

186-Classroom ‘*Assessment -for -Learning*’ in Secondary Schools in Kenya

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ABSTRACT

Learning and assessment are inseparable. Hence the need for assessment that aids learning for improving the quality of education, herein referred to as “*assessment for learning*”, cannot be over emphasized. This paper is based on a study that sought to establish the purposes for which teachers administer classroom tests, the frequency of testing and the use of the resulting data. This was done through a survey on teachers in secondary schools in Nairobi, Kenya, in Mathematics, Science and Humanities. The results of the study were discussed in the light of principles of “*assessment for learning*”. Teachers were found to assess students mainly for the purpose of diagnosis and the frequency of testing did not match the purpose and the appropriate use of resulting data. The results revealed a lack of school administrative policies that support assessment *for learning*, inadequate training of teachers in this area especially in the appropriate use of assessment results and feedback to students. Availability of time and teaching workloads were found to be the major factors affecting teachers’ use of assessment *for learning*. The methods used to assess learning outcomes in students were also found to be deficient of a number of desirable qualities.

Key words:

Assessment-for-learning, Assessment-of-learning

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1.0 INTRODUCTION

1.1 Background of Study

Assessments are crucial processes in measuring classroom learning. Through assessment learners and teachers are guided on what has been learnt and to what extent. The assessment that promotes learning is known as *Assessment for Learning* defined as the process of seeking and interpreting evidence for use by learners and their teachers to identify where the learners are in their learning, where they need to go and how best to get there (Assessment Reform Group, 2002). The evidence referred to in this case is collected through observation, questioning and use of teacher-made classroom tests. In schools assessment takes place both formally and informally at the end of every lesson, school term or any time intervals therein.

In this context testing contributes information about students' preconceptions, comprehension strategies, attributions and planning or meta-cognition. Thus if data results from teacher-made classroom tests is relayed effectively to the students in a form that can influence their thought processes and planning then the tests can be useful for learning. Thus students can use test data for monitoring their reading comprehension and planning how they will relate previously acquired knowledge. The implication of '*assessment for learning*' process is that the criteria for assessment, needs to be well understood by both teacher and students for the assessment process to be motivating. Sadler (1989) states that in order for the students to improve they must have a notion of the desired standard or goal to enable them compare the actual performance with the desired performance and to engage in appropriate action to close the gap between the two. The above understanding can be created by the teacher when using tests for learning.

1.2 Purpose of the Study

Assessment for learning plays a central role in the teaching-learning process, yet a great deal is unknown in Kenya about how teachers test their students. The purpose of this study was to investigate the extent to which test results are used by teachers while teaching in the classroom to enhance learning. The study aimed at identifying factors, conditions and support systems that optimize the schools' use of data from classroom tests for learning.

1.3 Research Questions

The following research questions were used to guide the study:

- a) What is the purpose of classroom assessment in secondary schools in Kenya?
- b) What are the factors that affect teachers' effective use of assessment for learning?

1.4 Significance of the study

The study would potentially facilitate teachers' and students' shift from the traditional paradigm of testing that sort students into groups of *winners* and *losers* by adopting the assessment for learning paradigm of testing. The study would also reveal information to guide the education sector on policy concerning assessment in schools. Insights can also be gained on how to achieve

life-long learning a key point in achieving development, based on the global focus of education for sustainable development. Hence, the emphasis on high stakes examinations may be reviewed.

1.5 Operational Terms

- a) **Assessment:** A measure of what has been learned as a result of instruction on specific objectives.
- b) **Classroom assessment:** An assessment that occurs during learning in the classroom and is designed to assist or improve students' acquisition of knowledge and skills.
- c) **Criteria:** A standard used to gauge students' performance when evaluating that performance.
- d) **Learning:** Acquisition of knowledge, skills and attitudes. It is a process carried out by individuals and groups.
- e) **Public National examinations:** Examinations administered by an external agency other than the school at the end of a specified period of study.
- f) **Test:** An assessment tool used in classrooms by teachers to measure what learners can do.

2.0 METHODOLOGY

The participating teachers were required to complete a questionnaire. The questionnaire was intended to provide both qualitative and quantitative information on the use of assessment *for* learning, the provision of feedback to enhance learning, factors that may affect teachers in the process of assessment *for* learning and an indication of teacher training to enable effective use of assessment *for* learning. It was to provide an indication of the extent of using assessment for learning practices and deficiencies where applicable. The questionnaire also demanded an indication of the methods used during assessment of learning outcomes.

2.1 Research Design

The research design was a non-experimental descriptive study which detailed a unit that stressed on factors contributing to success or failure in assessment for learning.

2.2 The target population

The target population of this study was the one thousand two hundred and fifty nine (1259) trained teachers in public secondary schools in Nairobi County. Both male and female respondents were selected.

A stratified random sample of fifteen schools was selected from sixty (60) secondary schools. The stratification was on account of boys, girls and mixed schools. A total of one hundred and twenty teachers from these schools teaching form three Mathematics, Science and Humanities were selected at random. This choice of subjects was guided by Yeh *et al* (1980, 1981) and Stiggins & Bridgeford (1985) studies which found that Mathematics and Science teachers were more likely to administer teacher-made tests than teachers in Languages and Humanities. Form three teachers were selected since at this level more than half of the secondary school curriculum content has been covered.

2.3 Analysis of data

The Statistical Package for Social Sciences (SPSS) was used to perform the analysis. Descriptive statistics were carried out in which means, frequencies, percentages and Pearson's correlation were used. The analysis was also done in relation to the subjects taught, performance of schools teachers' training, and teachers experience because previous studies have indicated that training has an effect on the teachers' use of tests.

3.0 THE MAJOR FINDINGS AND DISCUSSIONS

3.1 Research Question 1: What is the purpose of classroom assessment in secondary schools in Kenya?

3.1.1 Use of Classroom Assessment

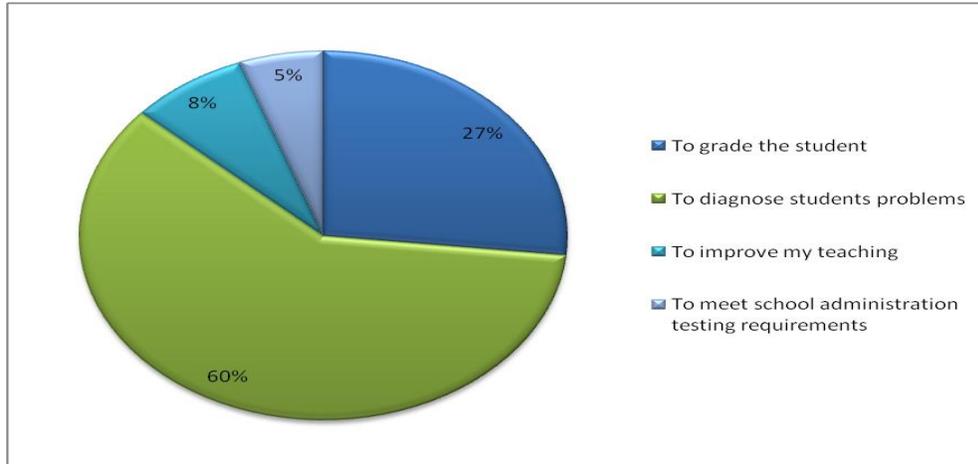


Figure 1: Respondents indicating various uses of classroom assessments

Apparently most teachers (60%) assess their students with an aim of diagnosing the students' problems. Testing for purposes of grading students came second (27%), followed by testing for purposes of improving teachers teaching (8%). These results presented an indication that there was still a tendency by teachers to dwell on **assessment of learning** as opposed to **assessment for learning**. McMorris & Boothroyd (1992) however, found out that 69% of teachers test students' mastery and understanding of content taught, 33% tested to improve teaching, 31% for grading and 28% for motivation purposes. The percentage of teachers who assessed to improve teaching (8%) was far much below the 33% percent in our cited study.

3.1.2 Purpose of Assessment with respect to Category of Schools

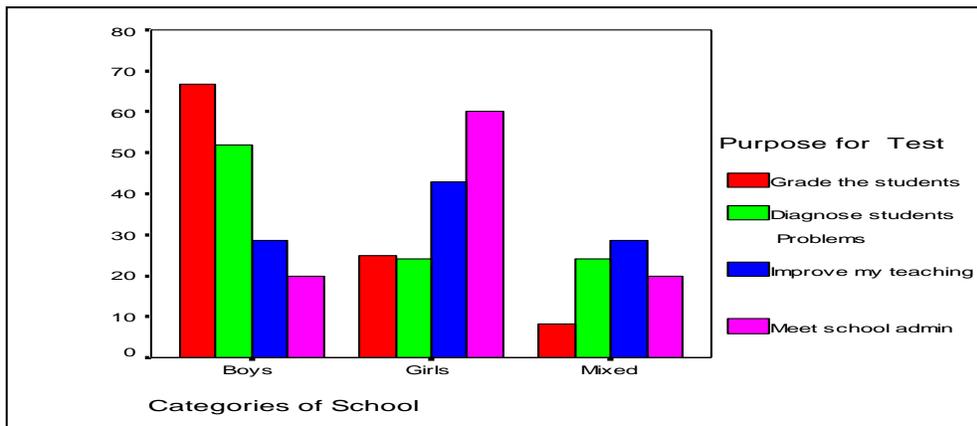


Figure 2: Percentage of respondents on purpose of classroom assessment per school category

In the boys schools the most frequent purpose for testing observed was for grading students, followed by teachers' improvement of teaching. The girls' schools appeared to balance grading and diagnosis of students' problems as purposes for assessment; however a greater percentage tested in order to improve their teaching. Most of the teachers in the girls' schools tested to meet school administration requirements on testing. The mixed schools category did not appear to dwell on assessment for purposes of grading but rather test to diagnose students' problems. Improvement of teaching and meeting of school administration testing requirements appeared to be almost equal.

3.1.3 Purpose of testing in relation to the subjects

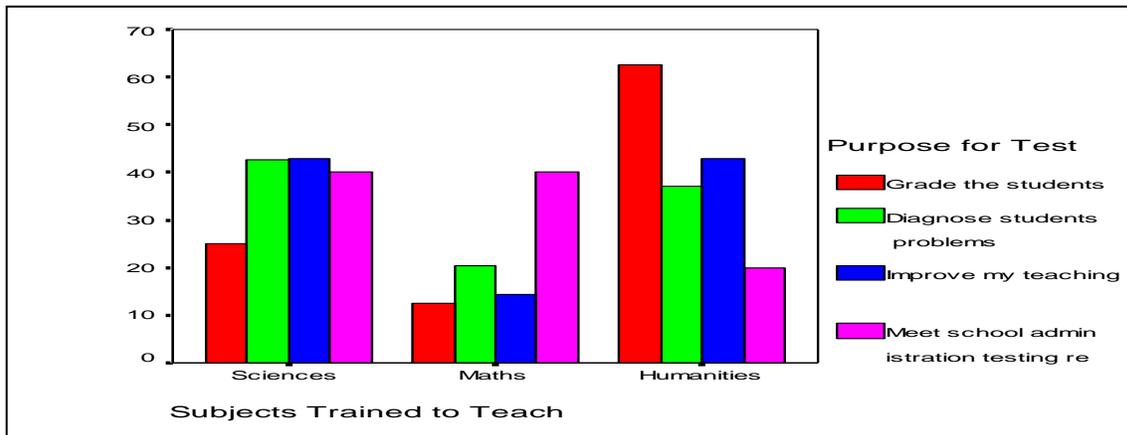


Figure 3: Percentage of respondents on purposes of classroom assessment per subject.

Most mathematics teachers test to meet school requirements on testing. This might offer an explanation as to why when ranking of subjects in performance of Kenya Certificate of Secondary Education (KCSE) examination is done, Mathematics occupies the bottom position. It is possible that Mathematics teachers have not embraced assessment *for* learning in their teaching. There is a contradiction here in the fact that most (79%) teachers in the survey admitted to the great importance they attach to application of assessment *for* learning as indicated below in the graph in figure 4, yet the Mathematics teachers do not appear to assess for purposes of enhancing learning.

3.1.4 Importance for teachers to apply assessment for learning principles

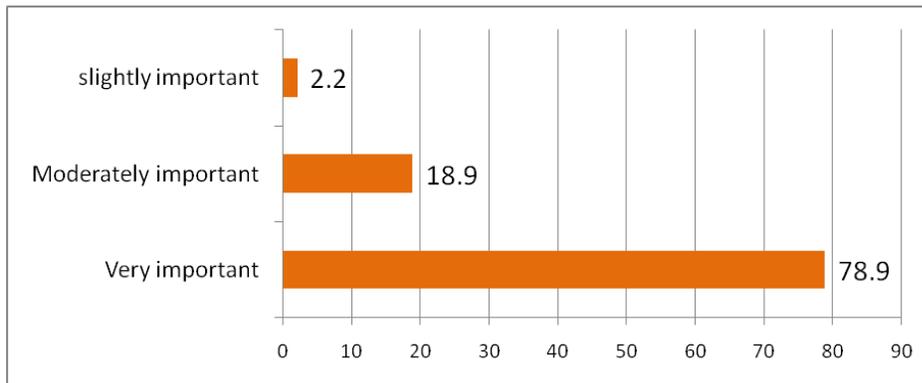


Figure 3: Percentage of respondents on importance of applying assessment for learning principles

The mathematics teachers' lack of use of assessment *for* learning may be explained by their judgment of the adequacy of training they received in assessment during teacher training. The graph in figure 10 shows that most of the mathematics teachers indicated that they had not been trained at all in assessment *for* learning. Most Science and Humanities teachers had however received some training in assessment for learning.

3.1.5 Purpose of assessment relative to experience

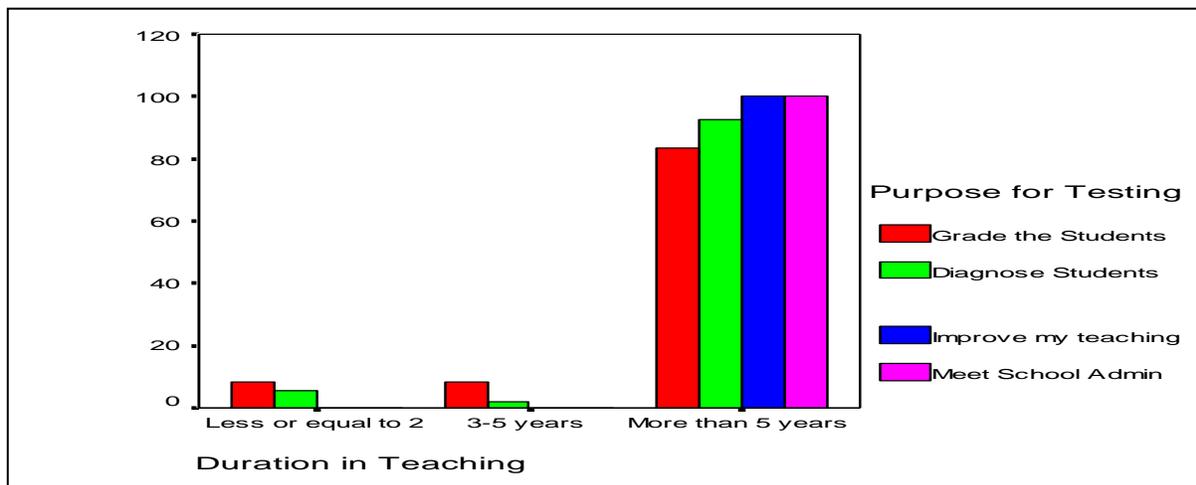


Figure 5: Percentage of respondents relative to experience on purposes of assessment during teaching

Figure 5 shows that teachers who have more than five years experience in teaching tend to test more for every purpose. This could mean that the years of experience has an advantage in testing than the less experienced. This experienced group of teachers also has a good number who test to improve their teaching which, if upheld and encouraged could enhance the assessment *for* learning. For the less experienced their little effort in testing is more inclined in to grading and diagnosis.

3.1.6 Use of Assessment Results

Figure 6 summarizes the sampled teacher's uses of assessment results.

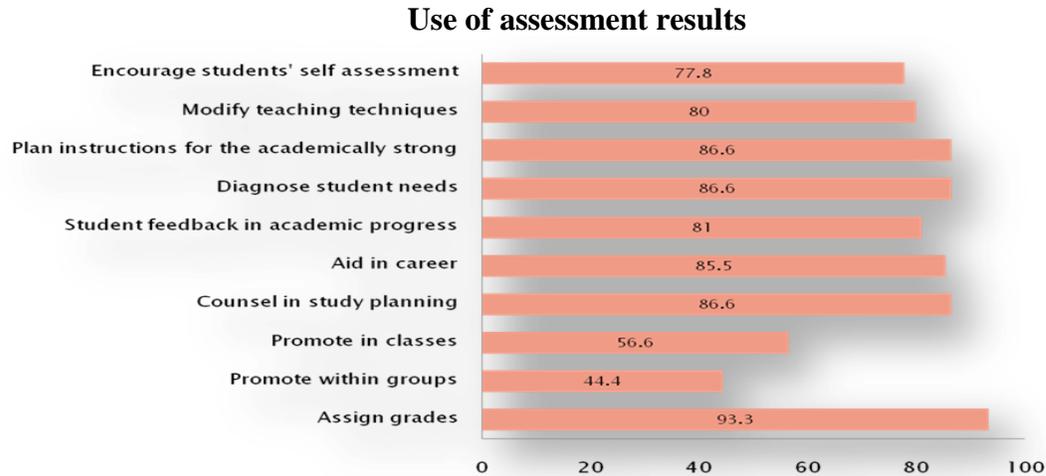


Figure 6: Percentage of respondents on use of assessment results

The results indicate that assigning of grades is the most popular use of assessment results amongst the sampled teachers. This is a characteristic of assessment *of* learning rather than assessment *for* learning because 93% of the teachers indicated that they often or always use assessment results to assign grades to students. The other popular uses of assessment results were to counsel students in their study planning (87%), aid students in their career planning (86%), provide students with feedback on their progress (81%), diagnose students needs (87%), plan remedial instruction for both academically “weak” (87%) and academically “strong” (74%) students, modify teaching techniques (80%) and encourage self assessment (78%). Use of assessment results to change one student from one instruction group to another (44%) and to promote students from one class to another (57%) did not appear to be very popular uses of assessment results.

3.2 *Research Question 2: What are the factors that affect teachers' effective use of assessment for learning?*

3.2.1 **Factors Affecting Teachers' Use of Principles of Assessment for Learning**

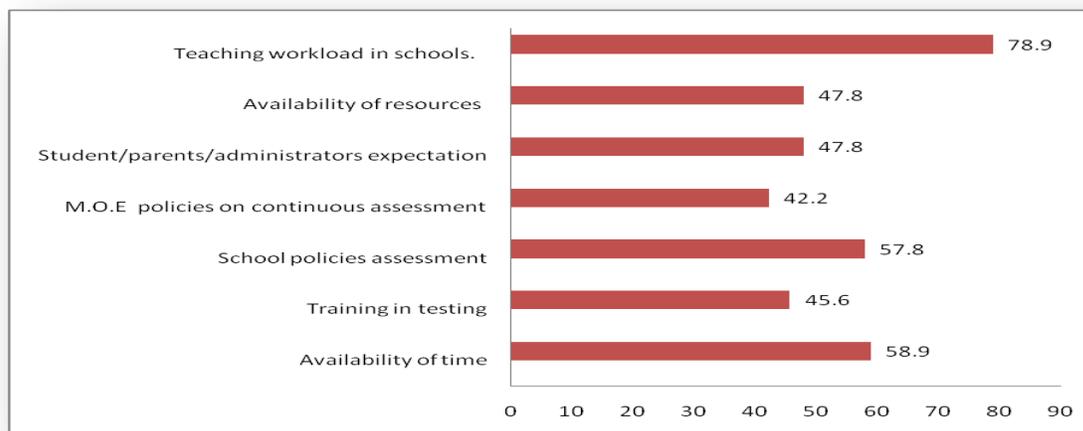


Figure 7: Percentage of respondents indicating various factors affecting teachers' use of principles of assessment for learning

Teaching workload in schools was found to be the factor with the greatest effect on teachers' use of assessment *for* learning. 79% of the teachers indicated that it greatly affects their use of assessment *for* learning principles. The questionnaire did not however enquire on how their use is affected but their response on availability of time (59%) could mean that the teaching load limits the time for assessment. It is important to note that teaching and assessment are inseparable (CDC, 2001) and thus teaching and assessment times need to be integrated so that they reinforce each other in the learning process.

Most teachers (58%) indicated that the school policies on student assessment greatly affect their application of principles of assessment for learning. This was consistent with their response on school administration requirements on testing in section one, in which teachers indicated a high percentage of schools that define the number of assessments to be administered in a school term. This kind of policy does not provide a favorable environment for assessment for learning to occur. Ministry of Education (MoE) policies, students/parents/administrators expectations and availability of resources appeared to have an effect on teachers' application of assessment *for* learning but to a lesser extent when compared with that of availability of time, school policies, training in testing and teaching workload.

3.2.2 The frequency of testing

The frequency of testing in this study was determined by the response on school policy for testing. This was to ensure the reliability of responses when checked across the responses of teachers from the same school. Figure 8 shows the percentages of the responses received.

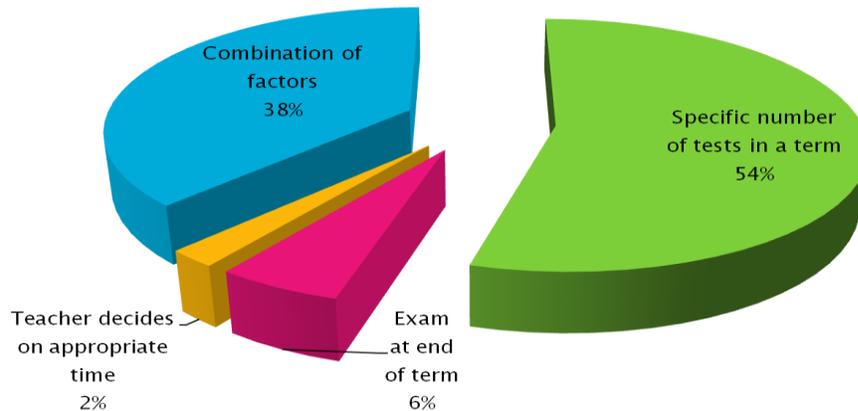


Figure 8: *Percentage of respondents indicating frequency of testing during classroom assessment*

Most teachers (54%) were from schools that administer a specified number of tests in a term. 38% of the respondents were from schools that combined the different options. From some of the respondents' (6%) it was obvious that the assessment that occurs does not support learning. This is because only an end of term examination is given. Such an exam and the use of students results from it would not influence teaching and learning within the given term. The most likely purpose of such an assessment system is to grade students; a representation of assessment *of* learning, rather than assessment *for* learning. Two percent of the respondents' schools gave teachers the liberty to decide on the appropriate time to test.

3.2.3 Adequacy of Training gained in Assessment *for* Learning

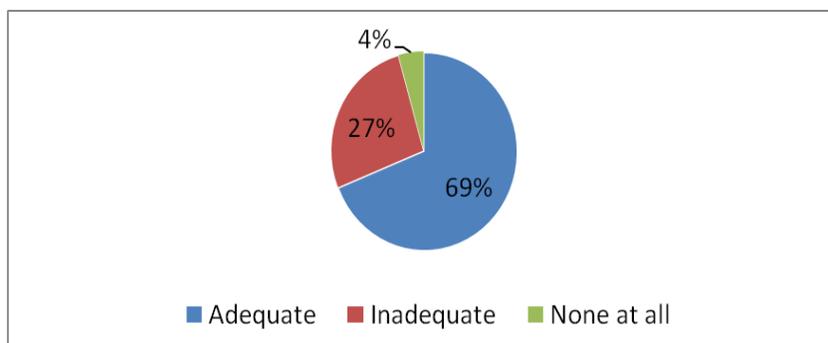


Figure 9: *Percentage of respondents showing the adequacy of training gained on assessment for learning*

It is possible that there is a lack of understanding of these principles of assessment *for* learning hence the responses received may not be a true reflection of the practice upheld by the teachers.

3.2.4 Adequacy of Training per Subject Category

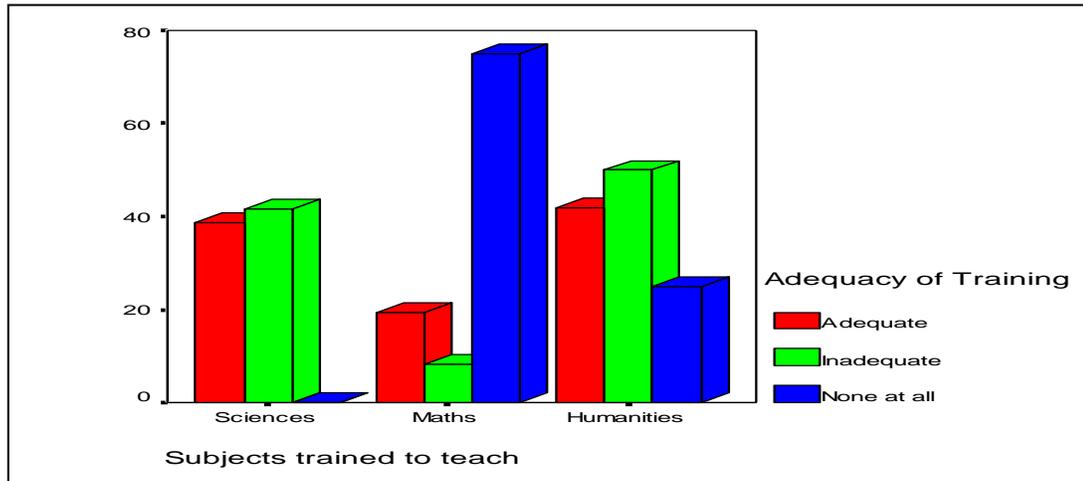


Figure 10: Percentage of respondents on adequacy of training gained on assessment for learning per subject category

The above results indicate that majority of the Mathematics teachers in the sample did not undergo any training in assessment for learning. Majority of their counterparts in Sciences and Humanities indicated that the training they received was inadequate.

3.2.5 Correlation between Practice and Training in use of assessment results

A correlation between training in the aspects of use of students' results in assessment *for* learning with practice of teachers in the use of assessment results gave negative results as indicated in figure 11.

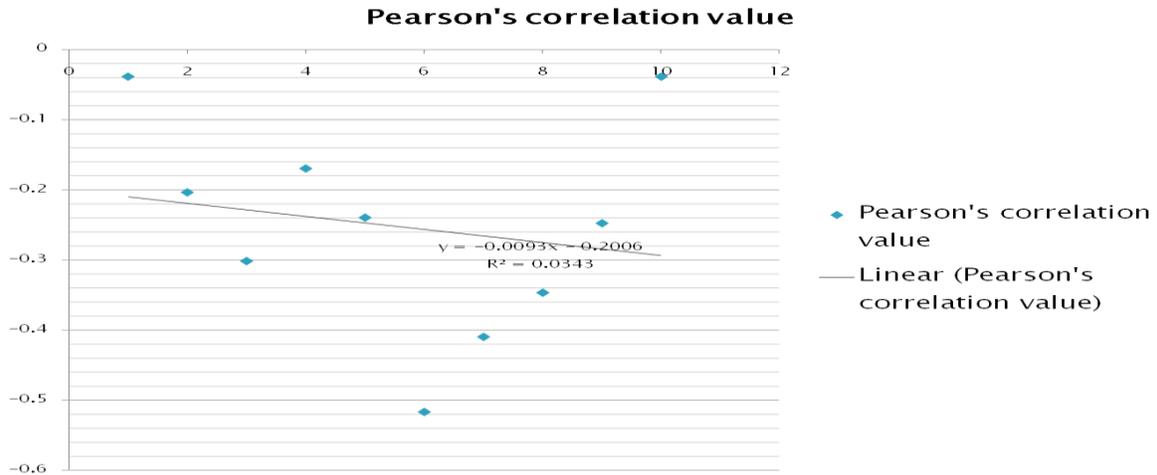


Figure 11: *Correlation between practice and training in use of assessment results*

3.2.6 Types of feedback used in the classroom

The results of the study proved the following as modes of feedback popularly used by teachers: Written comments regarding student strengths and weaknesses (77%), provision of information on student learning in such a way that it is easily understood (86%), use of student record keeping to monitor improvement e.g. by use of graphs (78%), identification of steps to enable students to see their progress and thus building confidence and self esteem (81%) and show students work that met criteria with explanations why (73%). The teachers were also seen to often provide guidance on how to improve as well as providing opportunities and support to understand how to make improvements as emphasized by Gerald & Smith (2004). The teachers were found to provide the following opportunities; setting objective criteria for assigning grades to students (69%), identify steps to enable students to see their progress and build confidence and self-esteem (80%), use of student conferences to discuss performance that met criteria and that which falls short of meeting criteria (50%). Use of such conferences is important because it enables the students to “see how success looks like” (Stiggins, 1991). The use of conferences however appeared to be hampered by the lack of training of teachers in the same because 43% of the teachers stated that they were never taught how to use such conferences.

A correlation of teachers’ practice and value of reporting students’ assessments produced the results in figure 12. The low positive correlation showed that the value teachers attached to the use of feedback was weakly reflected in their practice. It could mean that either the teachers did not know how to use the feedback or they found no time for them to apply it. So, much as they may value it, their practice and use do not correlate as shown in figure 12.

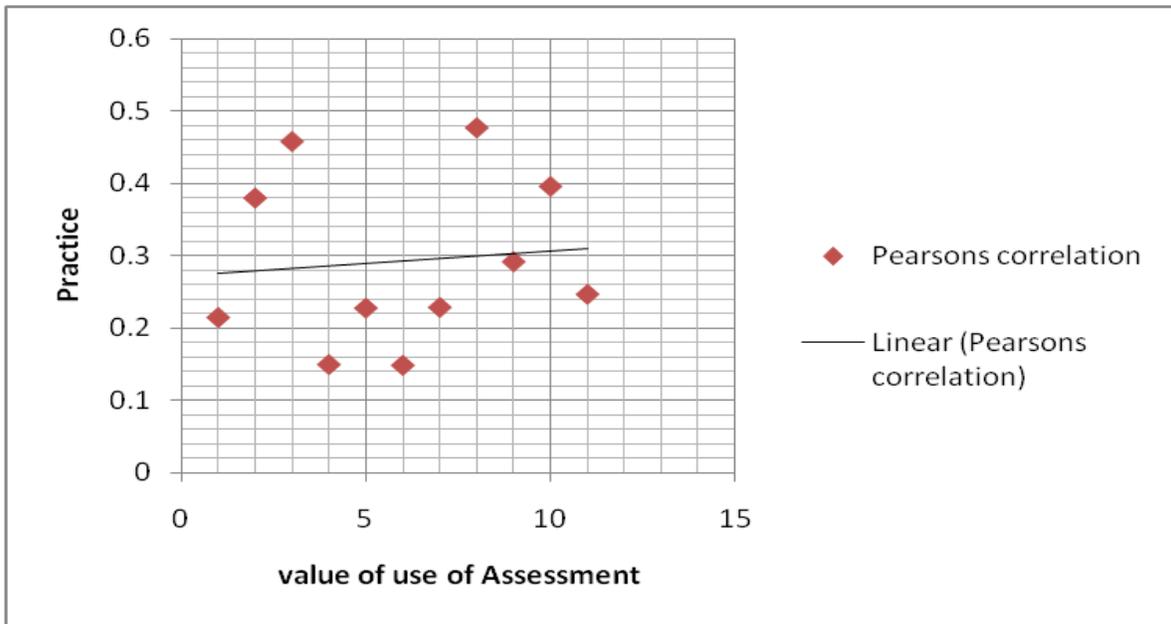


Figure 12: Correlation between teachers' practice and value of reporting students' assessments

4.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

4.1 Summary of findings

4.1.1 Purpose of classroom assessment

The study found that sixty percent of teachers assess their students for purposes of diagnosing the students' weaknesses. Not so many teachers assess in order to improve their teaching. Teachers in boys' schools however, tend to test more in order to grade students while those in girls' schools tend to often test to meet the school administration requirements for testing. The teachers in mixed schools more often test to improve their teaching. Mathematics teachers were found to often test to meet school administration assessment requirements. There was also evidence from their responses that majority of the mathematics teachers had not been trained in aspects of assessment *for learning*.

Purposes of assessment were found to vary with the teachers' lengths of experience. Majority of teachers who had taught for less than five years often tested for purposes of grading students. The next common purpose for testing among these teachers was to diagnose students' problems. The minority, in this group, indicated that they assessed for purposes of improving their teaching and in order to meet administrative requirements on assessment. A majority of teachers having more than five years experience, test to either, meet school administration requirements, or to improve their teaching. Very few of these experienced group indicated that they assessed to grade students and to diagnose students' problems.

4.1.2 Frequency of testing in relation to the purpose of assessment

The frequency of testing was not found to match the purpose for testing. The sampled schools' assessment policies and the teachers use of assessment results presented inconsistency in that the study showed that most schools had a defined number of formal assessments to be given in a given school term and yet teachers claimed to assess in order to diagnose students problems and improve their teaching. Very few teachers admitted to the freedom of determining the number of formal assessments in a given school term. In assessment *for learning* principles, the number of assessments ought to be determined by the need to find evidence of learning (ARG 2002). The implication of this is that restricting the number of assessments a teacher administers would not allow the teacher to assess *for learning*.

4.1.3 Use of assessment results

Grading of students was cited as the most popular use of assessment results. Teachers, but in smaller numbers, also used assessment results in ways that promote assessment *for learning* like, providing feedback on academic progress, planning of remedial instructions for both the academically "weak" and "strong" students, modifying teaching techniques and encouraging students' self assessment.

4.1.4 Use of feedback to facilitate learning

The study found a high frequency in the use of descriptive feedback on assessment results. The content and details of such feedback was however not established. There is necessity for farther investigation on the features of the feedback that the teachers provide before a judgment is passed on its effectiveness. The use of class conferences and the setting of objective criteria for assigning grades were found to be rare. This could be ascribed to the lack of training reported by the teachers in the use of conferences and setting objective criteria for grading as means of enhancing effective feedback.

The teachers' practice in the use of feedback and the training that teachers received were found to be negatively correlated. The lowest negative correlation was found in the providing of written comments regarding student strengths and weaknesses. Responses indicated that almost half of the teachers were not taught how to use feedback in the stated ways. This calls for training on use of quality feedback to enhance assessment *for learning*.

4.1.5 Factors That Affect the Teachers' Use of Assessment for Learning

Training in assessment for learning and school administration policy on assessment were found to be the greatest factors affecting teachers' use of assessment *for learning*. The teaching workload and availability of time were also found to have a profound effect on the use of assessment *for learning*. The number of years of teaching experience also seemed to affect the purposes for which teachers assess.

4.1.6 Assessment of learning outcomes

It was evident from the study that questioning of students is a common method of seeking evidence of certain learning outcomes.

4.2 Conclusions

In conclusion therefore, there is need to sensitize all stakeholders of the need to embrace assessments *for learning*. Gerald & Smith (2004) states that when students become involved in the assessment process, assessment *for learning* begins to look more like teaching and less like testing. This is because the assessments are of much benefit to both teachers and students when viewed under principles of assessment *for learning* as in the long run, they lead to improved performance and efficient service delivery.

4.3 Recommendations

4.3.1 From the findings of this study, it is recommended that the Ministry of Education (MoE) and school policies for assessment need to be restructured to align them with assessment *for learning*. Teachers need liberty to determine when and where in their content

coverage to assess students beneficially rather than the current emphasis on formal assessments that is meant to grade students. This can be put in check by training the Quality Assurance and Standards arm of the MoE in assessment *for* learning for them to supervise its use in the classrooms.

- 4.3.2 There is need to develop evaluation programs where feedback from assessment of learning outcomes feeds directly back to the assessment systems and the initiatives that support it and to monitor developments of such initiatives .
 - 4.3.3 The students will need to be trained to take responsibility for their learning. This is by ensuring that they attribute their success to their own efforts which research has shown can positively influence students.
 - 4.3.4 Overall there is need to carryout research in educational assessment because it is the part of education that appears to be riddled with a myriad of problems ranging from exam malpractices. Such research will provide more insight into assessment practice in Kenya and inform policy decisions in educational assessment.
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