4) there should be a strong financial commitment to sustained professional development, countering the traditional cynicism towards this activity; (5) Clarity, consistency and coherence in messages to schools are essential.

Barriers in schools:

- Teachers' knowledge & skills. *Most teachers in transition countries, while competent in their academic subjects, have had little exposure to the study of child development or student-centred teaching methods suited to the different learning styles and ability levels of pupils.* However**,** it should be stressed here that the region's low Pupil:Teacher Ratios (P:TR) do create favourable conditions for the introduction of student-centred teaching and learning methods, conditions that do not exist in many other countries.

- Pupil motivation & readiness to learn. *The difficult conditions of many children's lives - poverty, disruption, displacement, family breakdown - undermine their readiness to learn. In many transition countries, considerable numbers of children live in poverty. Also, older pupils may have no incentive to learn if they do not believe that school curricula are relevant to getting a job or university admission. Unemployment is also a serious deterrent, with young people in rural areas worst affected.*

- Learning materials for pupils and teachers. *Books and materials are not always available, affordable, or of good quality; textbook authors do not always pay close attention to standards-based goals; schools do not have enough reference, library, or laboratory resources to stimulate independent learning (to say nothing of Internet access).*

Barriers in the education system:

- Effective use of qualified people supporting the classroom. *Some large urban schools have school psychologists and learning disability specialists, but their classroom support roles are ill-defined, especially in relation to school inspectors. They are rarely used to help classroom teachers focus on student-centred teaching methods that improve learning, or to assess pupils in terms of clear attainment targets.*

- Quantity and quality of interaction within and among institutions. *Effective networking has in the past been hampered by political and material circumstances, and by a "top-down" culture of prescription and control.*

- Material resources *for example inadequate libraries, facilities for science or technology, poor school repair and maintenance.*

Current practices in some "Western" systems

The following section summarizes some of the practices used in a small number of "Western" systems. These include Italy, Kentucky (US), The Netherlands, Scotland, and Sweden[10]. They were

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[10] Other interesting and innovative practices are found in Australia (Victoria and Queensland), Belgium (Flanders), Ireland, and England and Wales, but space does not permit broader discussion here. The World Bank web site (see References) also highlights a number of African and Asian assessment systems.

selected to show a range of approaches to assessment, and to underscore the fact that *all* education systems - not only those in Central and Eastern Europe - are constantly revising and improving the way they assess learner achievement.

> Detailed descriptions of the background, system organization, and assessment policy and practices of each system are given in the **country matrices** annexed to this overview.

System characteristics

Compulsory education. Netherlands and Scotland start at age 5; Italy and Kentucky at age 6; Sweden at age 7. Number of compulsory school years varies: 9 in Sweden, 11 in Netherlands[11] and Scotland, and 8 in Italy.

System structure. Basic structure is primary + secondary + tertiary. Some have lower and upper secondary; all except Kentucky have differentiated secondary schools (academic and vocational), while Kentucky has comprehensive high schools until the age of 18.

Examination/transition points

1. *In primary years*, assessment is predominantly continuous, teacher-led, and diagnostic/formative. Promotion to next class tends to be automatic except when a child is seriously behind. In Sweden no grades (marks) are given until year 8. Formal examinations occur at the end of basic education in Italy and the Netherlands; in Sweden, a national test is given in three subjects, and marks obtained on these tests are used by teachers as a calibration device in determining each student's grades.

2. *In secondary,* school-leaving examinations occur in Scotland, the Netherlands, and Italy but not in Kentucky or in Sweden.

3. All systems in the group have explicit *learning standards or targets*, and all use periodic (sample-based) (national) *survey assessments* in key subjects (e.g., mother tongue, mathematics, sometimes science or a foreign language). In Kentucky, a performance-based (and portfolio) assessment system is used, linked to mastery and non-mastery standards of performance. Italy also uses a "portfolio of individual competencies" student monitoring system. In the Netherlands, every child has a permanent registration number that allows progress monitoring throughout his/her schooling, and every 2 years (years 2, 4, 6 and 8) there is a cohort survey test to follow student learning against attainment targets.

4. *Test formats* are mixed, with emphasis on essay and other open-ended questions, and on portfolios. Multiple-choice questions are used in (part of) some types of tests. There is a clear trend towards performance-based and skills-based assessment, portfolios, and records of achievement which include self-assessment by the learner.

5. *Grades and marks.* Grading systems vary - Italy and the Netherlands use 1-10 (10 = highest). Scotland uses letter grades (A-D, A = highest); Kentucky uses A-F (F = fail) in school assessment, but in the Commonwealth Accountability Testing System (CATS) it uses four levels: Novice and Apprentice [non-mastery], and Proficient and Distinguished [mastery]. Kentucky also uses a *credit system* in High Schools. Sweden uses student/parent/teacher conferences until year 8; from year 8 the scale is IG-MVG (IG = fail; MVG = pass with special distinction).

6. *Examination bodies.* The Netherlands has an examinations agency (CITO) which develops tests according to attainment targets and regulations determined by the Ministry. Scotland has a

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[11] By law, students who leave school at 16 must receive at least part-time education until they are 18.

similar system (SQA or Scottish Qualifications Authority) responsible for assessment according to curricula and guidelines set by the Scottish Executive and Learning and Teaching Scotland (LTS). In Sweden, the National Agency for Education develops curriculum objectives and subject standards, and provides standardised national tests that are used by teachers for scale calibration in core subjects. In Italy, exam syllabuses are developed by the Ministry, and testing is organised by the National Evaluation Service. In Kentucky, the Kentucky Core Content Test (KCCT) is a nationally norm-referenced test in core subjects, part of the CATS accountability system. The Kentucky Office of Assessment and Accountability administers the tests.

7. *Diplomas and certificates.* In Kentucky and Sweden, diplomas are given by the school. In Italy, the Ministry awards the certificates. In the Netherlands and Scotland, diplomas are awarded by the official examination bodies (CITO and SQA respectively). In all systems in the group, the secondary school-leaving diploma serves a certification function and also a [partial] selection function into employment or further/higher education.

8. *Examination fees*. In Italy, students pay (part of) the cost of exams. In Scotland, for Standard and Higher Grade exams, candidate fees (per subject) are paid to SQA by the school out of the school budget. In the Netherlands, costs of assessment/exams are borne by the Ministry although schools and teachers can buy classroom tests and other instruments from CITO. In Kentucky, the Kentucky Board of Education (KBE) pays for CATS assessments including the Kentucky Core Content Test. In Sweden, there are no formal, standardized external examinations before university level. National tests (for use by teachers in determining their own grades) are provided by the Ministry. Optional supplementary exams are funded either by the municipality or by the students, up to a set maximum.

9. *University entrance*. In Italy, the Netherlands and Scotland, the official secondary school-leaving examination is a pre-requisite for university entrance. Universities (and/or faculties) *may* set their own entrance *requirements*[12] but do not normally set additional tests. In Kentucky, access to higher education is open, although some universities and colleges look for good Grade Point Averages (GPAs), and may ask for scores on the Scholastic Achievement Test (administered by the non-governmental Educational Testing Service in New Jersey). These tests are non-compulsory, not administered by the schools, and fees are paid directly by the student to ETS; the student receives his/her numerical scores directly from ETS and can use them to apply for university or college. In Sweden, there are similarly two instruments for selection into higher education: the Grade-Point Average (GPA) obtained by the student in upper secondary education, and the Swedish Scholastic Achievement Test (SweSAT) funded partly by the National Agency for Higher Education and partly by candidate fees. Faculties do not set their own entrance tests; selection into major courses of study is made centrally for all universities by the National Agency for Higher Education.

10. *Reforms.* Significant legislative and policy reforms are taking place in all systems, with the aim of improving learner achievement *against specific objectives and standards*. An emerging key principle is that "*Assessment is for Learning*", and should no longer be seen as an end in itself. In particular, Scotland's framework of "National Priorities for School Education" (part of the Standards in Scotland's Schools Act 2000), and Kentucky's sweeping set of reforms and new school accountability system are particularly noteworthy. The Kentucky Education Reform Act (KERA) not only requires schools to be accountable for progress against explicit State performance standards, but institutes rewards and sanctions for relative failure or success - over time - in school self-improvement. This new system will make it impossible for Kentucky's schools to do what is so universally done in other States and countries: namely, to assume that a

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[12] For example, a university or faculty may require certain [minimum] grades/marks in relevant subject(s), or a minimum GPA, or score on SAT (United States) or SweSAT (Sweden).

school's reputation is a function of its <u>best</u> students only - which then enables the school leadership to write off the failure of the <u>worst</u> students as "not our problem".[13]

An Assessment "Bill of Rights"[14]

All students are entitled to the following:

1. Worthwhile, engaging, educative and "authentic" intellectual problems that are validated against real-world problems, roles, and situations.

2. Clear, relevant, published, and consistently applied teacher criteria in grading (marking) work, and published models of excellent work that exemplifies standards.

3. Minimal secrecy in testing, examinations, and grading.

4. Ample opportunities to produce work they can be proud of. This means ample opportunity in the curriculum and in classroom teaching to monitor, to self-assess, and self-correct their work.

5. Assessment, not just "tests" and "exams": varied opportunities to display and document achievement, and options in exams and tests that allow them to show their strengths.

6. The freedom, "climate", and supervision practices that allow them to challenge (question) grades and test practices without fear of retribution.

7. Forms of testing that allow students to explain or justify answers marked as "wrong" but that they believe to be relevant or correct.

8. Genuine feedback: useful information on their strengths and weaknesses, and an accurate and helpful evaluation of their long-term progress towards a set of standards framed in terms of key tasks.

9. Marking/grading practices that provide incentives and opportunities for improving performance.

10. Fair opportunity to learn what is required. If standards or assessment instruments make certain assumptions about the resources available to students - maps, books, science equipment, or even *time to practice and learn* - <u>all</u> students must have a fair chance to prepare on a roughly equal footing. Inevitably, family income will play a part in this, but there are ways to keep it to a minimum.

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[13] See Grant P. Wiggins, *Assessing Student Performance*, 1999, p. 170.
[14] Based on Grant P Wiggins, *op. cit*., p. 170.

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The World Bank, Economic Development Institute	*National Assessments: Testing the System.* 1996. Washington D.C.: The World Bank/EDI.
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ASSESSMENT PRACTICE AND POLICY MATRIX

Country: Italy

The Education System

Age at which <u>compulsory</u> education starts:	6
Age at which <u>compulsory</u> education ends:	14
Structure of general educational system:	Pre-school (voluntary) from age 2.5-3. Compulsory: first cycle 8 years – 5 years primary and 3 years lower secondary . Majority of students continue with second cycle (upper secondary) (4-5 years), either in a liceo [classico or scientifico]or in a vocational school. Technical and vocational education is the responsibility of the regional authorities. A 5-year upper sec. Cycle provides path to tertiary education, although alternative pathways also exist State education is free (tax-funded). University students make a contribution of approximately Euro 1000 per annum. There is a significant non-state (religious) education sector..
Structure of secondary vocational education:	Students can enter 3- or 4-year professional schools after completing first cycle. Throughout these 4 years, it is possible for students to move from vocational to general secondary and vice versa. An additional 5th year can be either a "bridge" year providing access to State secondary (Maturità) exams, or (with or without Maturità exam) to higher technical schools.
Examinations/transition points:	First-cycle grades are set by teachers and are based on classroom assessment. There is a State examination at the end of year 8. Results are used in decisions about upper secondary entrance. In the second cycle, grades are given after each course, on the same basis as before. There is an important State examination (Maturità) at the end of the 5-year liceo or 5-year vocational cycle. This diploma is both a school-leaving certificate and a prerequisite for university-entrance. Privately prepared student must also take this State examination.
Higher education:	Italy has 74 universities. Universities set maximum number of places they can offer each year. Selection applies only to some courses (medicine, dentistry, engineering). In that case faculties set their own entrance exams in relevant subjects.
Levels of education governance:	Five: Parliament; Ministry of Education, Universities and Research; regions; municipalities; and schools.

Reforms

At present, the Italian education system is undergoing extensive legislative and administrative reforms. However, the new Reform Act has not yet been finally adopted and it is therefore difficult to

determine what the most significant changes will be. Meanwhile, there are a number of temporary decrees with the force of law; most of these appear to be about "Sperimentazioni" [experiments], or pilot reform programs.

There is a very detailed web site that outlines the basic intentions of the reform. For an overview of what the Italian Ministry of Education is trying to achieve, check this:
http://www.edscuola.it/archivio/norme/programmi/riforma_02.html

The text is in Italian but there are helpful diagrams that should be understandable to most.

Assessment Practice Matrix:

	Pre-school age 2.5-6 Scuola dell'Infanzia	Elementary age 6-14 in 2 cycles[15]	High school. Age 15~19 Years 9-13[16]	Remarks
Standards	yes	yes	yes	Detailed curriculum objectives and subject standards[i] have been developed for each cycle and sub-cycle and for all subjects by the Ministry of Education, Universities and Research. Schools may use part of the available time for school-developed curriculum.
Legal Framework for assessment and evaluation	New "School Reform Law" has been adopted on 28 March 2003 and implementation is still being worked out. The National Institute for the Evaluation of the Education System[17] (INVALSI) has been charged with carrying out periodic and systematic evaluation of the attainment of students and of the quality of the provision of the reaching and training institutions. It participates in international surveys and studies, and carries out State examinations. (National Observatory for State Examinations) and major international studies such as TIMSS 2003 and OECD/PISA 2003.			
Institutional Framework for assessment and exams	yes	yes	yes	Grading (marking) is done by teachers based on continuous classroom assessment, in relation to standardized criteria. National tests are developed by the National Institute for the Evaluation of the Education System, in compulsory subjects such as Italian, English, Mathematics, Science, (Catholic) Religion, History, Geography, Information Technology, Music and Art.
Professional instruments	Teachers use their own classroom-based instruments supplemented by nationally standardised instruments used to calibrate grades.			

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[15] Years 1-5 are "primary" grades and years 6-8 are "lower secondary" grades.

[16] Academic liceo cycle is $2 + 2 + 1$ years; vocational secondary cycle is $3 + 1 + 1$ years.

[17] Istituto Nazionale per la Valutazione del Sistema dell'Istruzione (INVALSI). See web site http://www.invalsi.it

	Pre-school age 2.5-6 Scuola dell'Infanzia	Elementary age 6-14 in 2 cycles[15]	High school. Age 15~19 Years 9-13[16]	Remarks
Student monitoring system	yes	yes	yes	Teachers create personalized study plans in line with the standards and objectives of each subject and year, but also in relation to individual goals, jointly decided by teacher-parents-student. Each student has a "portfolio of individual competencies" which is carried forward from stage to stage.
Examinat-ions	no	yes	yes	Certification/selection exams at the end of years 8 and 13.
National Assess.	no	yes	yes	Teachers in schools conduct periodic and annual assessments of the attainment of students. INVALSI conducts periodic, systematic assessments of the knowledge of students and of the quality of the provision of education and training by the institutions. The State examinations at the end of each cycle are conducted by INVALSI on the basis of the objectives established for each course.
Subject Olympiads	no	no	no	
Internat. Compar.	no	yes	yes	International surveys e.g. TIMSS (age 13), ALL (adult literacy and life skills), and OECD/PISA (age 15).
Test and question formats	In the national exams, there is a combination of oral and written tasks. Oral examinations (in schools) are externally monitored and validated. In written exams, item format varies. Multiple-choice questions are sometimes used, but normally the students have to describe/explain how they have come to a conclusion, which demands an open format. Marking is done by pooled expert judgement and consensus procedures. Written tests are usually marked by two external examiners, with marking schemes for guidance.			
Grading scale	In school assessment, 1-10 (10 = highets). Pass mark is 5. For Maturita, 0-60 (60 = highest). Pass mark is 36.			
Emphasis of assessment	The standards for each cycle and year are based on a broadly defined view of the cultural, cognitive, social, ethical and psychological development of each student. Therefore emphasis is on the "portfolio of individual competencies", supplemented by marks gained in external examinations.			
Examination Practices	Exam syllabuses are developed by the Ministry. All students (in state or private education) can take the exams. There is a single exam period (June) each year. Exams are 50/50 written and oral. Written exams are mostly essay type, and usually marked by at least two external markers-teachers from other areas. There is an external examiner that checks an internal commission of examiners. Certificates are awarded by the Ministry.			
Financing of examinations	Students pay fees for external examinations; however, the State contributes as well.			
Functions of exams and value of certificates	Since most students continue with upper secondary education, marks obtained in upper secondary are used as credentials when looking for employment (qualitative grades) but also as part of the selection process into higher education (quantified grades). The Maturità diploma is a necessary (but not always sufficient) prerequisite for university entrance.			
Teacher training	Some pre- and in-service training in the assessment of students, either in the classroom (continuous assessment) or against national standards. The introduction of the "portfolio" has stimulated more interest in evaluation against national objectives/standards.			

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Ministry of Education, Universities and Research	*Raccommandazioni per l'Attuazione delle Indicazioni Nazionali per I Piani di Studio Personalizzati nella Scuola Primaria* [recommendations for implementation of the personalized study plans]. Rome: MIUR, 2002.
OECD	*Education At A Glance: OECD Indicators.* Paris: OECD, 2001.

Web sites:

General information (in Italian). Contains detailed information about intended reforms at all levels of Italian education	http://www.edscuola.it/archivio/norme/programmi/riforma_02.html
Ministry of Education, Universities and Research	http://www.istruzione.it
National Institute for Evaluation of the Education System (Istituto Nazionale per la Valutazione del Sistema dell Istruzione)	http://www.invalsi.it
The main Italian statistic bureau	http://www.istat.it

ASSESMENT PRACTICE AND POLICY MATRIX

Country: Netherlands

The Education System

Age at which <u>compulsory</u> education starts:	5. Nearly all children attend school from age 4 but compulsion does not start until age 5.
Age at which <u>compulsory</u> education ends:	16, but by law school leavers must receive at least part-time education until 18
Structure of general educational system:	Two-phase system: pre-compulsory + primary (**basic**, ages (4)5-12), and lower secondary + upper secondary, (ages 12 to 16, 17 or 18). In **secondary** (12+), three options: 4-yr pre-vocational (see below); 5-yr general secondary (HAVO), or 6-year academic pre-university secondary (VWO)
Structure of secondary vocational education:	From age 12+, 4-year pre-vocational secondary (VMBO)
Examinations/transition points:	End of basic education; end of VMBO, HAVO or VWO
Higher education:	13 universities, including 3 technical universities and one agricultural university. There are also 56 colleges offering higher professional education.
Levels of education governance:	Four. Central, provincial, municipal authorities; and school boards. State as well as private schools are under government control.

Special features:

Curricula, syllabuses and attainment targets are developed by the National Institute for Curriculum Development (SLO). The National Institute for Educational Measurement (CITO) is responsible for overseeing all assessment for the whole of the education system.

At primary level, attainment targets are re-defined every 5 years. There are two types of attainment targets (cross-curricular and subject-specific). They define the minimum knowledge, understanding and skills students are expected to reach by the end of 8-year basic education. Assessment is continuous, school-based and teacher-led, but many teachers use tests developed by CITO in addition to their own. About 80% of schools voluntarily use the national primary school leaving exams set by CITO. CITO also develops tests for measuring individual student progress. A national registration system provides all students with a code they retain throughout their education so that long-term monitoring of individual progress is possible. In addition, a sample-based survey (PRIMA) tests the same cohort of students every 2 years, in years 2, 4, 6 and 8 to monitor performance over time.

Secondary education has two cycles. First, a foundation cycle of 2 years (12-14) after which schools assess whether a student has reached the attainment targets for foundation subjects. For each subject, students take at least one final national test set by CITO. These are available at various levels and the school can match them to a student's learning style and ability. The school decides when these tests are taken. They are not exams that can be passed or failed, but tests that assess whether attainment targets have been reached. Students receive a foundation certificate. On the basis of their foundation performance, students and their parents can choose which type of upper secondary school they wish to attend. Recommendations can be made by the school or the competent authority, but parents make the final decision. There are no entrance exams into upper secondary schools. It is possible for students to switch from one type of upper secondary to another, sometimes via so-called "bridge"-classes to help them catch up.

During the second cycle (14+ to 18), students are continuously assessed by their teachers and schools, and progress annually if they receive a satisfactory mark (6 out of 10) in the majority of subjects. Schools conduct their own final exams, projects, etc. Written, national, final exams are set by CITO and taken under Government supervision. The qualification obtained determines the opportunities open to students when they leave secondary school. Marks achieved in school exams are shown together with marks achieved in the national exam, and combined to show the overall outcome. Of academic secondary graduates, approx. 61% go to university and 27% to non-university higher education.

Reforms

Secondary education is in the midst of implementing two major reforms. In 1999, all HAVO (5-year) and VWO (6-year) schools introduced set subject combinations and a "study house" construction, which allows students to acquire skills and knowledge more independently. Also in 1999, pre-vocational and general secondary education introduced a combined form of vocational education (4-year VMBO), adjusted to better suit the growing demand for vocational and higher professional education aligned with the labour market.

In 2000, the Dutch Inspectorate evaluated the effectiveness of the foundation (lower, 2-year) cycle of secondary schooling, ages 12-14. As a result, a new basic secondary education programme is being planned for introduction in 2004. The aim is to allow students access to a wide range of subject areas. Meanwhile schools are no longer required to teach all the compulsory foundation courses, but have the flexibility to exempt certain groups of students from particular subjects or modules.

Assessment Practice Matrix:

	Primary Age 4/5-12	Lower Sec. Age 12-14	Upper Sec. Age 15~18	Remarks
Standards	yes	yes	yes	Attainment targets, curriculum objectives and subject standards have been developed for all subjects and are revised every 5 years.
Legal Framework for assessment and evaluation	yes			Education Law requires Ministry to set regulations and evaluate the system. The National Institute for Educational Measurement (CITO) develops tests and can be asked by the Ministry to carry out national examinations.
Institutional Framework for assessment and exams	yes	yes	yes	Continuous assessment is done by schools in line with attainment targets. Teachers can set their own tests or use tests made available by CITO. About 80% of primary schools voluntarily take part in national primary leaving exams. In secondary schools, written, national final exams are set for all subjects by CITO. Results are combined with school marks.
Professional Instruments:				

	Primary Age 4/5-12	Lower Sec. Age 12-14	Upper Sec. Age 15~18	Remarks
Student monitoring system	yes	yes	yes	All students have a registration number that allows progress monitoring throughout their schooling. The PRIMA cohort survey tests basic school students every 2 years (in years 2, 4, 6 and 8) to follow their progress. PRIMA measures learning against attainment targets, and includes teacher and parent questionnaires. Data are used to evaluate the effectiveness of curriculum policy and to redefine attainment targets if necessary.
Examinat-ions	Not compulsory	yes	yes	National examinations are set, administered and evaluated by CITO on behalf of the Ministry. At primary level, national exams are not compulsory but most schools use the CITo tests.
Reg/Nat Assess.	yes	yes	yes	Cohort studies are carried out to compare "old" and "new" curricula. Educational indicators are being developed.
Subject Olympiads	no	no	no	Some teams in individual schools take part in international student competitions
Internat. Compar.	no	yes	yes	International surveys e.g. TIMSS (age 13) and OECD/PISA (age 15)
Test and question formats	Students are assessed in relation to attainment targets. In primary, assessment is teacher-led, continuous (oral and written) and mostly diagnostic. Many schools use standardized tests supplied by CITO to compare results against national norms. At the end of first-cycle secondary (age 14) schools assess whether students have reached attainment targets in each subject. There is also a national final test. At the end of second-cycle secondary (ages 16-18) there are national examinations leading to a school-leaving qualification			
Grading scale	1-10 (10 = highest) Pass mark is 6.			
Emphasis of assessment	In primary and lower secondary cycles, emphasis is on the acquisition of knowledge, understanding and skills in line with attainment targets for each level, and assessment is mainly teacher-led, continuous, and diagnostic. In upper secondary (after age 14) students choose their own learning pathways (combination of subjects) in line with type of school as well as their own interests/plans.			
Financing of examinations	Costs of national external exams are paid by Ministry. Schools are free to buy course materials and classroom tests aligned to attainment targets, to compare their students' progress to national norms. Half of CITO's annual budget comes from the Government; research and services to schools provide the other half. CITO conducts teacher training courses and trains examiners.			

References

Netherlands Ministry of Education, Culture and Sciences, web site:
http://www.minocw.nl/english/education

ASSESSMENT PRACTICE AND POLICY MATRIX

Country: Scotland

The Education System

Age at which <u>compulsory</u> education starts:	5
Age at which <u>compulsory</u> education ends:	16
Structure of general educational system:	Pre-school education is available to all 4-year olds and about 70% of 3-year olds. Primary (P1-7, ages 5-12) takes 7 years, subdivided into 3 phases: early education P1-3; middle P4-5; and upper primary (P6-7). Secondary (S1-S6, ages 12 to 18) is offered in 6-year schools.. Lower secondary covers 2 stages: S1-2, general education; S3-4, some specialisation and vocational ed. for all. Upper (post-compulsory) secondary (S5-6) students work towards National Qualifications at various levels and in about 5 or 6 subjects. Post-school education covers training, further education, and higher education.
Structure of secondary vocational education:	Initial vocational ed. is part of all school education from about the age of 14. For students 16+, an Action Plan provides a modular approach to National Qualification units, with apprenticeships and day-release work, leading to Scottish Group Awards (formerly GSVQs).
Examinations/transition points:	Primary: Teacher-led continuous assessment plus some national tests related to national curriculum. Promotion from year to year is automatic. No test at end of P7. National testing in English and maths in years S1 and S2. At end of S4, students may take profile-type Standard Grade exams, supplemented by school-based tests. Higher Level exams are taken at S5 and S6, for the Scottish Qualifications Certificate (SQC).
Higher education:	14 universities, 7 higher education institutions, 1 Agricultural College.
Levels of education governance:	Four. The Scottish Parliament (since 1999); Scottish Executive Education Department (SEED); 32 district (local) authorities; and elected school boards in nearly all (82% primary, 97% secondary, 61% special) schools.

Special features:

- *Responsibility:* Local authorities have a statutory duty to provide adequate and efficient school education, to provide for special educational needs, and to provide for the teaching of Gaelic in schools in Gaelic-speaking areas. They are also responsible for the curriculum taught in schools, "taking account of national guidance". Each local authority council has a committee dealing with educational matters. These committees make policy decisions on educational provision, and must have members representing local Churches (there is no longer a legal requirement to include teachers, although many committees still do so). School Boards consist of elected parent and staff members and members co-opted from the local community. Their main duty is to raise the standard of education at the school.

- *Education finance*: Local authorities provide education services by raising local taxes, and receive an annual grant paid by the Scottish Executive. About one-half of local authorities' annual budgets goes to education. Capital expenditure is also provided by local authorities, within broad limits set annually by Government.

- *Private education*: The law permits individuals and bodies to provide education outside the public system. If 5 or more pupils are involved, the school must be registered and inspected by Her Majesty's Inspectors (HMIs) to ensure national standards are observed. About 4% of pupils attend private schools in Scotland.

- *Standards:* In order to raise standards, a framework of **National Priorities for School Education** was part of the Standards in Scotland's Schools Act 2000. Local authorities are required to publish development plans and report on progress in relation to these priorities. They include: (1) raising standards in all schools, especially in literacy and numeracy, and improving performance on national assessment/examinations; (2) improving the professional skills of teachers and self-discipline of students; (3) promoting equality, especially for special-needs pupils and Gaelic-speaking pupils; (4) working with parents and the community, and teaching citizenship and foundation skills needed for successful participation in society.

- *Curriculum, subjects and timetables*: Principles and curricular frameworks for primary and secondary, Curriculum (Scotland) Guidelines , levels of attainment, time allocations, are produced by the Scottish Executive and Learning and Teaching Scotland on the basis of the National Priorities (see above).

Reforms

- *Assessment:* Learning and Teaching Scotland and SQA, as well as other stakeholders, formed an "Assessment Action Group" to review Scotland's assessment system, and have designed the *Assessment is for Learning* programme. The purpose is to create a coherent, national system linking curriculum and assessment. Assessment to support learning and teaching (relying mostly on teachers' professional judgement), and a determination to raise the attainment of the 20% lowest achievers and socially deprived children are key aspects of the programme

- The development and introduction of *records of achievement* - "the One-File Child" -is central to the programme. Everyone concerned with a student's learning should contribute to *a single record*, including students themselves, teachers, parents, other professionals and agencies. . Assessment results must be used promptly to inform action.

- *Subject coverage:* National assessment should focus on a few key areas of learning, including literacy and numeracy. There is also support for including science and 'Core Skills'. Teachers should assess other aspects of the curriculum in appropriate ways.

- *Measurement and Monitoring Issues:* Accurate assessment information is needed to monitor provision and attainment effectively and achieve improvements. This information must be of high quality and therefore valid, reliable and genuinely *useful to inform future action*. National testing and ways of monitoring are tobe streamlined into a single, integrated system. Schools and authorities will have access to quality-assured assessment instruments and procedures, to use in classrooms in relation to key aspects of learning.

- *Evaluation:* Reforms projects should be designed to address national priorities, especially relating to raising attainment and social justice.

- *Timescale* for the *Assessment is for Learning* programme is in 3 phases, each of 9-10 months.
  Phase 1 from April - December 2002
  Phase 2 from September 2002 - June 2003
  Phase 3 from April 2003 - December 2003
  The new arrangements will be phased into schools in session 2003-2004, starting in August 2003.

Assessment Practice Matrix:

	Primary Age 5-12			Secondary Age12-18			Remarks
	P1-3	P4-5	P6-7	S1-2	S3-4	S5-6	
Standards	yes						Students are judged on basis of class performance at one of 5 defined levels.
Legal Framework for assessment and evaluation	Education (Scotland) Act 1980; Standards in Scotland's Schools Act 2000; School Education (Amendment) (Scotland) Act 2002.						Curriculum (Scotland) Guidelines are produced by the Scottish Executive and Learning and Teaching Scotland (see web site links, below). The Scottish Qualifications Authority (SQA) is responsible for the development, accreditation, assessment, and certification of Scottish qualifications other than degrees.
Institutional Framework for assessment and exams	yes	yes		yes			P1-7: Continuous assessment is done by schools in line with national norms. Teachers can set their own tests or use tests devised by Scottish Qualifications Authority (SQA). No national test at end of P7. National testing in English and maths in years S1 and S2. At end of S4, students may take profile-type Standard Grade exams, supplemented by school-based tests. Higher Level exams are taken at S5 and S6, for the Scottish Qualifications Certificate (SQC). SQA is national assessment agency. SQA writes exam syllabuses, in line with Learning and Teaching Scotland (LTS) curriculum guidelines and levels of attainment.
Professional Instruments:	See under "Reforms" above. A records-of-achievement system is being introduced to allow a national system for *individual* student monitoring over time.						Under the *Assessment is for Learning* programme, a unified "One-File Child" and Personal Learning Plans system is expected to be introduced in all schools by the start of the 2003/2004 school year.
• Student monitoring system							

	Primary Age 5-12			Secondary Age12-18			Remarks
	P1-3	P4-5	P6-7	S1-2	S3-4	S5-6	
▪ Examinat-ions	Automatic promotion each year		Yes End of S4	Yes End of S6			National examinations are set, administered and evaluated by SQA. At primary level, national exams are not compulsory but some schools use SQA tests linked to targets. For secondary, see above.
▪ Reg/Nat Assess.	yes		yes	yes			Periodic cohort studies are carried out. Educational indicators are developed by SEED, Learning and Teaching Scotland (LTS), SQA, the Inspectorate, teachers and other stakeholders. Curriculum guidelines are issued by LTS.
▪ Subject Olympiads	no		no	no			Some teams in individual schools take part in international student competitions, e.g. in Young Physicist tournaments.
• Internat. Compar.	no		yes	yes			International surveys e.g. TIMSS (age 13) and OECD/PISA (age 15)
Test and question formats	Students are assessed in relation to national guidelines and norms. In primary, assessment is teacher-led, continuous (oral and written) and mostly diagnostic. Promotion to next class is automatic. At the end of first-cycle secondary (age 14) schools assess whether students have reached attainment targets in each subject. There are national tests in English and maths. At the end of second-cycle secondary (age 16) there are non-compulsory, national Standard Grade exams. Higher Grade ("Highers") are taken in S5 and S6 and are one factor in university admission. Universities set no entrance exams.						
Grading scale	A-D (A = highest)						
Emphasis of assessment	In primary and lower secondary cycles, emphasis is on the acquisition of knowledge, understanding and skills in line with curriculum norms for each level; assessment is teacher-led, continuous, and diagnostic. In upper secondary (after age 14) students choose their own learning pathways (combination of subjects) in line with type of school as well as their own interests/plans.						
Financing of examinations	For Standard and Higher Grade exams, candidate fees (per subject) are paid to SQA by the school out of the school budget. Most of SQA's annual budget comes from the Government; fees, research and services to schools. SQA conducts teacher training courses and trains examiners.						

References

Scottish Qualifications Authority. Web site: http://www.sqa.org.uk

Learning and Teaching Scotland:
Assessment for Learning, web site   http://www.ltscotland.com/assess

Legislation: http://www.hmso.gov.uk/legislation/scotland

ASSESSMENT PRACTICE AND POLICY MATRIX

Country: Sweden

The Education System

Age at which <u>compulsory</u> education starts:	7
Age at which <u>compulsory</u> education ends:	16
Structure of general educational system:	1 voluntary pre-school year starting at 6. Compulsory: elementary 9 years. Nearly all students continue with upper secondary school (3 years). Approx. 75% graduate from upper sec. Education is free (tax-funded); tuition fees are not allowed.
Structure of secondary vocational education:	Public vocational secondary schools are partly academically oriented and integrated with upper secondary school system and, besides subject considered important for the vocational field, provides the students with the basic prerequisites (3 years Maths, English and Swedish) for higher education entrance.
Examinations/transition points:	Students are graded at end of year 8, and at end of both semesters in year 9. Grades are set by teachers and are based on classroom assessment. No external exams or external referees. The autumn semester grades in year 9 are used in decisions about upper secondary entrance. In upper secondary, grades are given after each course, on the same basis as before. These qualitative grades are transformed into a numerical scale and used to calculate a grade point average **(GPA)** for the entire upper secondary school programme.
Higher education:	Sweden has 13 universities, 37 university colleges (23 of them state-run). 340 774 students were registered (138 494 of them full time) in the autumn of 2002. Education is free, and students are given quite generous loans as well as grants during their study time. All are entitled to a study loan, provided they progress at the normal pace).
Levels of education governance:	Four: Parliament; Ministry of Education and Science; municipalities; and schools.

Special features:

➢ **No grades** are given during **the first 7 years** of a student's schooling. Instead, the teacher, the student and his/her parent(s) <u>must</u> have a meeting each term to discuss how the student's learning can best be supported. The student is expected to take part in this discussion and take responsibility for his/her own learning and plans for progress. There are diagnostic materials for year 2 in Swedish and Mathematics, and for year 7 in Swedish, Mathematics and English. There are also some tests at the end of year 5 in Swedish, Maths and English but these are not compulsory and not all municipalities use them.

- From year 8, grades are awarded in each term, in those subjects taught in compulsory basic school. Grades may be given for "blocks" of related subjects, e.g. social subjects (geography, history, religious education, and civics) or science (biology, physics and chemistry) may be graded together.

- Term grades are given in relation to the local objectives set for each subject, and have three levels: Pass, Pass with Distinction, and Pass with Special Distinction. If objectives are not met, <u>no</u> grade (or the grade IG) is awarded. At the end of grade 9, teachers compare the student's performance with the national attainment targets for that subject. If these are met, a Pass grade is given. For higher grades (distinctions), there are nationally agreed criteria.

- National tests are held at the end of compulsory schooling (year 9), in three subjects (Swedish, maths, and English). These tests are used by teachers - together with term grades - to award final grades.

- University entrance procedures: There are now two instruments for selection into higher education: **Upper secondary GPA** and the **<u>SweSAT</u>** tests. The SweSAT is developed by the Department of Educational Measurement, and funded by the National Agency for Higher Education. The SweSAT was introduced in the 1970's as another option for an older segment of students (24+). A few years later it became open to anyone. It is administered twice a year and partly funded by examination fees. Until a few years ago, it was popular to take the test. It is not very "high-stakes" in the sense that a person can take the test an unlimited number of times. The best result counts in the selection process. In recent years, students prefer to use their GPA and take the optional external (municipal) exam for supplementing crucial grades (see above)..

Lately, there have been discussions whether to let universities/faculties/departments have their own selection instruments. At the present time, however, selection into major courses of study (faculties, programmes) is made centrally for all universities.

Reforms:

- The grading system is currently being investigated by the National Agency for Education. A report will be published in the end of 2003.

- The selection into the higher education system is currently being investigated through a major research project: "The VALUTA-Project" (Validation of the System for Admission to Higher Education). This is an integrated research programme with researchers from both Gothenburg and Umeå Universities. The aim is to clarify different aspects of the system for admission to higher education in Sweden. Since higher education is of great importance for individuals as well as for society as a whole, the rules and procedures for admission to higher education have repercussions inside as well as outside higher education. VALUTA will analyse all components of the admission system, and the interaction between them. Important are 1) the selection instruments, i.e. grades from upper secondary school and SweSAT results; 2) the criteria used, i.e. what constitutes "study success";. 3) the selection instruments in relation to each criterion. 4) the "consumers" of the admission system. 5) the system of rules for admission. The frame of reference for the project is the broadened perspective on validity based on research. The programme is financed by The Bank of Sweden Tercentenary Foundation.

Assessment Practice Matrix:

	Pre-school age 6	Elementary age 7-16 Grades 1-9	High school. Age 16~18 Grades 10-12	Remarks
Standards	no	yes	yes	Curriculum objectives and subject standards have been developed for all subjects by the National Agency for Education and approved by the Ministry of Education and Science..
Legal Framework for assessment and evaluation		yes		
Institutional Framework for assessment and exams	no	yes	yes	Grades are set at the end of year 8 and twice during year 9 (15-16 years old). All grading is done by teachers based on classroom assessment, in relation to standardised criteria. Standardised <u>national</u> tests are used for scale calibration in core subjects such as Swedish, English and Mathematics. These tests are administered by each school. Results are used only for *guidance to the teachers* and are not to be regarded as "examination" tests.
Professional instruments	Teachers use their own classroom-based instruments supplemented by nationally standardised instruments used to calibrate grades.			
• Student monitoring system	no	yes	yes	Teachers are obliged to monitor progress against the overall objectives of the subject and year, but also in relation to individual goals, jointly decided by teacher-parents-student. These are *qualitative* measures, not to be used for external qualification. Meetings evaluating progress take place in this group at least once a year.
▪ Examinat-ions	no	no	no	See above
▪ National Assess.	no	yes	yes	There are standardised national tests intended to be used for scale calibration (see above). These are reported to the national Agency for Education.
▪ Subject Olympiads	no	no	no	
• Internat. Compar.	no	yes	yes	International surveys e.g. TIMSS (age 13), PIRLS (reading literacy), and OECD/PISA (age 15)
Test and question formats	In the national tests, the item format varies. Multiple-choice questions are sometimes used, but normally the students have to describe/explain how they have come to a conclusion (esp. in Maths), which demands an open format. Teachers in the schools do the marking with marking schemes for guidance.			

	Pre-school age 6	Elementary age 7-16 Grades 1-9	High school. Age 16~18 Grades 10-12	Remarks
Grading scale				No formal grades are given in pre-school or in years 1-7 (See Special Features, above). In grades 8-12, the scale is IG-MVG. The grading scale is criterion referenced. It is divided into the following steps/standard levels: Fail (IG), Pass (G), Pass with distinction (VG) and Pass with special distinction (MVG). There are standardised criteria for grades IG-VG, but for some subjects and for grade level MVG, the criteria are set by each school. The high-stakes grade level is between the grades IG and G, since a grade IG in a crucial subject will prevent that student from continuing. In these cases, it is the school's responsibility to help the student achieve a pass grade or beyond. This is costly for the school, which is obliged to provide extra instruction for these students. A set grade is not final. The students have the possibility to take a supplementary examination, to get a higher grade. This has become very popular, and research shows that a high percentage of the students aiming for higher education have supplemented their grades in one or more subjects, in order to rank higher in the selection process. When used for selection purposes (for instance to popular programmes in upper secondary school, or to higher education), the letter grades are converted to numerical grades that are used for calculating a GPA.
Emphasis of assessment				The grade standards are based on levels of cognitive skills. The higher cognitive skills a student can demonstrate, the higher the grade will be. Standard-setting has proved to be difficult as grading criteria can be interpreted in different ways.
Examination Practices				There are no formal (final) examinations. However, non-standardised tests, developed and administered by the teachers, are used throughout the school year. The municipalities are required to offer examinations (oral) to students who want to improve their grades or raise their GPA.
Financing of examinations				There are no formal, standardised examinations before university level. Optional supplementary exams are funded either by the municipality or by the students (max 500 SEK/exam).
Functions of exams and value of certificates				Since almost all students continue with upper secondary education, the grades from year 9 are used only for purposes of selecting an appropriate upper secondary path. Grades from upper secondary are used as credentials when looking for employment (qualitative grades) but also as part of the selection process into higher education (quantified grades)
Teacher training				A minimal amount of pre- and in-service training in the assessment of students, either in the classroom (continuous assessment) or against national standards..
Research				Quite a lot of research is being done. Much of it is on the initiative of the National Agency for Education (see last section below).

References

OECD, *Education At A Glance: OECD Indicators.* Paris: OECD, 2001.

Web sites:

General information   http://www.sverigeturism.se/smorgasbord/toc.html#society
Ministry of Education and Science: http://utbildning.regeringen.se/inenglish/index.htm
National Agency for Higher Education   http://www.hogskoleverket.se
National Agency for Education http://www.skolverket.se/english/index.shtml

ASSESSMENT PRACTICE AND POLICY MATRIX

Country: United States (Commonwealth of Kentucky)

The Education System

Age at which <u>compulsory</u> education starts:	6
Age at which <u>compulsory</u> education ends:	18 A child between the ages of 16 and 18 who wishes to terminate his education prior to graduating from high school shall be allowed to do so only if his parent or legal guardian provides the school with written notification of withdrawal.
Structure of general educational system:	Non-compulsory pre-school[1]; Kindergarten (age 5); elementary (grades 1-5); middle/junior high school (grades 6-8); senior high school (grades 9-12).
Structure of secondary vocational education:	Senior high schools are comprehensive. Some vocational studies courses are included as electives, and each student has an Individual Graduation Plan that emphasises career plans and needs. Guidance and career counselling is available in schools. A number of vocational/technical schools exist in which high school students spend part or all of the regular school day.
Examinations/transition points:	No formal examinations to advance from one grade or level to the next. (Some schools are all-through K-12 schools.) State attendance rate is 94.15% (2000/01), drop-out rate 4.79%, and only 3.6% of all students are asked to repeat a year. Specific components of the Commonwealth Accountability Testing System (CATS) are administered in grades 4, 5, 7, 8, 10, and 11 (see more info about this test in the text below). A writing on-demand component is required in grades 4, 7, and 12 and a writing portfolio is required of students in grades 4, 7, and 12. CATS reports student level data as Novice, Apprentice, Proficient, or Distinguished. The Comprehensive Test of Basic Skills (CTBS) is administered following the end of primary school, and in grades 6 and 9.
Higher Education	About 94% of high school graduates attend college or university, vocational/technical schools, enter the military, are employed, or a combination of these. Eight (8) public universities and twenty (20) private universities/colleges exist in the state, along with thirteen (13) locations of the Kentucky Community and Technical College System (KCTCS).
Levels of education governance:	Four. Kentucky [State] Board of Education (KBE); Kentucky Department of Education (KDE); locally elected School Boards (176, with 5 seats each [7 in Jefferson County]), school administrators/school-based decision making councils.

Special features:

The US Constitution is silent on education, and therefore education authority is delegated to State level; each State has its own Education Laws and its own ways of raising taxes for education. Kentucky's Education Reform Act (KERA) provides the framework for the education system, and delegates authority to the Kentucky Board of Education (KBE) to define expectations for local boards and schools. For example, the skills needed by Kentucky students are defined in law but the KBE determines the core content that will be assessed, and local school-based decision making councils, comprised of the building level administrator, three teachers and two parents, have the responsibility for selecting curriculum, materials and instructional strategies to make sure students develop the skills they need.

Schools are funded based on the average daily <u>attendance</u> (not enrolment!) of its students, according to a formula funding programe called Support Education Excellence in Kentucky (SEEK) which includes transportion and support for students with special needs.

Kentucky's budget has three main sources of revenue (Federal, State and local). <u>Federal</u> involvement in education is limited; with approximately 11.5% of Kentucky's education budget coming from Federal sources, mostly for Federally mandated programs to help disadvantaged children. Kentucky's schools have programs designed to meet the needs of these students.

Governance of school districts and schools is delegated to locally elected school boards and local school-based decision making councils. Kentucky has 176 school boards. Each board has general control and management of the public schools in its district and may establish schools and provide for courses and other services as it deems necessary for the promotion of education and the general health and welfare of pupils. Each board controls and manages all school funds and all property of its district. Local boards also have the power to levy <u>local</u> taxes, through any combination of property tax, utility tax, occupational tax and other permissible taxes. The daily operations of the public school in Kentucky are under the control of a local school-based decision making (SBDM) council. SBDM councils, made up of the building administrator (ususally the principal), three teachers, and two parents, are responsible for determining the curriculum, assigning instructional and non-instructional staff time, assigning students to classrooms, determining the use of school space, determining the schedule of the school day, planning and resolving issuing regarding instructional practices, selecting and implementing discipline and classroom management programs, selecting extracurricular programs and determining student participation policies, assisting the principal in hiring personnel, and hiring the principal when a vacancy exists.

Kentucky's minimum <u>high school graduation requirements</u> are Language Arts (4 English credits), Social Studies (3 credits, to incorporate U.S. History, Economics, government, World Geography, and World Civilization), Mathematics (3 credits, including Algebra I, Geometry, and 1 elective as provided in the program of studies), Science (3 credits, including life science, physical science, and earth and space science as provided in the program of studies), Physical Education and Health (0.5 credit each), History and appreciation of visual and performing arts or other arts course which incorporates this content (1 credit), and Electives (7 credits). Credits are earned over 4 years of senior high school; there is no school-leaving examination. However, students receive a high school diploma and also a "transcript" showing the courses they followed during their high school years, the grades (marks) they received, and their Grade Point Average (GPA).

There are no university or college entrance examinations, although many senior high school students take the Scholastic Achievement Test (SAT) provided by the Educational Testing Service, or The American College Testing Program (ACT), both private testing agencies. SATs typically test verbal reasoning and mathematical reasoning, with a top score of 800 in each. ACTs cover four skill areas: English, mathematics, reading, and science. Scale scores are given for each of the four tests, as well

as a Composite score. Most American universities ask for SAT scores or ACT scores as part of their admission procedures. Other important information are the student's GPA and the transcript which will show whether the student took basic or more demanding courses in high school. It is also possible to take Advanced Placement (AP) courses, followed by Advanced Placement tests that may entitle the more able students to be placed in a second-semester or even second-year class in university or college.

SATs and ACTs are non-compulsory, and are not administered or scored by the student's school; students pay their own examination fees and receive their scores directly from the testing agency. Students with no (or low) SAT or ACT scores can still enter a range of universities or colleges on a full-time or part-time (evening) basis, and earn credits towards a degree.

According to the most recent statistics, 54.3% of Kentucky's high school students attend college following their high school graduation. An additional 5.1% of graduates enroll in some type vocational or technical school.

Reforms

In Kentucky, assessment and accountability have been the main driving forces behind reforms over the past decade. Students are continuously assessed by their teachers and schools, and progress annually to the next grade unless their performance is unsatisfactory. (Each year, 3.6% of all students in the K-12 system are held back to repeat a grade.) In addition, sample-based assessments by the National Association for Educational Progress (NAEP) are conducted at grades 4, 8, and 12.

Kentucky also (since 1998) conducts annual audits of public school teachers and student performance. For this audit, Kentucky uses the Writing Portfolio, a component of the Commonwealth Accountability Testing System (CATS), which holds schools accountable for student progress. CATS accountability indexes are calculated by combining results from the Kentucky Core Content Tests and the national Comprehensive Test of Basic Skills (CTBS/5), and other measures of school performance, including attendance, retention and dropout rates.

Each school receives a score on the State Accountability Index. The Kentucky Department of Education's goal is for all students to reach proficient level, which translates to an accountability index of 100 by 2014.

In terms of student achievement, CATS reports student level data among 4 levels (Novice and Apprentice, Proficient, and Distinguished. The Kentucky Board of Education's strategic plan aims to steadily reduce the number of students performing at Novice and Apprentice levels.

The Office of Assessment and Accountability (OAA) formulates regulations, policies and procedures, a calendar of assessment dates, and supporting materials to school districts. Kentucky was one of the first States in the US to mandate reform of education quality, and to measure it solely with *performance assessment*. The reform was originally intended to address inequitable funding across the State, and to evaluate *schools*, not students; but students' scores are used to calculate the school's accountability score. Individual scores are reported to students and parents. Schools are encouraged to record students scores on high school transcripts (see below), and universities in Kentucky are encouraged to ask for these scores as part of admission procedures.

Assessment Practice Matrix:

	Elementary Ages 6-10 Grades 1- 5	Middle school Ages 11-14 Grades 6-8	High school Ages 15-18 Grades 9-12	Remarks
Standards	yes	yes	yes	Kentucky's Education Reform Act (KERA) sets out 6 learning goals, which were then detailed, in "academic expectations". All Kentucky students should be enabled to achieve these goals and expectations.
Legal Framework for assessment and evaluation	yes			KERA's learning goals include basic communications and mathematics skills, ability to apply core concepts and principles in maths, sciences, arts, humanities, practical living, and vocational subjects; self-sufficiency; effective & responsible community and family membership; thinking and problem solving; ability to connect and integrate knowledge, and use media sources.
Institutional Framework for assessment and exams	yes	yes	yes	Schools in line with attainment targets do continuous assessment. Teachers can set their own tests or use tests made available by other agencies (e.g. Iowa Tests). The Commonwealth Accountability Testing System (CATS), includes the Kentucky Core Content Test (KCCT), a nationally norm-referenced test in core subjects. The Kentucky Department of Education Office of Assessment and Accountability (OAA) formulate regulations, policies and procedures, a calendar of assessment dates, and supporting materials for use by school districts.
Professional Instruments:				
National and State Comparison	yes	yes	yes	NAEP carries out sample-based assessment tests in grades 4, 8 and 12 to follow progress. Tests measure learning against subject-area frameworks developed by National Assessment Governing Board.
Examinations	no	no	no Graduation requirements are described above	CATS testing reports 4 performance levels (Novice, Apprentice, Proficient, and Distinguished. No formal examination at end of grade 12. No compulsory university entrance testing, although many inst. ask for SAT scores in verbal and mathematical reasoning (see above).
Subject Olympiads	no	no	no	Some teams in individual schools take part in international student competitions
International Comparisons	no	yes	yes	Participation in International surveys e.g. TIMSS (age 13) and OECD/PISA (age 15) on US-wide basis.

	Elementary Ages 6-10 Grades 1-5	Middle school Ages 11-14 Grades 6-8	High school Ages 15-18 Grades 9-12	Remarks
Test and question formats	Students are assessed in relation to attainment targets. Kentucky uses *performance-based* testing through CATS, which includes KCCT, a nationally norm-referenced test, writing portfolios, and alternative portfolios for profoundly disabled students.			
Grading scale	In schools, A-F (F = fail). In CATS, 4 levels: Novice, Apprentice, Proficient, and Distinguished.			
Emphasis of assessment	Through CATS, emphasis is on performance and demonstrated skills. In primary and junior high/middle school cycles, main emphasis is on the acquisition of knowledge, understanding and skills in line with KERA learning goals and "academic expectations". Assessment in schools is mainly teacher-led, continuous, and diagnostic. In high school (after age 14) students choose their own learning pathways (combination of subjects) in line with their own interests/plans, and earn credits towards graduation. KERA goals and expectations apply.			
Financing of examinations	While the Kentucky Board of Education has oversight of the testing program, costs of CATS are paid with General Funds appropriated by the Kentucky General Assembly. Schools are free to buy course materials and classroom tests aligned to attainment targets, and through CATS reporting, can compare their students' progress to statewide and national norms.			

References

Catterall, J., et al. (1998).   *Kentucky Instructional Results Information System: A Technical Review*. Frankfort, KY: Office of Education Accountability, Kentucky General Assembly.

Moon, T.R. (2002) Classroom".   "Using Performance Assessment in the Social Studies In: *Gifted Child Today Magazine*, Summer 2002.

Strong, S. (2000) Assessment   "A Validity Study of Kentucky's Performance-Based System with National Merit Scholars and National Merit Commended." In: *Journal of Educational Psychology;* September 2000.

Useful web sites:

Legislative information,
in particular Kentucky Revised Statutes, Chapters 156-161.   http://www.lrc.state.ky.us

Kentucky Department of Education   http://www.kde.state.ky.us
National Center for Education Statistics   http://nces.ed.gov/nationsreportcard
Kentucky Association of School Councils   http://www.kasc.net/
4 Initiative (showing CATS indexes)   www.e4ky.org./default.htm