

THEME: ASSESSMENT INNOVATIONS FOR THE 21ST CENTURY.

SUB-THEME: Assessment to enhance Learning

TITLE: Portfolio Assessment: Transforming Classroom Assessment for quality learning in lower primary classes, Kiambu County, Kenya

By

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Abstract

Assessment of learning in many developing nations largely relies on teacher made tests or standardized tests. However, assessment of a student's progress and performance should not be limited to paper – pencil tests. The 21st century skills requires assessment approaches that extend beyond test scores to include substantive descriptions of what the student is doing and experiencing. This is synonymous to authentic or performance assessment that requires learners to demonstrate what they know and can do rather than tell (Cole, Ryan & Kick, 1995).

Portfolio assessment presents a practical approach to measuring, interpreting evidence of student performance relative to the set instructional objectives and targets. This assessment is individualised and sees the student as having unique needs and strengths.

This paper examines the extent of use of portfolios for classroom assessment in Kenyan primary schools. Survey design through questionnaires and observation guides was used. Factors that hinder use of portfolio assessment were analysed.

It is evident that there is over-reliance on conventional assessment methods where products of learning are emphasised as opposed to the process of learning. This denies learners the opportunities to develop metacognitive skills that will enable them reflect upon and make adjustments in their classroom learning and beyond.

Key words: assessment, portfolio assessment, 21st century skills

1.0 INTRODUCTION

Teachers all over the world engage in some form of assessment of learners in order to determine how much learning has taken place as well as determining the learners' weaknesses so as to institute remedial measures for improvement purposes. Today educational systems across the globe are undergoing efforts to move beyond the ways that they operated at the beginning of the 20th century, with the traditional practices that ask learners to work individually on examinations, which require them to recall facts or respond to pre-formulated questions within the narrow boundaries of individual school subjects.

Society and the labour market demand for graduates of an education system who have cognitive skills such as problem solving, critical thinking and analysis of data as well as situations (Dochy, 2001) According to National Research council, the modern workspace requires workers to have broad cognitive and affective skills often referred to as "21st Century skills". These skills include being able to solve complex problems, to think critically about tasks, to effectively communicate with people from different cultures and to easily adapt to the changing environments.

In a digital world, students must be prepared for new technologies and new ways of working. Economies and societies can be transformed by developing these skills in the classrooms. A 21st century assessment should encourage picking and choosing the best method for showcasing a specific skill.

1.2 PORTFOLIO ASSESSMENT (AN ALTERNATIVE FORM)

The portfolio is a framework containing evidence of learning outcomes over time. This evidence is supplemented by portfolio builders' reflections on their learning and can be used to provide feedback to the learner.

A student portfolio is a systematic collection of the student's work and related material that depicts a student's activities, accomplishments, and achievements in one or more school subjects. The collection should include evidence of student reflection and self-evaluation, guidelines for selecting the portfolio contents, and criteria for judging the quality of the work. The goal is to help students assemble portfolios that illustrate their talents, represent their writing capabilities, and tell their stories of school achievement (Venn, 2000, pp. 530-531).

Portfolios are considered authentic assessment as they provide evidence of what a student can actually do. Like many authentic assessments, portfolios contain information from a range of sources, through multiple methods, and over various points in time. Typically, a portfolio includes evidence of learning selected by the student, self-reflections on the learning process, and criteria for selecting portfolio entries. Portfolios have the advantage over traditional assessments and tests in that they allow instructors to monitor the growth and development of students' understanding. In addition, they encourage students' active participation in the assessment process as students' self-assessments and reflections are documented as part of the portfolio. With the emphasis on student involvement, a portfolio is a collaborative process between the student and instructor.

1.2.1 Steps in the Portfolio Assessment Process

First, the teacher and the student need to clearly identify the portfolio contents, which are samples of student work, reflections, teacher observations, and conference records. Second, the teacher should develop evaluation procedures for keeping track of the portfolio contents and for grading the portfolio. Third, the teacher needs a plan for holding portfolio

conferences, which are formal and informal meetings in which students review their work and discuss their progress. Because they encourage reflective teaching and learning, these conferences are an essential part of the portfolio assessment process (Venn, 2000, p. 540). In the lower primary classes, parents attend the conferences to track the progress of their children.

1.3 Purpose of the study

The purpose of this study is to establish the extent of use of portfolio assessment and identify ways of advocating for its use in lower primary schools.

1.4 Statement of the problem

Assessment is a major tool in the process of determining the quality of education. Education should yield desirable outcomes in the acquisition of cognitive, psychomotor and affective skills by the learners. The 21st Century skills demand a paradigm shift in curriculum, teacher quality and assessment methods. Formative and summative assessments are essential in determining the extent to which the learners has achieved the intended curriculum objectives. However in Kenya the emphasis is more on the assessment of learning rather than assessment for learning. In Kenyan schools, the emphasis is on high-stake examinations which are summative in nature. Majority of the teachers do not keep individual pupil's records on the regular classroom assessments. Most of the teachers are not well equipped in the authentic assessments that encourage creativity, critical thinking and analytical skills. The learning in the lower primary school classes forms the basic foundation of a learner's academic achievement. It is therefore important to emphasize continuous assessment in the lower classes. The learners at this level are developing basic cognitive, psychomotor and affective skills such as handwriting, word building, numeracy and literacy skills. For these skills to be developed there should be close monitoring and interaction between the teachers and the learners at nearly every stage of learning. The achievements at each stage should be recorded for each individual learner so as to track progress. This can be achieved with the authentic assessments such as portfolio assessment. In Kenyan schools, the emphasis is on high-stake examinations which are summative in nature. Majority of the teachers do not keep individual pupil's records on the regular classroom assessments. Most of the teachers are not well equipped in the authentic assessments that encourage creativity, critical thinking and analytical skills. It is for this reason that this study seeks to find out the extent of use of continuous assessment and in particular portfolio assessment. However the new Kenya Education Act of 2012 recommends that continuous assessments grades should be integrated into the summative grades. It is therefore necessary to carry out baseline studies to find out the use of authentic assessments and advocate for these assessment in testing the 21st century skills.

1.5 Objectives of the study

- 1) To establish the assessment approaches used by lower primary school teachers.
- 2) To determine the extent of use of portfolio assessment in lower primary schools.
- 3) To find out the factors that hinders the use of portfolio assessment in schools.
- 4) To identify ways of advocating for the use of portfolio assessment in schools.

1.6 Research hypothesis

The main hypotheses to be tested in this research study are that there are no significant differences in the use of portfolio assessment in regard to the category of schools, qualification of the teachers and the teachers' teaching experience.

The statements of the hypotheses to be tested are as follows:

1.6.1 Ho - 1

There is no significant difference in the use of portfolio assessment between private and public primary schools.

1.6.2 Ho - 2

There is no significant influence of teacher's qualification in the use of portfolio assessment in primary schools.

1.6.3 Ho - 3

There is no significant influence of teaching experience in the use of portfolio assessment in primary schools.

1.7 Scope and delimitation of the study

This study was limited to public and private primary schools and the teachers teaching the lower primary classes in Kiambu district, Kiambu County.

1.8 Definition of Key Terms

Assessment: Assessment can be defined as the systematic and ongoing method of gathering, analyzing and using information from measured outcomes to improve student learning in terms of knowledge acquired, understanding developed, and skills and competencies gained.

Portfolio: is a record of the child's process of learning, what the child has learnt and how he/she has gone about learning, how she/he thinks, questions, analyzes, synthesizes, produces, creates and how she/he interacts intellectually, emotionally and socially with others.

21st Century Skills: refers to the competencies that are required for today's digital world in preparing learners for the global competitiveness. These include learning and innovation skills, Information, Media and Technology skills, Life and careers skills.

2.0 LITERATURE REVIEW

Research has shown that on-going assessment embedded into the learning process has a powerful effect on the student learning particularly for low ability students (Black & William, 1998). Creating such systems of personalized learning requires new forms of student performance assessments that enable individual students to stretch onward from wherever they are in the learning continuum (Price, Pierson & Light, 2011). Nowadays one of the alternative assessment techniques used in various disciplines such as Mathematics, Science and Social Science is portfolio assessment (Birgin & Baki, 2007). In the recent past there have been changes in the traditional approaches to learning, teaching and assessment. The assessment procedures and approaches need to change in tandem with the changes in the learning approaches. Constructivists assume that students are able to acquire and socially construct their knowledge and understanding. This approach pays more attention to students' prior learning, their problem solving skills and their collaborative learning (Baki, 1994). Therefore, assessment of learners cannot be done within a short time using multiple choice tests (Romberg, 1993).

The Kenyan Education Act of 2012 underscores the importance of continuous assessment in determining learner achievement. However, the teachers do not have adequate knowledge and skills on the various alternative approaches of assessment that can enrich the learning process. For this reason portfolio assessment which is an alternative approach to traditional assessment approaches should be embraced by teachers to determine how much learning has occurred and what has been learnt by the students.

3.0 Research Methodology

The survey research design was adopted because it enabled the researchers to examine the relationships among variables within the sample drawn from the population. Data was collected from the teachers through the questionnaires and also from pupils' records using an observation guide. The questionnaire elicited information on the methods of assessment used and the extent of use of portfolio assessment by teachers. The questionnaire was also used to gather information on the advantages, disadvantages and the factors influencing the extent of use of portfolio assessment.

3.1 Target Population

The study targeted teachers teaching in public and private primary schools.

3.1.1 Sampling

The study sample consisted of nine schools selected through simple random sampling. Three teachers teaching the lower primary school classes (1- 3) were purposively sampled from each school as these classes are taught by one teacher except in one school where one of the classes was taught by two teachers. This makes it possible for documenting a pupil's progress over time.

3.2 Data collection instruments

3.2.1 Questionnaire

The questionnaire was used to elicit information on the approaches used by the primary school teachers in the assessment of their learners. It also generated information about the extent to which the teachers used portfolio assessment as an alternative approach to the conventional methods of assessment. It was also used to gather information on factors that hinder the use of portfolio assessment and ways of advocating for use of portfolio assessment.

3.2.2 Observation guide

An observation guide was used in the process of observing the types of records or evidence of portfolio assessment within the classrooms

3.3 Data analysis

In analysing the data, SPSS was used to generate descriptive statistics. Frequencies were used to describe the population demographically. Further analysis included crosstabs to establish relationships between variables. Factor analysis was used to determine the factors that contribute most to the teachers not using portfolio assessment approach. Chi square test of independence was used to establish the influence of category of school, teacher qualification and teaching experience on the use of portfolio as an approach to assessment.

4.0 PRESENTATION AND DISCUSSION OF FINDINGS

School category

Teachers teaching lower classes (1 – 3) were purposively sampled due to the fact that they handle learners at this level for all subjects. Thirteen and fifteen teachers from public and

private schools respectively responded to the questionnaires representing 46.4% and 53.6% respectively.

Teacher gender and age

21.4% male teachers and 78.6% female teachers responded to the questionnaires. About 28.06% of the teachers who responded to the questionnaire were between the ages 26 – 30 years followed by those aged 40 years and above at 21.4%.

Professional qualification

The findings show that 39.3% of the teachers teaching these classes had attained a certificate in Primary Teacher Education (PTE) followed by those with a certificate in Early Childhood Education (ECDE) at 60.71%.

Teaching experience

Majority of the teachers had 10 years and above teaching experience.

Assessment approaches used by the teachers

The study sought to find out the approaches used by the teachers in assessment of the pupils. It was established that most of the teachers (82.1%) used Continuous Assessment Tests, Homework at 89.3%, Drawing and Artwork at 42.9%, End of term examination at 64.3% and Reading Tests at 7.1%.

Table 1: Frequency of Assessment

Frequency of Assessment	Number	Percentage (%)
Daily	17	60.7
Weekly	10	35.7
Fortnightly	6	21.4
Monthly	8	28.6
Once per term	10	35.7

Source: Author

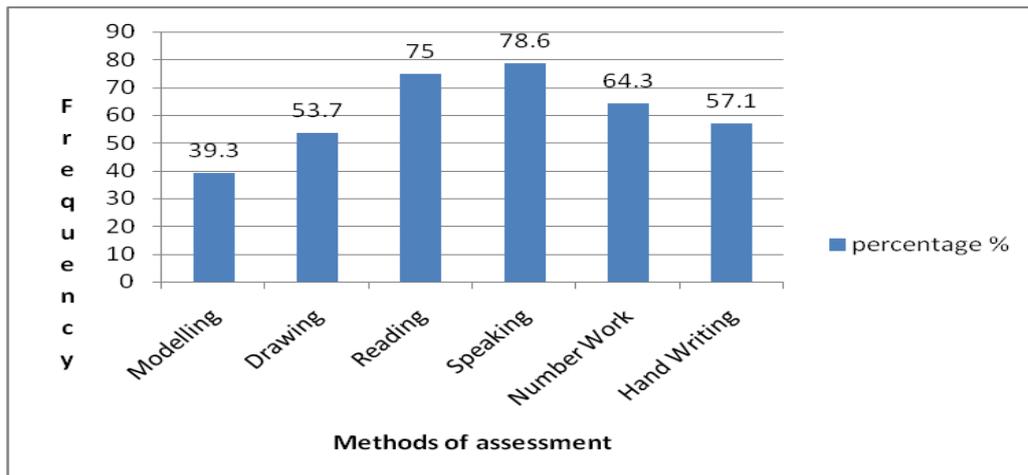
Application of portfolio assessment in lower primary schools

Majority of the teachers had some knowledge of portfolio assessment approach; however the degree of understanding varied from one teacher to another. This is consistent with what Baki and Birgin found out in their study where teachers did not have adequate knowledge on portfolio assessment.

39.3% of the teachers understood portfolio assessment, while 50% did not despite using this approach in their day to day classroom teaching.

The study also sought to establish the aspects of teaching learning process where teachers applied portfolio assessment as shown in Graph 1.

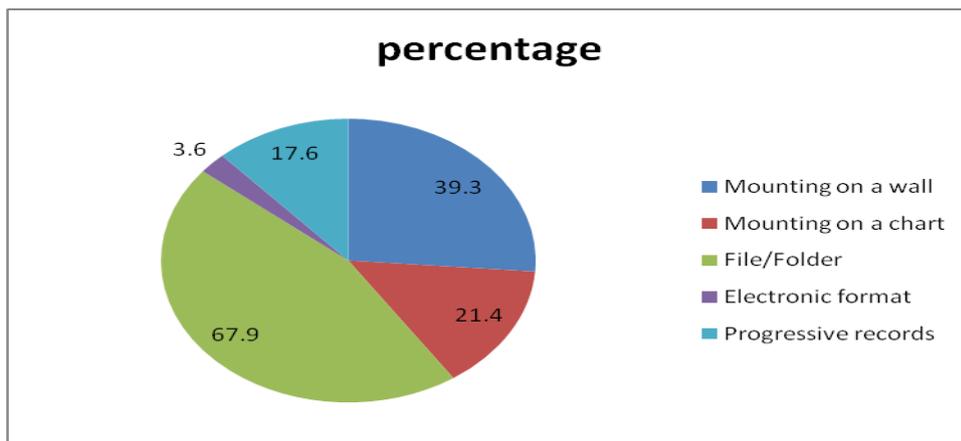
Graph 1: Teachers' responses on application of portfolio assessment



Source: Author

The teachers used different ways of keeping records of the pupils' achievement as shown in the table below.

Graph 2: Methods of record keeping used by the Teachers



Source: Author

The criteria of scoring portfolios are also very important in determining the quality of assessment. 64.3% of the teachers used marking schemes, 25% used a checklist and 25% marked by impression. Majority of the teachers followed pre-determined criteria in awarding of scores, a good indicator of reliable assessment.

53.6% of the sampled teachers indicated that portfolio assessment was commonly used while 42.9% indicated that it was not commonly used in their schools.

There are teachers who felt that portfolio assessment was being used frequently in assessment of pupils due to the fact that it enabled teachers to identify capabilities and weaknesses among learners; group pupils according to academic levels; identify learners with special needs; monitor the developmental stages of the pupils and assessing pupils' progress.

Some of the teachers felt that the use of portfolio assessment was not common because teachers had little knowledge of portfolio assessment as an alternative method of assessing. The large class size in public schools makes it difficult to individualize learning. Other teachers were weighed down by the pressure to prepare learners for the high stake examinations. Some teachers were altogether ignorant of portfolio assessment.

Advantages of portfolio assessment

It aids in talent identification, improves communication skills, gives the pupil experience of the activity, identification of pupils' strengths and weakness. It occurs in the pupils' natural environment and this helps to develop critical thinking skills as pupils together with their teachers reflect on their work. It promotes the child's independence and motivation in specific skills. It promotes collaborative assessment where teachers and students look and talk about the child's work identifying positive features and points for improvements.

Disadvantages of portfolio assessment

Portfolio assessment requires heavy investment on time. It is also bulky and difficult to manage. Scoring portfolios involves use of rating scales and professional judgement, and this limits reliability. The reliability is increased by having different teachers scoring a students work and agreeing on the ratings. The results from the cross tabulation indicated that eight private and three public schools teachers understood portfolio assessment, while six and eight in private and public schools did not. This shows lack of awareness about portfolio assessment among teachers in public schools. It is evident that the use of portfolio assessment is not emphasized during the teaching of pedagogy in the teacher training institutions.

HYPOTHESIS TESTING

The study sought to find out whether there was any significant difference in the use of portfolio assessment with regard to the category of school, the teaching experience and professional qualifications of the teachers in the sampled schools. To determine this, a chi square test of independence was carried out using the above variables. The null hypothesis of no differences in the teachers' use of portfolio assessment in public and private schools was not rejected at p –value of 0.705 and 0.05 α (alpha). There was no significant difference between teachers in public and private schools in using portfolio assessment as a form of classroom assessment. This shows that the category of school (public or private) does not influence the use of portfolio assessment as an approach to classroom assessment. The null hypothesis of no influence of teachers' professional qualification on the use of portfolio assessment in primary schools was rejected at p –value of 0.022 and 0.05 α (alpha). The alternate hypothesis was therefore accepted. There was a significant influence of teachers' qualifications on use of portfolio assessment as an approach to classroom assessment. The teachers with Primary Teacher Education Certificate (PTE) tended to use portfolio assessment more, followed by those with Certificate in Early Childhood Education (ECDE) while those with degrees used it the least. The results show that the higher the qualifications of the teacher the less likely the teacher would use portfolio as an approach to classroom assessment.

The null hypothesis of no influence of teachers' teaching experience on the use of portfolio assessment in primary schools was not rejected at p –value of 0.162 and 0.05 α (alpha). This shows that the teaching experience has no influence on the use of portfolio as an approach to classroom assessment.

Factors hindering the use of portfolio assessment.

Time factor was given as one of the main reason for not using this approach by many teachers. It requires a considerable amount of time to prepare and evaluate. Reviewing and scoring each portfolio requires a lot of time. Setting comparable standards by the different teachers may be difficult. The study also established that most teachers lacked adequate knowledge of how to conduct the portfolio assessment approach in order to assess the 21st century skills.

Advocating for the use of portfolio assessment in assessing 21st Century Skills.

For a teacher assessment is gathering information to understand how each child is progressing and using that information to further the child's learning. Assessment goes beyond testing. It concerns the daily interaction between the teacher and each child that include moment by moment conversations, observations and actions. Pupils need to be engaged in creative by providing materials and allowing them to develop items of their choice. Portfolio assessment allows pupils to participate in creative thinking during lessons that involve modelling, drawing, painting and storytelling. Encouraging portfolio assessment at early stages of learning helps pupils develop creativity, self-reflection and independence in the learning process.

Conclusions

In the assessment of the 21st century skills it is important to prepare today's learners to face the challenges of tomorrow's complex communities and workplaces. Assessment systems should value incorporating the assessment of the 21st century skills in the progress report books. Portfolio based assessment offers a viable alternative to traditional standardized tests in formative assessment. It allows the learners to demonstrate mastery of specific skills within the context in which they were taught rather than within the context determined by the test constructors. The findings clearly indicate that portfolio assessment approach is not being practiced by many teachers at lower primary level. It is at this lower level in the education cycle where learners are in the early developmental stages whose progress can be tracked and recorded as it improves from one level to the next. An analysis of the factors that hinder the use of portfolio assessment has shown that time invested into this approach to assessment and lack of pedagogical skills on how to use this approach contributed most to the non application of the approach by many teachers.

Recommendations

It is necessary to design learning activities in the curriculum to give learners the opportunity to practise the 21st century skills such as creativity, self direction, technology literacy, collaboration and communication so as to compete favourably with the global market. Extensive research into the efficacy of portfolio assessment is critical in validating this approach. The shortcomings of the standardized tests and other traditional methods of classroom assessment should be adequately addressed and supported by strong research evidence for portfolio assessment to be widely adopted by teachers. There is need for the curriculum developers to incorporate portfolio assessment as one of the alternative approaches in classroom assessment so that it is taught to all teacher trainees at the training institutions. Paradigm shift in assessment methods is inevitable. The assessment of the 21st century skills is a global concern and Kenya need not be left behind in refocusing on the best techniques for assessing the learners so as to fit in the rapidly changing global work environment

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