

Standards based educational reform and its implications on school-based assessment

Lessons from schools

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Abstract

The question of assessment standards has been at the centre of debate at many regional and international conferences on education. The debates result from new education initiatives and call for increased accountability. This has raised the demand on schools to develop more effective, integrated methods for assessing student performance.

Expectations about what all students should learn—and, by implication, what they should be tested on—have changed in response to social, economic and technological changes and as a result of the standards based reform movement. According to the principles of standards based education, there are three general types of educational standards namely; content standards, performance standards and opportunity to learn standards; (Husen and Tuijnman, 1994). This paper presents the theoretical and practical aspects of standards based education and how these impact on school based assessment.

Zimbabwe secondary school teachers were interviewed on the effect of standards based education on school-based assessment. Respondents revealed that both content and performance standards are very critical in the implementation of school based assessment. The study established that teachers who are skilled in the area of assessment appreciate the idea of standards based education, and that it is essential and a necessary condition for the success of school based assessment.

It is recommended that teachers be in-serviced in the area of assessment and educational standards so that they can understand and apply the principles of standards in school based assessment.

Introduction

The issue of assessment standards has gained momentum at many regional and international conferences on education. Educational institutions are therefore held accountable for falling education standards. In Zimbabwe, the question of education standards, particularly assessment standards took centre stage in the Ministry of Education Sport and Culture from the early 2000. Policymakers reasoned that if schools and students were held accountable for student achievement, with real consequences for those that do not measure up to expectations, teachers and students would be motivated to improve performance. This has forced the government to introduce performance management and results based management in the civil service in general of which schools are part.

Educationists and policy makers have learnt from this decade of test-driven reform that testing can have powerful effects on teaching in classrooms. Ironically, those effects on classroom instruction, particularly when the test measures a narrow range of lower level skills, might narrow the curriculum and limit learning opportunities available to students. However, when standards of learning are high, and assessments are geared to such standards, student achievement may improve.

Current assessment trends (school based and problem based assessment) have necessitated examinations boards and Ministries of Education to identify higher standards for student learning and set content and performance standards that cannot be measured by low level tests. Indeed, with the advent of standards based reform, researchers, policymakers and education practitioners agree that methods for assessing student achievement must be revamped in order to better measure what students know and are able to do. This introduces the need for multi-dimensional assessment techniques that are all embedded in school-based assessment. The paper therefore focuses on the implications of standards based education on school-based assessment.

The paper presents an overview of standards based educational reform and issues involved in developing assessment to measure content and student performance standards. Teachers' responses on issues pertaining to standards based education and how they affect school based assessments are presented and discussed in the paper. Experiences are drawn from sampled secondary schools.

Research objectives

The objectives of the study were to:

1. Assess the applicability of the standards based education model in school based assessment
2. Assess the experiences of secondary school teachers in school based assessment
3. Establish the views and perceptions of teachers on the importance of
 - i. Content standards in school based assessment
 - ii. Opportunity to learn standards in school based assessment

- iii. Performance standards in school based assessment
4. Recommend the way forward for standards based education model in school based assessment.

Theoretical framework

The central purpose for schooling is at the core of the education system. The purpose is reflected by the question, “Who is expected to learn?”. Traditionally, schools were designed to serve the best and the brightest, sorting out the others for manual labour jobs.

Traditionally, and during the colonial era, white children (of high socio economic status) were expected to do best. The traditional educational system was designed to further that end. Standards based education introduces a different purpose, one that is focused specifically on sustained student achievement for all students, regardless of gender, race/ethnicity, intellectual ability, or socio economic status.

However, designing and implementing a sustainable standard based system that consistently yields high student achievement involves more than setting and measuring academic goals. The process of changing to a ‘standards’ frame of reference goes much deeper. Changing to a standards-based system provides an opportunity to re-examine the organisational elements (Cordell and Waters, 1993) of a school system: fundamental purpose, principles, policies, processes, practices, programmes and procedures. Standards present an opportunity to examine or clarify these organisational elements as they are viewed by all the groups within the school community—teachers, school administrators, and parents.

In contrast to traditional beliefs, research has it that, although students do learn at different rates and in different ways, virtually all students can learn. Given appropriate time and instructions and clear expectations, many of the students previously written off can meet or exceed vigorous academic standards.

Standards-based education

The term ‘standard’ has been used synonymously to refer to curriculum standards, content standards and performance standards. Standards have come to mean many different things, to many different people. Kendall and Marzano (1995) distinguish curriculum standards, content standards, benchmarks and performance standards. Curriculum standards, they explain “are best characterised as descriptions of what should take place in the classroom, as such, they address instructional techniques, recommended activities, and various modes of presentation (p. 20). Content standards describe what students should know or be able to do. Performance standards refer to the quality of the performance deemed acceptable for each content standard.

According to Husen and Tuijnman (1994), the standards-based educational reform has three general types of educational standards that include: content standards, performance standards, and opportunity-to-learn (OTL) standards. Each type has an indispensable part to play in the ideal model of standards based reform as highlighted below.

Content standards

Content standards describe the range of desirable knowledge and skills within a subject area. They specify the general domains of knowledge that students should learn. Mueller (2004) views content standards as statements that describe what students should know or be able to do within the content of a specific discipline or at the intersection of two or more disciplines. Examples of content standards would include:

- Students will classify objects along two dimensions
- Describe effects of physical activity on the body
- Present employment-related information in the target language.
- Solve three-dimensional problems involving the angle between a line and a plane.

In History for example, content standards specify the people, events, and ideas that should be included in the history curriculum at each grade level.

Performance standards

Linn, Baker and Dunbar (1991) define performance standards as specifications of 'how much' students should know and be able to do. Thus, while content standards shape what goes into a curriculum, performance standards set benchmarks, that is, specified levels of achievement that shape expectations for educational outcomes provide a basis for measuring learning outcomes and provide the criteria for imposing rewards and sanctions.

Performance standards are therefore statements that describe skills students should develop to enhance the process of learning. They are generic skills that students should display for specified levels of achievement.

Performance standards for Mathematics for example, specify the mathematical operations and concepts that should be mastered at each grade level as well as the types of assessments that should be used to measure that mastery.

Opportunity-to-learn (OTL) standards

Opportunity to learn (OTL) standards specify the nature of educational inputs and resources that are needed to realise expectations for student and school performance, (Stites 2004). Stites (2004) further maintains that OTL standards are needed to respond to concerns over the potential inequity of raising expectations for all students without ensuring that all had an equal opportunity to meet higher expectations. For example OTL standards might specify the number of hours and quality of instruction that students should receive before they are tested on desired levels of skills and knowledge specified in content and performance standards.

The three types of standards (content, performance and OTL) are linked and interrelated. For meaningful and fair performance standards to be set, it is necessary to define the exact content areas to which these standards shall apply. Before performance can be fairly assessed, it is moreover necessary to determine whether all students have had adequate opportunities to learn the prescribed content (Hussen and Tuijnman 1994). In fact OTL standards should be predetermined and set first before content and performance standards; as these form the basis for comparability purposes.

It is clear that performance standards carry most of the load in the theoretical model. They specify 'how much' students should know and be able to do. They may also specify the tests used to measure whether students have learned enough. For these reasons, performance standards supply the leverage needed to hold learners and educational programmes 'accountable' for learning. While content standards may be the result of broadly inclusive efforts to achieve consensus on 'what' students should know, in the end, they simply describe what 'ought to be' not what 'must be'. Content standards alone do not drive a system of accountability for educational outcomes. Performance standards, with accompanying indicators to specify where to look to see how much is there and benchmarks to determine the level of performance that is enough, are considered clear performance standards.

In the ideal model of standards-based educational reform, content, performance and OTL standards each have clear and distinct roles to play. For example, for performance standards to be fair, students and others who will be held accountable for outcomes must have the opportunity to meet those standards, therefore there should be standards for the quality of schools and schooling.

School-based assessment

Several authors have given varied definitions of the concept school-based assessment. Ogunniyi (1984) views school-based assessment as a formative evaluation procedure concerned with the finding out, in a systematic manner, the overall gains that a student has made in terms of knowledge, attitudes and skills after a given set of learning experiences. The main idea is that school-based assessment should evaluate all the domains of learning, that is:

- Cognitive domain (acquisition of knowledge)
- Affective domain (beliefs, attitudes and perceptions)
- Psychomotor domain (acquisition of practical skills).

In other words SBA should evaluate the total human being. School-based assessment is basically concerned with the progress of pupils by regularly measuring their performance against curricular goals and making the results available to classroom teachers. The result of that assessment can be used as part of the scoring of public examinations. Alternatively, they could become the sole basis for certification or selection. What then are the key characteristics/features of school-based assessment?

Characteristics of school-based assessment

School-based assessment is conceptualised as an on-going assessment exercise in schools. From its definition SBA has the following features as defined by Obioma (1986):

- **Comprehensiveness:** School-based assessment focuses on all the three domains of learning, making use of a variety of measurement instruments.
- **Cumulative nature:** In school-based assessment, the previous assessments of the learner are taken into account in determining future achievements in a given task or course of study.

- **Systematic procedures:** School-based assessment depends on a well-developed operational plan where the intervals of measurement, assessment and evaluation of the learner's achievements are clearly stated.
- **Guidance oriented:** School-based assessment is diagnostic and has a feedback mechanism, which permits the application of some remediation and intervention.

These features constitute an effective school-based assessment programme.

Methodology

The study population comprised secondary schools in the nine educational regions of Zimbabwe. Out of the nine regions two were purposefully selected, that is Harare, and Mashonaland West Region. The two regions were selected on the basis that one region (Harare) had its teachers trained in assessment principles while the other one (Mashonaland West) had not been trained in assessment. The Zimbabwe School Examinations Council trained Harare secondary school teachers in the following areas of assessment:

- The syllabus and its components (syllabus interpretation)
- Forms of assessment
- Test Construction
- Marking
- Analysis of classroom tests.

Training was done so that teachers could incorporate skills gained in their formative evaluation of pupils, particularly school-based assessment.

Structured interviews were administered to a sample of 60 teachers constituting 30 per selected region, while focus group discussions were held with teachers where interviews had been conducted. Interviews complimented with focus group discussions, gave the researcher an insight into how teachers perceive standards based education, namely content, performance and opportunity to learn standards on effective school based assessment. Data was both qualitatively and quantitatively analysed. Quantitative analysis of data resulted in percentage responses being computed to give more meaning to teachers' responses.

Discussion of findings

Study findings are presented and discussed according to themes to which they fall in. The findings are discussed according to themes such as, content standards and school based assessment, opportunity to learn standards in school based assessment, and performance standards in school based assessment. Views of teachers who had been trained or not trained in assessment were discussed under these sub-themes.

Content standards and school based assessment

Content standards describe what students should know or be able to do, and these are captured in National Syllabuses. The Curriculum Development Unit (CDU) in consultation with key stakeholders develops all syllabuses in Zimbabwe. The syllabuses combine both curriculum and content standards.

Teachers are supposed to analyse the syllabus and conceptualise all the curriculum and content standards during teaching. About 80% of the teachers who had been trained in syllabus interpretation indicated that they used the syllabus to plan and align content standards to their schemes of work. They set school content standards on the basis of syllabus content standards. The school syllabuses analysed captured all the curriculum and content standards in the official syllabuses. School based tests are constructed from content covered in the school syllabuses.

Harare teachers also indicated that members of the school reach consensus on content standards, and determine what is learned at each organisational level. In addition, a variety of materials are used which provide experiences aligned with content standards. Teachers then teach to content standards.

On the other hand, 75% of teachers in Mashonaland West Region indicated that their scheming and planning was based mainly on prescribed textbooks. Teachers in this region had not been trained in syllabus interpretation and how to analyse important sections of the syllabus. The majority of teachers in this region said that they only used the syllabuses simply to check topics that should be included in the schemes of work. The breadth and depth of content to be covered were taken from recommended textbooks.

It must be pointed out that textbooks though they are prescribed or recommended do not necessarily cover all the content as prescribed in the official syllabuses. In addition textbooks remain static while knowledge changes with time. It can be concluded that teachers who use textbooks to prepare schemes of work for teaching or to prepare school syllabuses may fail to align school content standards to national content standards. If school content standards do not match national content standards then this would have a negative impact on school-based assessment since classroom tests are constructed on the basis of content taught. This heavily affects the quality of school-based tests.

Opportunity to learn standards and school based assessment

Opportunity to learn standards (OTL) are also known as delivery standards. They include educational resources and materials necessary for effective teaching and learning. The rationale for OTL standards are hinged on the idea that, for performance standards to be fair, students and others who will be held accountable for outcomes must have the opportunity to meet those standards, and therefore there should be standards for the quality of schools and schooling.

An analysis of national syllabuses for secondary school subjects revealed that all the syllabuses do not indicate opportunity to learn standards. Opportunity to learn standards should provide all the candidates who are at the same level at least equal opportunities for them to learn. Results of focus group discussions with both groups of teachers indicated that opportunity to learn standards are critical if candidates are to be compared and measured along the same continuum. Respondents revealed the following opportunity to learn standards as critical in school-based assessment:

- Equal instruction time for all students for a given subject

- An equitable distribution of educational resources; such as textbooks, equipment and stationery
- Standard learning environments
- Standard learning facilities such as furniture, buildings and grounds
- Well-qualified teachers
- Varied and student centred teaching/learning methodologies.

All these aspects of opportunity to learn standards are not captured and specified in the syllabuses with the exception of teaching methodology, but however the Ministry of Education Sport and Culture attempts to ensure equity in the distribution of such resources. Standard instruction time for each subject is specified by the Ministry as shown in the table below.

Instructional time standards for selected subjects

Level	Subject	No. Of Periods per Week
ZJC	Mathematics	6
ZJC	Shona	4
ZJC	History	4
“O” level	Mathematics	6
“O” level	Science	6
“O” level	Shona	4
“A” level	Physics	12
“A” level	Maths	12
“A” level	Geography	8

All the teachers interviewed reported that they implement recommended instructional time standards. Therefore recommended teaching time standards were followed in schools in the two sampled regions. However, there were variations in the distribution of educational resources such as textbooks, equipment and even qualified teachers. Disparities in learning facilities such as furniture, buildings and even sporting grounds were noted between urban schools and rural schools. Urban secondary schools enjoyed better facilities than rural secondary schools. Teachers were of the view that opportunity to learn standards must be uniform across all schools if school based assessment is to be effectively implemented and contribute to national examinations. However, close to 65% of the trained teachers echoed that disparities in opportunity to learn standards would continue simply because of the differences in administration and priorities that are attached to by each School Development Committee/Association. Differences in these standards would mean that school based assessment standards would differ from one institution to another with schools that enjoy better resources and facilities set to perform better than those with inadequate resources. These would basically affect the quality of school-based assessments for poor secondary schools. From the teachers’ responses there is a link between opportunity to learn standards and effective school based assessment. Poorly set opportunity to learn standards would result in ad-hoc school based assessments.

It has been mentioned that delivery standards (teaching methodology) are part of opportunity to learn standards. These are very critical in school-based assessment. All the

teachers interviewed responded that instruction should be varied. They indicated that teachers prepared a variety of approaches that reach all students. Teachers who had been trained in school based assessment were of the opinion that multi-dimensional teaching approaches should be applied if standards are to be realised in school based assessment. The multi-dimensional approaches should encompass ethno-based methodologies, which are very critical in school-based assessment. Ethno-based methodologies are naturalistic approaches that make maximum use of the environment in teaching and learning. It was noted that 82% of the teachers who had been trained in syllabus interpretation, teaching methodologies and test construction appreciated the application of delivery standards to effective teaching and learning. This observation concurred with perceptions of 20% of respondents in Mashonaland west region who had not been trained in the above aspects. The implication is that the remaining 80% of the teachers who had not been trained together with 18% of those who had been trained need staff development on ethno-based teaching/learning so as to improve instruction in schools. In short, capacity building programmes on modern teaching approaches should be planned for classroom teachers.

Performance standards and school based assessment

Classroom assessment is most effective if what gets taught gets tested; if classroom assessment is aligned with national level accountability assessment and content standards; and if all these are congruent with purpose, principles, policy and practice. Aligned classroom assessment enables the teachers to make instructional decisions for students on continual basis. Classroom assessments allow students to practice skills from simple to complex and to integrate those skills in meaningful ways. Students must know what skills they currently have and what they are expected to do in order to meet or exceed the standards.

Performance standards are specifications of how much students should know and be able to do. Performance standards include assessment standards. If assessment standards are to be met in schools, teachers should have knowledge of assessment principles and display skills and competencies in:

- Test construction, that is construction of various types of tests which include multiple choice, structured, essay, practical, projects and portfolios
- Marking
- Test analysis
- Grading and Awarding
- Reporting pupil performance.

Harare teachers were trained in assessment principles and procedures of test construction, marking and analysis of classroom tests while Mashonaland West teachers had not been trained. A comparative analysis of responses from these groups of teachers on performance standards as they are applied to school based assessment is highlighted.

Document analysis of syllabuses revealed that the syllabuses lacked detail of performance standards. Most of the syllabuses include assessment objectives and scheme of assessment with a few indicating the specification grid. Performance standards however do not only include these three aspects that guide assessment but also incorporate grade descriptors as

indicators of performance. Grade descriptors indicate the generic skills that candidates should display at each grade level. There is need therefore to include grade descriptors (with requisite generic skills) in all national syllabuses so that schools would make use of them and align their school-based assessments to these generic skills.

A sample of teachers who had been trained in assessment were able to set assessment standards for their institutions, a move which impacts positively on school based assessment. The teachers indicated their ability to construct various forms of tests, which they administered in their institutions. On the other hand close to 25% of the teachers who had not been trained in assessment appreciated the use of multi-dimensional assessment techniques (portfolios, performance assessment and authentic assessment) as current trends in student assessment in school based assessment. This was so because multiple choice formats and tests that require the use of paper and pencil only have been criticised because they do not reflect practices in the 'real world', (Burger 1998). Therefore performance and assessment standards should be included in the national syllabuses so that teachers can align their school performance standards to these national benchmarks. There is need also to train teachers in all aspects of assessment in order to improve school based classroom tests.

Conclusions and recommendations

From the discussion, it was noted that in the standards based educational reform model, all forms of standards, that is content, performance, and opportunity to learn standards should be aligned. Teachers can apply the model in teaching so as to improve results. This will help in benchmarking teaching/learning and assessment standards to national standards. First, coherent content standards can provide a clear vision of what every student should know and be able to do. Performance standards and related assessment will provide the tools for individual learners and everyone else to monitor progress toward goals. The educational standards movement can be characterised as an assessment driven reform effort. As such, the basic idea here is that since teachers often teach to the test, one way to improve teaching and learning is to create a better test, leading to authentic school based assessments.

Results of the study indicated that teachers who had been equipped in the area of assessment, used the syllabus regularly in their teaching while those not trained used recommended textbooks. Therefore content standards were compromised in these schools. The use of textbooks fails to determine the breadth and depth of content to be covered. The study revealed disparities in the allocation of educational resources. This meant opportunity to learn standards varied from one institution to another, resulting in urban schools having better resources than rural schools. Opportunity to learn standards were not indicated in the syllabuses with only the exception of teaching methodologies. There is need to specify opportunity to learn standards for effective school based assessment.

In the area of performance standards, it was revealed that syllabuses lacked detail on performance and assessment standards. Although the syllabuses contained assessment objectives, scheme of assessment and the specification grid, they did not have grade descriptors, which indicate the generic skills candidates should display at each grade level. Teachers therefore could not align school-based assessments to national standards. In the same vein, teachers trained in test construction showed the ability to prepare various types of

tests as opposed to those not trained, a move that has a positive impact on the quality of school based assessments.

On the basis of these findings, the following recommendations were made:

- Schools should implement the standards based educational model in their teaching /learning and assessment. This would enable schools to be accountable and be in a position to align their standards.
- The national syllabus should be the official teaching document where teachers should derive their content standards.
- National syllabuses should capture opportunity to learn standards as well as performance standards (especially grade descriptors) so that teachers can align their school based assessments.
- Secondary school teachers should be in-serviced in ethno-based teaching/learning, assessment (syllabus interpretation, test construction, marking and test analysis) and school-based assessment.
- Capacity building programmes on assessment and ethno-based teaching/learning should be extended to teacher education colleges and universities that train teachers.

References

- Burger, D. (1998) *Designing a Sustainable Standards-based Assessment Systems*. Mid-continental Regional Educational Laboratory.
- Cordell, F. D., and Waters, J.T. (1993). *Improving Student Performance: New Strategies for Implementing Higher Standards*. Greeley, Co: The Centre for Peak Performing Schools.
- Husen, T., and Tuijnman, A. (1994) *Monitoring Standards in Education: Why and how it came about*. New York: Pergamon.
- Kendall, J. S., and Marzano, R. J. (1995). *The Systematic Identification and Articulation of Content Standards and Benchmarks*. Aurora, Co: Mid-Continent Regional Educational Laboratory.
- Linn, R.L., Baker, E.L. and Dunba, S.B. (1991). 'Complex performance based assessments: Expectations and validation criteria'. In *Educational Researcher*, 20(8) 15-21.
- Obioma, G. (1986) *Introducing Continuous Assessment* in A. Ali (ed). *Measurement and Evaluation*. Ibadan: Heinemann.
- Ogunniyi, M.B. (1984) *Educational Measurement and Evaluation*. Lagos: Longman