THE IMPACT OF ASSESSMENT AND CERTIFICATION ON TEACHING AND LEARNING "*REPORTING AND USING EXAMINATION RESULTS: A DIALOGUE WITH EDUCATORS*" THE KENYAN EXPERIENCE

BY

MR JUMA M MWACHIHI, HSC

COUNCIL SECRETARY/CHIEF EXECUTIVE

KENYA NATIONAL EXAMINATIONS COUNCIL, KENYA

E-mail: exams@africaonline.co.ke

ABSTRACT

The perceived need for improving the quality of education is a worldwide phenomenon, which needs no emphasis. Reporting of examination results is one of the few opportunities that can be used to converse with policymakers in education teachers, parents and other stakeholders about quality and achievement in education.

This paper examines the reporting of examination results as a tool for dialogue with policymakers, teachers and learners for improvement of teaching and learning with reference to Kenya. The paper particularly examines the hidden and direct impact the reporting of examination results could have on policy in education, teaching and learning.

1.0 INTRODUCTION

Reporting examination results is one the few opportunities that policymakers have to converse with teachers and the broader education community about the substance of education. However, discussions among educators tend to focus on the peripherals of teaching and learning – funding, scheduling, construction, salaries, resources and other factors unrelated to teaching. Although these issues are essential to operating an

educational system, they are not the core. The core is teaching and learning. A testing system allows policymakers to focus public attention on what children are learning and what it is that facilitates or hinders their learning.

If a testing system is designed and implemented properly, test results can provide policymakers with solid, reliable and regular evidence of what is and what is not working in schools. Policymakers can use this information to make informed, sound and thoughtful decisions about the education system. Examination results can show whether efforts to improve educational quality are working and show whether corrective measures are needed and where.

To examine without reporting the results to relevant audiences is a waste of time, energy and money. Candidates' performance on examinations can be used as assessment data to compare the performance of schools, districts and regions and to provide a national-level perspective of student achievement. This is a cost-effective use of examination data. Many countries design and administer examinations and simply report whether individual candidates passed or did not pass. In such a report the teachers, schools and policymakers do not get the results in a way that can help them make improvements. Examination results are a source of valuable data that can be used by different groups of educators throughout the system to analyse and guide efforts to improve teaching and learning.

Using the Kenya National Examinations Council (KNEC) experience this paper describes the policymakers role in ensuring that examination results are used by all relevant audiences; explains how such reports have been used to engage educators in a dialogue about teaching and learning; explains how examinations results can and should be used to inform decision making; discusses the need to supplement examination results with targeted research and explains what information should go into reports aimed at various audiences or educators. The paper is not intended to be a comprehensive explanation of examination reporting procedures. It is focused on the importance of having a variety of educators use examination results to guide educational improvement and to influence classroom teachers.

2.0 PROMOTING DIALOGUE

Examination results should be reported and disseminated to spur discussion and action – not to blame or accuse. The results should be viewed by all relevant groups and individuals as data that are valid and useful for highlighting strengths and weaknesses and as a tool for solving problems.

The Kenya National Examinations Council reports examination results in a way that helps teachers solve instructional problems. The Council for example publishes the Kenya Certificate of Primary Education (KCPE) and the Kenya Certificate of Secondary Education (KCSE) Examination Newsletters which provide suggestions to help teachers improve instruction based on an analysis of the examination results at these two levels. In this way, the Council communicates with and receives feedback from teachers so that it can improve reporting practices over time. This method exemplifies the notion of a dialogue with teachers about the substance of education – teaching and learning. It illustrates the impact that teachers can have on the reporting process when they are given the opportunity to comment and be heard. The KCPE and KCSE Newsletters show how Kenya's teachers value these publications and how the Examinations Council uses it to guide teachers in their efforts to improve teaching and learning. The Newsletters serve as a communication bridge between the Kenya Ministry of Education and teachers and headmasters in schools.

It is worth noting that both Newsletters target the questions that candidates find difficult as evidenced by their performance in such questions for discussion.

An example from the year 2002 KCPE Examination Newsletter is necessary to exemplify this point:-

One the questions discussed for English in this Newsletter is ***question 4*** *because its* ***facility index was 0.28989 i.e (28.89% of the total candidature 540,069 scored it correct)*** *and thus too low and hence the reason why the question was thought to have been found difficult by candidates.*

*The candidates were supposed to read the passage part of which is replicated below and answer **question 4** among others. The question asked was*

"Fill the blanks in the passage below using the best answer from the choices given".

"Drug abuse can be ***1*** *as the use of a drug to the point where the users health is affected* ***2*** *where it becomes difficult for the user to live* ***3*** *responsible life. It is* ***4*** *recognized that drug abuse* ***5*** *young people ……."*

QUESTION 4 (CHOICES)

A. Now B. therefore C. still D. again

RESPONSE PATTERN

Option	*A**	*B*	*C*	*D*
% Choosing Option	*28.89*	*44.49*	*20.61*	*5.29*
Mean Mark in other Questions	*24.97*	*26.97*	*20.13*	*23.40*

This question required candidates to choose the correct adverbial to fill the blank space. In this section of the test candidates are expected to not only determine the grammatical correctness of the word or structure given but also to select the best in the context given. The word 'recognized' signals both a realization and indeed a new development. This can only be captured by option A which is also the usual word that collocates with 'recognized' in such circumstances. Option B which attracted the majority – even the best candidates of the cohort expresses a 'consequence'. Coming next to the definition, it is still too early in the development of the topic to draw conclusions. Both options C and D are additioning – i.e. giving additional information. Yet we notice the sentence has nothing to do with definitions but is stating an independent fact" ***(Source: year 2002, KNEC KCPE Examination Newsletter)***.

This kind of information assist the teachers to use the information given about the question to improve their teaching in the topic under question and at the same time dialogue is open between teachers, examinations Council, English specialists and the public as a whole in matters that touch on effectiveness of teaching and learning of English language.

3.0 SHARING RESPONSIBILITY

There are many elements involved in creating and maintaining an effective education system, and reports of examination results should be used by each of the various groups that have a role in that system. Following is a partial list of groups that need the results and an explanation of how each group can use them.

3.1 Teachers can use test results to improve their teaching and to help individual students.

3.2 Principals (or headmasters) can use the results to assist individual teachers and to work with teachers as a group to plan how to improve teaching and learning at the school level;

3.3 Staff who are responsible for developing curricula and text books can use the results to help identify strengths and weaknesses in the instructional materials and in the curriculum.

3.4 Staff who are responsible for test development can use the results to improve the tests and to provide reports of changes in student achievement over time.

3.5 Teacher trainers can use the results to identify strengths and weaknesses in the teacher training program and to make improvements;

3.6 Inspectors and regional education officers can use test results to guide the nature of the technical assistance and the support they give to schools and teachers;

3.7 Policymakers at district, provincial and national levels can use the results to identify strengths and weaknesses in the system or in parts of the system and to guide efforts to improve teaching and learning;

3.8 Parents want information that will enable them to give their children the best chance they can in light of their long-term aspirations;

Each of these groups should consider the implications of the examination results for making improvements in their particular area in the education sector. Policymakers can ask that each group report their interpretations of the results for their area of responsibility and explain how they intend to use the results to guide practice.

For example, the year 2000 KCSE Examination results released by the Minister for Education in Kenya, indicated a dismal performance for girls as compared to boys. Out of the ***33 subjects*** offered in this examination girls performed better than boys in ***only five (5) subjects or 15% of the subjects.*** These subjects were ***English, Kiswahili, Home Science, Music and Typewriting and Office Practice***, further to this, the same results indicated a comparatively very poor performance for girls in ***Mathematics and Science*** subjects as shown in the ***Table 1***:

TABLE 1 PERFORMANCE IN 2000 KCSE MATHEMATICS AND SCIENCE EXAMINATION BY GENDER

SUBJECT	NUMBER SAT		% MEAN PERFORMANCE $\bar{x}$	
	FEMALE	MALE	FEMALE	MALE
Mathematics	84,013	97,967	13.42%	18.67%
Biology	49,757	59,718	30.23%	33.6%
Physics	11,276	28,516	29.48%	32.74%
Chemistry	50,442	64,883	27.72%	31.76%
Physical Science	32,294	30,847	18.27%	21.23%

These examination results revealed the following, that there was:-

i) Poor general performance of girls in KCSE Examination and particularly in Mathematics and Sciences;

ii) Under enrollment of girls in Sciences and particularly in Physics.

These performance statistics then spurred a national debate which culminated in two important policy decisions namely:-

i) The government lowered the university entry cut off points by ***one (1)*** for girls as compared to that of boys;

ii) The government ordered research and intervention to arrest the situation of girls low enrollment and poor performance in Science and Mathematics.

In Ghana's recent national assessment of grade 6 students showed very poor performance in mathematics. These results spurred an analysis of the grade 6 textbook (Capper, 1999), which revealed that very many topics ***(126 topics)*** were to be covered during the year and many of the topics were laden with unfamiliar and difficult terminology. Clearly this textbook contained too many topics for students to fully comprehend in the time allotted. These are instances where assessment results helped point to problems in a part of the system that required intervention strategies.

4.0 RESEARCH BASED ON ASSESSMENT RESULTS

Researchers can use examination results in guide them in their search for explanation about what is and what is not working in the education system. Researchers should be able to analyze objectively and scientifically the inputs, processes, procedures and outputs of the system in order to clarify a complex enterprise.

The Kenya National Examinations Council releases to the public KCSE examination statistics showing ***enrolment, general performance by subject and gender, regional performance by gender*** etc. For example in the year 2002 KCSE examination results release gave the table below:-

TABLE 2: CANDIDATES PERFORMANCE IN SOME OF THE KEY KCSE EXAMINATION SUBJECTS FOR YEARS 2002 BY GENDER

SUBJECT CODE & NAME	2002			
	FEMALE		MALE	
	No. Sat	Mean %	No. Sat	Mean %
101 English	91,662	29.65	105478	29.57
121 Mathematics	91,647	16.44	105,471	22.53
231 Biology	87,141	24.58	90,241	28.34
232 Physics	15,312	26.61	38,868	30.89
233 Chemistry	87,725	22.05	99,536	26.62
311 Hist. & Gvt	37,041	48.68	47,807	55.12
312 Geography	46,727	31.21	60,165	37.71
313 C. R. E.	41,651	58.44	29,173	59.27
441 Home Science	9,400	53.50	434	43.58
442 Art & Design	369	67.42	654	64.40
443 Agriculture	40,515	42.19	48,158	45.71
450 Aviation Tech	1	52.00	26	63.69
451 Computer St.	1,143	53.31	1,033	57.02
501 French	1,165	42.83	663	43.80
503 Arabic	140	61.82	324	67.75
511 Music	893	51.03	687	51.08
561 Accounting	3,253	55.26	9,929	55.88
564 Typ. With Off. Practice	732	53.60	48	57.58

Researchers could use such results to study the factors associated with several issues for example:-

4.1 Poor candidates performance in Mathematics and Sciences as compared to the other subjects;

4.2 The comparatively poor performance of girls and low enrollment in sciences particularly in Physics etc

Finding of such a research could be used to influence policy positively.

Using test results, researchers can identify which schools and classrooms to observe to find the subtle factors that may help or hinder student learning. For example, one study (Evans, 1988) found that in order to raise money for the school, teachers were spending class time selling candy and the examination results of that school were poor. Test results would not reveal this important finding but researchers visit to the school could find out why the scores were lower than expected. In another school visited by researchers where candidates' performance was poor the distribution of snacks occupied almost an entire class session. In another study (Ahmed et al., 1993) found that up to 45 minutes a day was lost to roll taking in exceptionally large classes. In fact, the researchers found that when non-government schools in which classes of 30 students met for only 3 hours per day were compared to government classes with 100 students who met for 5 hours per day, the smaller 3 hour classes had up to 500 more hours per academic year of on-task learning time and the examination results in such school were significantly different. Results such as these have profound implications for policy, technical assistance and training and can be revealed only if the test results are accompanied by an ongoing, systematic study of schooling by trained and experienced researchers.

It is ideal if a team of researchers is associated with the testing unit early in the process. The researchers could be full-time staff or perhaps faculty from a nearby university. Funds should be allocated for ongoing, timely research, and policymakers should work closely with researchers and testing staff to ensure that the studies conducted meet policymakers' information needs.

5.0 TAILORING REPORTS TO THE AUDIENCE

The use of examination results for school improvement should be part of an ongoing process in which results are considered as one set of data among many that are used in an overall system of improvement. For examination results to be useful to the various groups, the reports must be written in a way that make them relevant and understandable. Reports could be aimed at teachers, headmasters, inspectors, teachers on a direct basis and also the policymakers, responsible for the development, selection and evaluation of curriculum and instructional materials.

The report for teachers should be highly readable and relevant to teachers' day-to-day tasks and should provide a detailed analysis of the results with a focus on what those results mean for teaching and learning. Reports for policymakers require less detail regarding specific test items and analyses that relate to instruction but should contain more comparisons – across schools and regions, between urban and rural areas and between genders.

5.1 THE TEACHERS REPORT

Teachers need to know how their students perform overall and on various parts of the test. Results should be reported by subject (for example, Chemistry), by skill area or topic (mole concept) and by subskill (acids). The more detailed and precise the results, the more information a teacher has to either assist individual students or modify instruction during subsequent school teaching.

The KCPE Newsletter, as mentioned, is an example of a highly readable and relevant report of examination results. It speaks directly to teachers and is free of statistical jargon and provides concrete step-by-step suggestions for teaching those topics on which student performed most poorly. This newsletter is comparable to a teachers' guide, but it has the added benefit of being directly tied to evidence of student performance.

5.2 POLICYMAKERS REPORT

The basic information that should be contained in all reports of examination results for policymakers is as follows:-

- **5.2.1** Achievement data by grade, subject, gender, school, district, region or province and nation;
- **5.2.2** Achievement data by each of the factors just mentioned over a specified number of years;
- **5.2.3** Number of candidates tested in each of the listed categories;
- **5.2.4** Analysis and interpretation of results with possible implications for policymakers.

The Kenya National Examinations Council provides the policymakers with all these types of statistics. For example in Kenya, all, secondary schools are categorized into four categories:

5.2.5 National Schools which absorb the best candidates of the Primary Leaving Examination (PLE);

5.2.6 Provincial schools which select after national schools;

5.2.7 District schools which select after provincial schools and

5.2.8 Private schools that select last.

The schools under each particular category have similar facilities including the teachers. The KNEC therefore ranks schools within each of the categories using the performance index of all the candidates in a particular school.

The performance index and ranking of the schools always spurs national debate and policymakers take keen interest to find out why a school has performed poorly in comparison to another and which subject(s) did the school perform poorly in. In the year 2000 for example one of the National schools performed worse than District Schools which generated debate and it was discovered that this National school lacked most of the basic facilities expected of a National school. As a result of this the school was converted to a District school.

6.0 ALLOCATING ACCOUNTABILITY FAIRLY

If students' test results are poor, the blame usually is placed on teachers. An important step in ensuring that test results are reported fairly is to take into account other factors that can influence learning achievement. In addition to effective teaching, there are two major categories of factors that influence students learning and both should be considered in the reporting and use of test results. The first category is the external factors over which schools and teachers have no control – factors such as parental education, family income and students' primary language. For example, urban parents are more likely to send girls to school and send them regularly than are rural parents and urban children are less likely to be absent from school due to family

responsibilities such as farming or childcare. The second category refers to those factors that the educational system can influence but over which teachers have little control, such as the curriculum, textbooks, teacher training, policies, support, resources and facilities.

Comparing schools that have substantial disparities in their resources, situation and contexts does not provide a fair or realistic picture of what is reasonable to expect of teachers and students.

In Kenya, the Kenya National Examinations Council has attempted to make more equitable comparisons by separating rural schools from urban schools, and by distinguishing those from the high cost and private schools, national, provincial and district schools.

7.0 CONCLUSION

Examination results are an essential tool to monitor and evaluate students achievement, and examination results should be used by educators at all level for guiding school improvements efforts. Reports of results must be prepared with the particular, audience in mind. They should be preceded by detailed analyses of why particular results were obtained and followed by research studies to further understand factors that help or hinder students learning.

REFERENCES

Joanne Capper (1996), ***Testing to Learn – Learning to Test***. Academy for Educational Development (AED) Washington D C.

Kellaghan T (2000) ***Using Assessment to Improve the Quality of Education***. Paper prepared for International Working group on Education, International Institute of Educational Planning, Florence.