

Formative Assessment as a Means of Improving Learner Achievement: Lessons from Selected Primary Schools of Lusaka, Zambia

by

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Abstract

Assessment is the systematic collection and analysis of information to improve student outcomes (Shute, 2008). Assessment takes a variety of meanings within education. It refers to the process an institution uses to grade its students' work. It is usually in the form of some kind of standardised testing and is often compulsory. Many schools in Zambia carry out compulsory assessments usually monthly and at the end of the term as part of the processes of accountability. The reason for assessment either termly, weekly or monthly; test or mock examination is to improve institutional practices. This study was aimed at analysing classroom-based formative assessment that may identify needs and in the process shape teaching. Formative assessment contributes to learning through providing feedback. The study reviewed three primary schools in Lusaka. Both quantitative and qualitative methodologies were used. 90 Questionnaires were distributed

to teachers, to accord them a chance to analyse their practices. In addition, in depth interviews were conducted with 12 teachers from each of the participating schools. Focus group discussions were conducted with learners. The findings demonstrated that in most cases where teachers used assessment results to improve teaching and learning, pupil performance greatly improved. However, in other cases, it was found that implementation of formative assessment was difficult due to huge class size and also a lack of educational materials. It was recommended that funding be improved in schools to enhance implementation of formative assessment. In addition, there is need to reduce teacher pupil ratios in order to improve assessment processes.

Key Words: Formative Assessment, Learning Achievement, Continous Assessment

Introduction

Prompted by the 1990 World Conference on Education For All (EFA) and its own national EFA conference (1991), Zambia shifted its focus from numbers enrolled in schools to learning achievements and outcomes (Kelly, 1991). In addition, recognising that the elusive notion of quality education was somehow associated with reasonable facilities, adequate supplies, good teachers, and instructional leadership among others, the Ministry of Education intensified efforts during the 1990s to mobilise resources for school rehabilitation, school supplies (above all text books), improved pre-service training of teachers, professional development

of serving teachers, training of school head teachers and standard officers, examination improvements and learner centered approaches to pupil evaluation (Msango, 1988).

Despite all the above efforts, levels of learning achievements were low with only one quarter of those pupils in Grade six (6) showing levels of reading abilities expected by their teachers (Msango, 1988). The low levels of learning achievements were attributed in part to the long standing policy of using English as a medium of instruction (Kelly, 1991). In 2013, this policy was modified to allow for initial literacy to be taught through local languages. Despite this modification, the learning achievements were still low.

Further contributing factors to the low levels of actual learning achievement were the short duration of the teaching day and the low teacher morale. In principle, the teaching day for Grades 1 to 4 lasted three and half (3 ½) hours and for Grades 5 to 7 it lasted five and half (5 ½) hours. In practice, actual classroom instruction time may be less than the rest of the school activities (assembly, cleaning, gardening) and physical education. Little or no time was spent on formative assesment. A long standing complaint by parents especially of rural children was that when at school, their children spent too much time on manual labour than being in class to learn and be assessed (Msango, 1988).

Low salaries, poor accommodation, inadequate professional and administrative support and reduced status in the community all worked together in lowering the levels of teacher morale. Teacher morale was also negatively affected by inadequate provison for ongoing professional and personal development. While major efforts were made in 2000s to extend the scope of Continuing Professional Development (CPD)

this tended to remain rather piecemeal and haphazard, taking place outside of the frame work of an overall comprehensive scheme for teacher development (Kelly, 1991). As a result of the above factors, teachers could not give classroom-based formative assessments.

Purpose of the Study

This study was aimed at analysing classroom-based formative assessments as a means of improving learning achievement in three primary schools in Lusaka, Zambia.

Objectives of the Study

- i. To investigate the forms of assessment currently underway in selected primary schools.
- ii. To assess how these forms of assessment are being used to enhance teaching and learning.

Research Questions

- a. What forms of assessments are currently underway in the selected primary schools?
- b. How are these forms of assessment being used to enhance teaching and learning?

Literature Review

In assessment a considerable shift in thinking has occurred from assessment of learning to assessment for learning (Davies, et al., 2005). Assessment for learning is commonly referred to as formative assessment—that is, assessment designed to inform instruction. Assessment of Learning is the assessment that becomes public and results in statements or symbols about how well students

are learning. This has important implications for the conceptual framework from which to approach the issue of assessment (Carr, 2006). The main conceptual changes pertain to programmes of assessment. This has led to a broadened perspective on the types of construct assessment tries to capture, the way information from various sources is collected and collated, the role of human judgement and the variety of psychometric methods to determine the quality of the assessment (Dijkstra, et al, 2009). Research into the quality of assessment programmes, how assessment influences learning and teaching, new psychometric models and the role of human judgement is much needed (Kane, 2006). Gilbert (2015) defined formative assessment as the classification of what a student has grasped about a certain topic. Formative assessments therefore evaluates how someone is learning and informs ongoing teaching (Tillema, 2010). The plan is for the teacher to take action to enhance further understanding of the topic at hand through constructive reviews and recommendations (Siu, 2012). In the process, it helps a teacher gauge the progress of learners throughout the course of work. A system that is formative is supposed to give a holistic picture of the progress of individual learners, their strengths and weakness as well as the future needs (Daka, et al., 2017). It is evident that it is through formative assessment that one learns. Sadly many schools, including the studied schools viewed formative assessment as a peripheral step in the teaching and learning process. The findings from the study showed that teachers lacked proficiency and time to create sufficient assessment exercises. What this meant was that classroom as spaces of learning were fraught with teacher centered activities devoid of learner participation. Formative assessment is important

because it encourages student engagement (Daka, et al., 2019). Because it is a daily activity, it works as foundation for summative assessments that come at the end of the course of work. In addition, the teacher can also identify learners that are at risk of being left behind in learning. It encourages creativity in that learners are given a chance to recreate what they have learnt in their own words thereby guiding them to be regulate their course of study.

In educational settings assessment for learning should take priority over assessment of learning. A programme of assessment should aim at building relationships; each competency domain should be informed from various assessment sources and each assessment source should be used to inform about several competency domains (Shute, 2008). For programmatic assessment as part of assessment for learning, extensions to current psychometric approaches are needed. The role of human judgement in assessment should be re-appraised and studied (Schuwirth and Van Der Vleuten, 2006).

Zambia needs to develop herself sustainably in the 21st century. The rapid expansion of high quality education is essential to the economic, social and political wellbeing of the nation. Primary education has a very important position in upgrading the quality of life of individual, communities and the whole nation. In an abstract on the notion that education can contribute to national development as Msango (1988) stated that education has the power to transform Zambia from an impoverished and stagnant society into a wealthy and progressive nation.

This implies that the development of this nation calls for the empowerment of human capital through education. In the same line, Chafwa (2012) calls for massive investment in human capital formation. However, for this to happen, the products of the education

system must be of high calibre. This must be in form of children who have been well assessed by the education system. For this reason, educationists must be aware of a comprehensive analysis of the roles assessment plays in educational achievement. In other words, educationalists must develop a culture of conducting in-process evaluations of learners' comprehension and academic progress during a lesson or course. Once this formative assessment habit is developed as a routine cultural practice (Mkandawire and Daka, 2018), better performance of learners in classes can tremendously improve. Braun and Kanjee (2006:2) looked at assessment as a tool to 'improve learning, to monitor and give credential to learners and to evaluate some aspects of the education system itself.' In assessing the student, the teacher has first to determine the readiness of the student to learn and then sustain his/her progress. Assessment is part of continuous teaching and learning process.

Baun and Kanjee (2006) posited that the education landscape in most developing countries is characterized by a number of patterns that render learning difficult. For example, they cited disparities in the distribution of opportunity to learn and in achievement. These disparities are associated with factors such as geographical location, language, social class and gender. In general, achievement levels are low both with respect to a country's standards and in comparison to the norms established by developed nations. There are challenges related to limited facilities, inadequate resources and wastage due to high rates of grade repetition and attrition. These aforementioned challenges also characterize Zambia's education system. The Ministry of Education Statistical Bulletin (2014) indicated that the education system includes both low achievement levels and high attrition rates.

Assessment an Internal Perspective

In Zambia, as early as 1976 evaluation was defined as a process by which it was determined whether the education system was achieving its objectives (Ministry of Education, 2014). Evaluation was an important aspect of the teaching and learning process. Two aspects of evaluation were recognised: One aspect was determined by society which looked closely at the product of the education system in terms of learner performance and attitude. The other was related to evaluation undertaken by teachers and other professionals to determine the effectiveness of the curricular, the programmes and methods and to test the achievement of students. The most important aspect of evaluation is the assessment of the student which determines his or her worth, performance and personality. In assessing the learner, the teacher has first to determine the readiness of the learner to learn and then his or her rate of progress. The teacher should also recognise the difficulties the student may be having and remedy them.

Assessment is part of continuous teaching and learning process. In Zambia, since 1964, the assessment procedure had been of great concern to the public (Msango, 1988). The assessment (examination) served as instrument of selection for admission to the next stage. Examinations were used to indicate the level of achievement and most of them led to certification. Examinations in Zambia provided statements about the degree of competence attained by an individual. The statement constituted a record of competence in different subjects or courses at the end of the program. A combination of continuous assessment of one type or another and terminal tests may constitute a system of examination.

For many decades, the general public and even a

considerable proportion of the teachers have viewed examinations as merely fulfilling two functions: those of awarding certificates and selecting some students out of many for the next stage of education. As a consequence, the examinations have become the test of whether a school is fulfilling these objectives. Teachers tend to be blamed if too few of their pupils are selected for further schooling, pupils are considered to have 'failed' if they do not get selected and teachers feel compelled to direct their efforts towards examination success.

Public examinations tend to pay more attention to what learners can remember and far less to how well learners can think about what they have acquired and to what they can do (Ministry of Education, 1976). As an evaluation instrument, examinations can be most valuable for they can provide the teacher and the learners with information on the effectiveness of the interaction between the teacher and the learner. Analysis of the examination results can reveal aspects of the learning situation which are difficult to the learners; for individual students, analysis can reveal their weakness and strengths. Also, examinations can help to assess the performance of each institutions and the results can be used in finding solutions to problems each institution maybe facing. The information provided by the responses in an examination can lead to adjustments in teaching methods, organisation of the syllabuses and to changes in the structure of the curriculum to ensure that overall intellectual development of the learners is more adequately catered for (Ministry of Education, 1977).

Finally, examinations can be used for selection and placement. However, Zambian education system has limited numbers of school places at the next stage of education, it can, therefore, be defended that examinations

are used to determine placement. In general, education certification examinations are also used for selection purposes to the next stage or to advanced programmes.

The last aspect to be reviewed is that of continuous assessment. This form of assessment formed the basis of this research. Continuous assessment is a method of evaluating the learners' work continuously for the purpose of the teacher to diagnose the strengths and weaknesses of the class or of the individual learner in order to apply remedies or to applaud excellence (Herman and Golan, 1991). In this case, continuous assessment is intended to be directed to the improvement of the teaching and learning process. Continuous assessment can also help learners to recognise areas in which they need to improve. It can also assist the student to acquire the discipline to work purposefully on his or her own.

Continuous assessment in the Zambian context is normally determined from exercises performed by students in the classroom, laboratory, workshop, from home work assignments and results of termly or annual school examinations. It can also be undertaken through interviews and personal observations. Assessments carried out in Zambian primary schools are mostly formative. This is because assessments do not contribute to the final grade in the final analysis.

Methodology

This was a mix methods research. Both quantitative and qualitative methodologies were used. Ninety (90) questionnaires were distributed to teachers in the three schools. The teachers were sampled randomly. All the names of the teachers from each school were written

on pieces of paper and the first thirty (30) papers with names to be picked were included in the study. Thirty (30) teachers from each school were sampled. This accorded teachers the chance to analyse their practices. In addition, in depth interviews were conducted with twelve (12) teachers from the participating schools. Those who participated in the interviews were purposively sampled from the ninety (90) teachers. Only four (4) teachers from each school were interviewed. This was meant to engage teachers at a personal level and to give them a chance to give their views on the topic at hand. Three (3) Focus Group Discussions (FGDs) were conducted with learners with one (1) FGD conducted from each selected school. Themes that emerged from respondents through interviews, questionnaires and focus group discussions were arranged and used as the basis for discussions.

Table 1.1 Sex of Respondents

Male	05
Female	85

The population understudy shows that there were more female teachers than male teachers. This is a common trend in primary schools in urban areas such as the one under study. For instance, deployment statistics show that Lusaka has 2,893 male primary school teachers compared to 5,079 female teachers (Ministry of Education, 2010). The gender inequalities shown in teacher placement in this study however, did not influence the results of the research.

Research Findings

This sub-section presents the findings to the research that was conducted in the afore mentioned schools. These will be presented according to the objectives. The first objective was to investigate the forms of assessment currently underway in these schools. The second objective was to assess how these are being used to enhance teaching and learning.

Assessment Processes

The researchers found that many teachers provided feedback on a daily basis through on going assessments, observations, summaries and reviews. In addition, the use of oral questions was noted in all the classes observed. This was said to be an immediate indicator of whether the learners had grasped the concepts. In addition, teachers used tests both monthly and weekly to assess learner progress. It was further found that teachers employed reading techniques and teaching cards to assess the level of learners' understanding. The researchers noted that the major factor affecting assessment was a lack of teaching and learning materials. Tables 1.2 and 1.3 with Charts 1.1 and 1.2 below show the frequency of assessments that involved the actual giving of class tests as opposed to mere oral questioning.

Table 1.2 Frequency of Administering of Class Exercises

Daily	Weekly	Monthly	Fortnightly	Never
87	03	00	00	00

Chart 1.1 Frequency of administering of class exercises

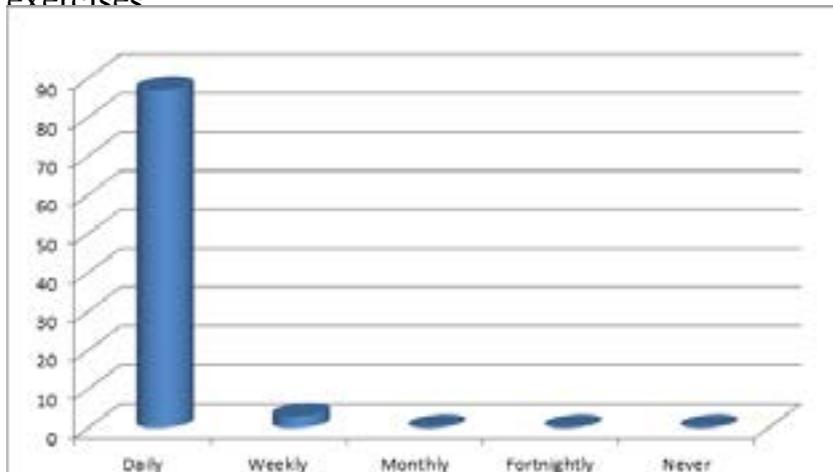


Table 1.3 Below show Frequency of Administering Tests

Daily	Weekly	Monthly	Fortnightly	Never
00	08	64	18	00

Chart 1.2 below represents the frequency of test administration in the schools.

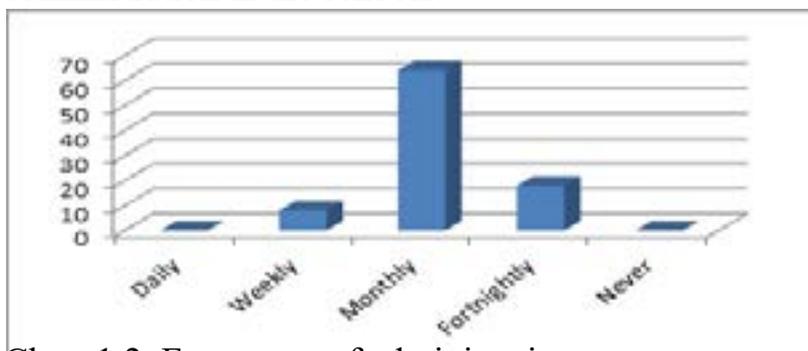


Chart 1.2 Frequency of administering tests

The charts show that there are forms of assessments currently underway in the studied schools. The most

common one being daily exercises given after lessons. Eighty seven (87) teachers gave exercises to their learners everyday whilst only 3 teachers gave them class exercises weekly. However, when it came to tests, only 8 teachers reported they gave tests every week. The majority (Sixty eight (68) teachers) said they assessed their learners monthly in form of tests. Whilst eighteen (18) teachers said they gave tests fortnightly. The study (researcher) found that teachers also carried out oral assessments to gauge the extent to which learners had grasped the concepts taught.

Evidence from the study was that huge class sizes impacted the frequency of administering tests. Teachers pointed out that while they tried to give learners exercises inform of home work, very few learners did homework. They attributed this to lack of parental supervision. The researchers were further informed that schools did not have policies to punish learners that did not write homework.

Discussion of Research Findings

Teachers in the research sites bemoaned a lack of teaching and learning materials. They reported that they had to write passages on the board for pupils to read in critical subjects. This led to waste of time as learners were only in these schools for a maximum of three hours in which teachers had to teach and mark. The lack of teaching and learning materials affected the written assessment that teachers saw as being an important tool of assessing teaching and learning processes. This is showing that schools are slowly regressing to a time where schools critically lacked teaching and learning materials. In addition to lack of materials, it was found that very little attention was being given to the slow learners due to the over crowded classrooms. In many instances, teachers indicated that it

was difficult for them to identify slow learners as they had very little direct contact with the learners. In one of the schools understudy, the average number of pupils in class was 60. Huge classes were said to impact on the frequency of administering tests. In the long run, it led to teacher fatigue and impacted quality provision of education. This finding supports the report by the Ministry of General Education (2010) that indicated that huge classes reduced learner participation in class.

Another factor was the lack of teaching and learning materials. According to the Ministry of Education (2010) pupil-book ratio, which is the number of books divided by regular learners countrywide had improved. In this study however, this improvement had not been translated on the ground. For instance, one such school in the study had 10 English books divided among the 75 learners. These books were also shared among teachers teaching various shifts.

In 2010, the Ministry of Education reported that on average, across provinces, there was one English book per two students in basic schools (Ministry of Education, 2010). However, in this study, it was found that primary schools under study had over six (6) pupils sharing one book. Teachers in the study acknowledged that at one point teaching and learning materials were procured and were in these schools, but over time, these have been ‘disappearing’. This, therefore, may indicate that books may have been sent to these schools but management of these materials is very poor.

In the study, it was found that schools that were relatively old had recommended a number of learners. The two schools in the study had an average of 45 pupils, this was within the recommended pupil teacher ratio (Ministry of Education, 2010). However, dilapidated infrastructure

coupled with lack of teaching and learning materials compromised the quality of education delivery hence hindering learning. The findings on this issue were that the school that had good infrastructure was the one with huge class sizes and few teaching and learning materials.

Teachers found it difficult to repeat lessons even when learners did not understand due to large class sizes. Although some teachers indicated that they often repeated lessons when there was an indication that learners did not understand, in focus group discussions, learners said they were yet to see this as learners often compared their exercise with other learners to correct their work with very little teacher guidance. On average, learners said they learnt two subjects and feedback always took some time and at no time did teachers repeat any topic when the learners had difficulties to understand.

How Assessments are Being Used to Enhance Teaching and Learning

Assessments are crucial to the teaching and learning process (Fisher and Frey, 2007). The study established that teachers saw formative assessment as being important as they gauge the level of understanding of what was being taught. Stigins (2007) further added that it is vital that learners are assessed up to the point they have finished a topic to gauge if learning has truly occurred. Teachers in the study often used this form of assessment, according to them oral questions were used for this purpose and often helped them assess how much has been learnt. In addition, teachers used follow up activities to cement the assessment processes. In FGDs, learners pointed out that at times, teachers told them to exchange books to mark simple

exercises especially when it was spellings or special paper one, a thing which encouraged them to participate in class activities and encouraged them to revise.

However, apart from class exercises, not many teachers gave monthly and weekly tests. In principle, the teachers said they would like to administer as many tests as they could and in all subjects but, in reality, this was not possible due to lack of materials and large class sizes. These findings were supported by Chileshe, Mkandawire & Tambulukani (2018) who reported that several primary schools in Zambia are characterised by limited teaching and learning materials in overcrowded classrooms. In the long run, in these differentiated classrooms, teachers concentrated on gifted children or those who knew how to read and write. Teachers could not give remedial work citing lack of interest from children themselves. This affected the performance of slow learners who eventually lost interest in school. Because teachers also were worried about finishing their syllabuses, even when learners did not understand, very few teachers repeated topics.

It was also found that teachers are rarely using assessment to enhance learning, for example, at Grade 6, even when teachers realised that their learners were unable to grasp concepts because they could not read and, no reading lessons were given to them. Teachers did not teach learners how to read so those who did not learn how read in earlier grades were doomed to a life of failure. The researcher found that whilst teachers were able to identify needs as they teach, the classroom environment and the lack of teaching and learning materials were hindering the use of assessment to enhance effective learning.

In addition, it was found that learner attitudes affected teacher attitudes towards assessment, whilst the

schools were seeking to foster positive learning attitudes, many learners were seen to be disengaged in the learning process. Parental indifference toward the learning of their children also did not help much, this often led to truancy, disruptive behaviour and absentism by the pupils.

Conclusion

The study found that formative assessments plays an important role on students performance. In this line, it was reported that, assessments were being administered in primary schools where this study took place. However, they were ineffective and did not gauge learner performance correctly. This is because teachers lacked materials as well as time to assess learner performance. The study noted that large class ratios and lack of access to learning materials made this quest even more difficulty. The study established that learners lacked a supportive home environment in which they could thrive. For this reason , such learners would benefit from more time in a well equiped school.

Recommendations

The study made the following recommendations:

- (i) School administrators should put measures in place to reduce class size as large class made it impossible to use assessment to enhance learning.
- (ii) Parents and school administrators should procure both learning and teaching materials to enhance teaching and learning. In addition, there should be management of materials in schools.
- (iii) That parents should have greater involvement in the academic life of their children.

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