PUBLIC EXAMINATIONS,
NATIONAL AND INTERNATIONAL ASSESSMENTS,
AND EDUCATIONAL POLICY

Thomas Kellaghan

Educational Research Centre
St Patrick’s College, Dublin

May 2004
In this paper, I shall first describe growth in the interest of policy-makers in using assessment procedures to obtain information about what students learn as a result of their experience in school. I shall then describe three procedures which are available in many, though not in all, countries to provide this information: public (external) examinations, national assessments, and international assessments of educational achievement. Finally, I shall consider the extent to which information derived from each procedure can provide policy-makers with the kind of information they require.

Assessment and Policy

The term ‘assessment’ may be used in education to refer to any procedure or activity that is designed to obtain information about the knowledge, attitudes, or skills of a learner or group of learners. Information derived from an assessment can be used for a great variety of purposes: to make educational decisions about students (e.g., promotion, grade retention, certification of achievements); to give feedback to students about their progress, strengths, weaknesses; to motivate students by providing goals or targets; to judge instructional effectiveness and curricular adequacy; to describe the achievements of an education system; to assess the effectiveness of schools; to monitor student achievements over time; and to guide policy formation and decision-making.

During the 1990s, assessment came to the fore in educational policy as concern grew about what students were actually learning in school. While up to then, the main focus in assessing the quality of education was on inputs (e.g., physical facilities, curriculum materials, access to textbooks, teacher training), the shift to a
concern about outputs asked if students as a result of their exposure to schooling acquired appropriate knowledge, skills, behaviour, and attitudes.

A number of issues can be identified as giving rise to concern about student learning. First, it cannot be assumed that because a child has been to school that he or she has, in the words of the World Declaration on Education for All, actually acquired ‘useful knowledge, reasoning ability, skills and values’ (UNESCO, 1990, par. 4). Indeed, the available evidence indicates that many students (particularly ones with short educational careers) benefit little from their educational experience. Secondly, there is concern that even the competencies acquired by students who stay in the education system for a long time may not be adequate to meet the needs of the information-based global competitive economy of the 21st century. Thirdly, interest in obtaining information on the achievements of students has been fuelled by the development of corporatist and managerial approaches to government administration. Just as the management of a business requires information on outputs, not just inputs, so too, it is argued, management of the education system requires knowledge of what is being achieved. Finally, interest in assessing student learning has grown in countries where public services are being reorganized to allow for the use of decentralized and relatively autonomous service providers. This has given rise to a need for new contractual arrangements, regulation, and compliance monitoring, which in turn require procedures to check that organizations (schools or local education authorities) are delivering flexible cost-effective services to users.

The following six questions identify issues of particular concern to policymakers in their quest for information about students’ learning.
• How well are students learning in the education system (with reference, for example, to general expectations, EFA goals, the aims of the curriculum, or preparation for life)?
• Is there evidence of particular strengths or weaknesses in the knowledge and skills students have acquired?
• Do the achievements of subgroups in the population differ? Are there, for example, disparities between the achievements of boys and girls, of students in urban and rural locations, of students from different language or ethnic groups, of students in different regions of the country, of students who drop out early or are repeating grades?
• To what extent is achievement associated with the characteristics of the learning environment (e.g., school resources, teacher preparation and competence, type of school) or with students’ home and community circumstances?
• Do the achievements of students change over time? This can be particularly important at a time of major change in the system (e.g., when numbers are increasing; when new subjects or curricula are being implemented).
• How do the achievements of students compare with the achievements of students in other countries? (Kellaghan, 2003; Kellaghan & Greaney, 2001b).

Procedures to Provide Information on Student Learning

There are three major procedures which can provide information on student learning in many, though not in all, countries: public (external) examinations; national assessments; and international assessments of educational achievement. Though all three would fit the definition of assessment I provided, I will observe conventional
use by using the terms examinations to refer to public examinations and assessment to refer to national and international assessments.¹

Public (External) Examinations

Public (external) examinations have played a major role throughout the history of modern education in Africa. In most countries, three major examinations are administered by an agency outside the school (usually a national examinations authority in anglophone countries and a ministry of education in francophone countries): at the end of primary schooling when students are examined in the major subjects of the curriculum (e.g., English or French, a local language, science, and social studies); after two or three years in secondary school usually in a wider range of subjects; and at the end of secondary school. The role of examinations in secondary education is key, dictating what is taught in schools, and acting as gatekeepers guarding entry to schools, selecting students during the course of their careers, and providing an evaluation of students when leaving school that is likely to have very important implications for their further education and even life chances.

The continued existence and central importance of public examinations in Africa can be attributed to the fact that they serve a number of important functions. First, by providing a specification of clear goals and standards for teachers and students, they control the disparate elements of the education system, helping to ensure that all schools teach to the same standards. Second, in selecting students for further education, they are perceived to allocate scarce educational benefits in an objective and unbiased way. Third, examinations have a certification function, though this is often lost sight of because of the emphasis on their use for selection. Formal

¹ Some countries do not have a public examination system, leaving it up to individual schools to certify the achievements of their students. However, there has been a move in recent years in these countries (e.g., the United States of America, eastern European countries) to introduce examination systems.
certification of academic achievements, however, can be important for some students in gaining access to employment or training. Fourth, examinations can be used to underpin changes in curriculum and teaching methods, and to maintain national standards. Fifth, examinations, especially when results are published, may serve an accountability function for teachers and schools. Finally, examinations at the end of secondary schooling legitimate membership in the international global society, and facilitate international mobility (Kellaghan, 1992; Kellaghan & Greaney, 1992; Kellaghan & Greaney, 2004).

National Assessments

While public examinations are a long-standing feature of education systems, national assessments are relatively new (Greaney & Kellaghan, 1996; Kellaghan, 2003; Kellaghan & Greaney, 2001a; Kellaghan & Greaney, 2001b). A national assessment may be defined as an exercise designed to describe the level of achievements, not of individual students, but of a whole education system, or a clearly defined part of it (e.g., fourth grade pupils or 11-year olds). The centrepiece of the assessment is the collection of data in schools. Usually students respond to assessment instruments and questionnaires in groups. Teachers may also be requested to complete questionnaires in which they provide information considered relevant to an interpretation of their students’ achievements. In some assessments, teachers also take achievement tests.

Four major categories of national assessment can be identified in Africa (Kellaghan & Greaney, 2004). Three involve similar activities in several countries: the Monitoring Learning Achievement (MLA) project; the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) project; Programme d’Analyse des Systèmes Educatifs des Pays de la CONFEMEN (PASEC). In a fourth
category, national assessments which were not related to any of these projects were carried out in individual countries.

The Monitoring Learning Achievement (MLA) Project. MLA, which began in 1992, is a joint UNESCO/UNICEF initiative, and is part of the EFA assessment (Chinapah, 1997). In particular, it is a response to the need to monitor the extent to which students actually acquire useful knowledge, reasoning ability, skills, and values (Article 4 of the World Declaration on Education for All, 1990).

In MLA I, the achievements of grade 4 pupils were assessed in literacy (reading/writing), numeracy, and life skills (relating to awareness and knowledge of health, nutrition, sanitation, hygiene). In MLA II, grade 8 pupils’ achievements were assessed in mathematics and science; common tests were used in all countries. In both MLA I and II, data were collected on students’ backgrounds, school characteristics, and family backgrounds.

To date, MLA assessments have been carried out in more than 70 countries, 47 of which are in Africa (UNESCO, 2003a). Forty African countries participated in MLA I and eleven in MLA II. A regional approach was adopted in implementation to capitalize on local expertise and to develop capacity in participating countries.

In addition to national reports, a separate report on MLA I for eleven countries has been prepared (Botswana, Madagascar, Malawi, Mali, Morocco, Mauritius, Niger, Senegal, Tunisia, Uganda, Zambia) (Chinapah et al, 2000). Only four of these countries had met their Jomtien learning target (i.e., 80% of learners should attain the defined learning competencies) for fourth grade pupils in life skills; two in literacy; and none in numeracy. Gender differences were small in all countries. With the exception of Mauritius, students in private schools performed better than students in...
public schools in all three learning areas. The ability of parents to assist learners in
doing school work was related to student achievement in most countries.

The Southern Africa Consortium for Monitoring Educational Quality (SACMEQ).
SACMEQ is a collaborative voluntary grouping of 15 ministries of education in
Southern and Eastern Africa, working in close collaboration with the International
Institute for Educational Planning (IIEP) in Paris to build institutional capacities
through joint training to carry out co-operative educational policy research (Ross et al,
collected information in SACMEQ I on educational inputs, how human and material
resources were allocated, and the literacy levels of grade 6 students. Teachers as well
as students were tested, except in Mauritius and South Africa. Fifteen education
systems participated in SACMEQ II between 1999 and 2002: Botswana, Kenya,
Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa,
Swaziland, Tanzania (mainland), Tanzania (Zanzibar), Uganda, Zambia, Zimbabwe.

As in the case of MLA, the results of SACMEQ assessments indicated that
education systems were failing to meet the performance standards of ministries. For
example, less than 30% of sixth grade pupils met specified minimum literacy standards in
Namibia and Zambia (UNESCO, 2000). Although over 50% met “minimum” standards in
Zimbabwe, the figure did not change over time (Machingaidze, Pfukani, & Shumba, n.d.).
Significant achievement differences were usually found between regions and between types
of school within countries. Gender differences were not significant (Mioko, 1998).

Programme d’Analyse des Systèmes Educatifs des Pays de la CONFEMEN (PASEC).
PASEC, which was established in 1991 as a response to the Jomtien conference, acts
as a network for sharing information on educational evaluation instruments and
results among francophone countries. It encourages the involvement of senior
decision-makers and of other stakeholders in the identification of policy issues, and emphasizes the need to base decisions on reliable data, followed by a realistic agenda for action (including time frames and cost estimates). Initially, pupils in grades 2 and 5 were assessed in French and mathematics. Now pupils are assessed in all grades from 2 through 6. Since 1994, the same tests have been used in all countries. Data are also collected from pupils and teachers on a variety of school and background factors. Twelve countries have participated in PASEC: Burkina Faso, Cameroon, Congo (Brazzaville), Côte d’Ivoire, Djibouti, Guinea, Madagascar, Mali, Niger, République Centrafricaine, Senegal, Togo (Kulpoo & Coustère, 1999).

PASEC differs from other national assessments in Africa in that in some countries pupils are assessed near the beginning (November) and end (May) of the academic year to obtain some indication of growth or of the “value” added during the course of the year. Analyses have been designed to determine the “impact” of inschool factors (teacher training, class size, textbook availability) as well as of nonschool factors (parental education, distance to school, home language).

Other National Assessments. In addition to these three programmes, several countries have carried out independent national assessments (e.g., Burundi, Eritrea, Mali, Namibia, Senegal, Uganda, Zambia). For example, in Namibia, the National Learner Baseline Assessment measured student achievement in English and mathematics at grades 4 and 7. In Eritrea, the Department of General Education, tested pupils in six regions to determine if they had mastered the basic skills as laid down in the official curriculum in their mother tongue (in grade 1) and in English and mathematics (in grade 4). The assessment identified aspects of the curriculum that were causing particular problems; found that boys generally outperformed girls; and identified implications for teacher education and teaching methodologies.
International Assessments

International assessments share many procedural features with national assessments, although they differ from them most obviously in the fact that they have to be designed to allow administration in more than one country (Beaton et al, 1999; Greaney & Kellaghan, 1996; Kellaghan & Greaney, 2001b). As in national assessments, instruments are developed to assess students’ knowledge and skills. However, instead of representing the intended or achieved curriculum of only one education system, the instruments have to be considered appropriate for use in all participating systems. The age or grade at which the instruments are to be administered has to be agreed, as have procedures for selecting schools/students.

Few African countries have participated in major international studies. Ghana, Nigeria, and Zimbabwe participated in the IEA science study in 1983-1984. No African country participated in the IEA reading literacy study; one (South Africa) participated in the Third International Mathematics and Science Study (TIMSS), three (Morocco, South Africa, Tunisia) in TIMSS-R, and one (Morocco) in the Progress in International Literacy Study (PIRLS). This is not surprising since the studies were designed for industrialized countries. Participation in an international study that is pitched to radically different conditions and standards would seem to be of little value. While MLA, PASEC, and SACMEQ were designed as national assessments, results have been reported in a way that permits international comparisons.

The main advantages of international assessments over national assessments is that they give some indication of where students in a country stand relative to students in other countries. They also show the extent to which the treatment of common curriculum areas differs across countries, which may lead a country to reassess its curriculum policy.
A number of problems have been identified in international studies (Kellaghan & Greaney, 2001b). These exist whether the studies are carried out in Africa or elsewhere, though some problems are more likely to arise in developing than in industrialized countries. First, it is difficult to design an assessment procedure that will adequately measure the outcomes of a variety of curricula. A second problem arises if it is necessary to translate instruments into one or more languages. This problem can also arise, of course, within countries in a national assessment. A third problem relates to the equivalence across countries of the populations and samples of students that are being compared. Finally, while it might be argued that an examination of relationships between classroom inputs and student achievement in some countries may be relevant in other countries, one cannot assume that practices associated with high achievement in one country will show a similar relationship in another. Relationships between inputs, processes, and outcomes need to be examined in the context of individual countries (Chapman & Mählck, 1993).

The Use of Information Derived from Examinations and Assessments in Policy

I will now consider the extent which public examinations and national and international assessments provide information that is relevant in addressing the six questions of interest to policy-makers posed above.

While public examinations are designed to make judgments and provide a basis for decisions about individual students, data on students’ performance are in many education systems aggregated to provide information on general standards of achievement in an examination, strengths and weaknesses in the achievements of candidatures, and differences in achievement associated with gender, type (e.g.,
public/private), and location (e.g., urban/rural) of school. The information is usually made available to schools in chief examiners’ reports or in newsletters, which may also identify deficiencies in teaching and propose remedies to address them.

This kind of information, of course, can only refer to those students who survived long enough in the education system to take an examination. Furthermore, it is limited to an analysis of the content of the examinations which are often focused on discriminating between high achieving students rather than on representing the total range of knowledge and skills a curriculum might be designed to foster. Thus, standards of performance, and the strengths and weaknesses they reveal will not reflect the full range of achievements, or of problems, of students in an education system.

However, this precisely is the information that policy makers and education managers require. They need data from which they can draw inferences about general standards of achievement in the education system, not just about the achievements of students who sit examinations. They also need data that throw light on student achievements in all areas of a curriculum, or at any rate essential skills, such as literacy and numeracy, which public examinations are not designed to measure. This indicates a need for information about the achievements of students at an earlier point in their educational careers than the point at which public examinations are normally held. Policy makers also need information about the schools attended by students and about students’ homes and communities to help them interpret data on achievements, which, if it relates to policy alterable variables, may guide them in decisions about the allocation of resources. However, this information is not collected in conjunction with public examinations.
Public examinations are also deficient in what they can reveal about changes in standards over time. Since the content of examinations changes from year to year, it is not possible to say that the tasks which students are set are equivalent in difficulty from one occasion to another, or that they even measure the same knowledge and skills. Furthermore, the norm-referenced approach that underlies scoring in most examinations (a function of their focus on the selection of candidates) will mask changes that may be recurring in the actual achievements of students. National and international assessments go to great pains to address these issues in the design of instruments and in their scoring procedures to try to ensure that the tasks set students on different occasions, and the ways in which they are scored, are identical, or at least equivalent.

The final question identified as being of interest to policy-makers relates to comparisons between the performance of students in one education system with the performance of students in other systems. While systems are in place to establish the equivalence of school-leaving examinations in different education systems in the context of entry to third-level education, these lack precision. Furthermore, for comparisons at earlier points in the educational careers of students, only specially designed cross-national studies can address the policy-makers’ question.
References


