

“Please, sir, may I have some more?” - the under utilisation of school-based assessment in the National Senior Certificate in South Africa

ABSTRACT:

School-based assessment (SBA) forms 25% of a candidate's final result in each subject of the National Senior Certificate, the main end-of-school examination. The IEB has spent and continues to spend a lot of time and resources on building the capacity of teachers to develop reliable and valid SBA. Furthermore there are fairly robust systems in place for verification and moderation purposes.

This paper describes the SBA component. There is a discussion of some of the problems in implementation and weaknesses in the system.

Some tentative conclusions are drawn in respect of possible weaknesses in the system and options for addressing these to improve the reliability and validity of the SBA. Finally the paper explores additional opportunities to extend the possible purposes for which the SBA could be used.

Introduction

Assessment for certification purposes is judged by society primarily on its credibility of process and the accuracy and usefulness of the results in decision making beyond the school life of students. In this way it differs substantially from assessment for learning purposes where the effectiveness of the assessment is judged on the information it provides to school managers, teachers and students for the purposes of progression and improvement.

Rationale for introduction of School-based assessment as part of high stakes assessment at Year 12

There is sufficient evidence to suggest that a once-off assessment at the end of a course of study is not necessarily a fair, valid or reliable indicator of a student's mastery of the intended learning in the course. Hence for fairness and reliability, more than one opportunity for assessment is preferable.

Further, there is the issue of validity as curricula emphasise additional skills and knowledge not readily assessed through a traditional pen-and-paper examination. Assessment of specific skills e.g. oral expression in language; dissection in biology; practical work in visual arts, performance in drama. Taking this idea further, we see more and more curricula including an understanding and experience of research and alternate assignments within specific disciplines.

These developments provide a cogent reason for school-based assessment (SBA).

In South Africa specific emphasis has been placed on the inclusion of school-based assessment in the final result of students in the National Senior Certificate. Limited attention was given to continuous assessment as a tool for guiding teaching and learning in the

apartheid system, especially in non-white examining authorities. Use of aspects of continuous assessment in the calculation of the final results of students was employed in some examining bodies during the apartheid. These tended to be the white provincial departments that tended to achieve very good results in the final examinations. Hence the connection was made that students benefited from continuous assessment and the inclusion of SBA in the final results in these examining authorities. When the new single education system was established, the decision was taken to emphasise in the curriculum the importance of continuous assessment at all levels. In addition, the decision was taken to include SBA in the final assessment of all students in the National Senior Certificate at Year 12. Hence teachers who might previously not have done much assessment in class, were obliged to do so. In addition, it was decided that continuous assessment would include both tests and examinations as well as different assessment tasks e.g. research.

Implementation

There are a number of issues in the South African system that have negatively impacted on the successful introduction of school based assessment especially in the high stakes examinations in Year 12.

The first of these is the under-preparedness of teachers. There are numerous studies in South Africa which conclude that one of the major concerns in education in South Africa is the subject knowledge base of teachers. This poor base has a knock-on effect on their ability to teach effectively and assess effectively.

The following observation is from an NGO that works in teacher upgrade programmes in South Africa:

“South Africa still experiences the legacy of the Apartheid era's racially divided education system: teachers in disadvantaged areas tend to be less qualified (if at all) than their counterparts in formerly White-only schools; the historical lack of opportunity has resulted in low levels of motivation among teachers; and, in critical subjects such as mathematics and science, appropriately qualified teachers with a thorough grounding in subject knowledge are rare.” (Axium Education)

The following comment from Nick Taylor also has reference in that it refers to a second key characteristic required to be an affective teacher, namely pedagogical content knowledge:

“A second aspect of teacher knowledge concerns what has come to be called pedagogical content knowledge (PCK): this is the knowledge required to teach a subject, over and above knowing the subject content.” (Taylor N, 2006)

Nick Taylor further observes that there are very low English language literacy skills among language teachers. If that is the case, it is highly probable that the English language literacy skills of teachers in other subject areas is possibly even weaker. Given that the official language of learning and teaching in many of the historically disadvantaged schools is English, this observation is particularly worrying.

In their book “Assessment for learning: putting it into practice”, the authors make the following point:

“Designing good tasks, activities or questions requires that teachers have good subject knowledge Effective teachers need to understand thoroughly the basic material (Askew et al., 1997). Moreover, if teachers are to design good tasks, and

respond helpfully to students' efforts, then thorough and profound subject knowledge is not enough. Teachers also need good models of how students are thinking about a particular topic. they needed to develop not their abstract subject knowledge but what Shulman (1986) calls "pedagogical content knowledge" – knowing what aspects of a subject cause students particular difficulties and knowing the metaphors, contexts and analogies that students find helpful. (Black P et al, 2003)

The impact is that without the necessary depth of knowledge and understanding of the discipline within which the teacher is working, together with limited language skills in the language of learning and teaching, it is reasonable to assume that many teachers will have immense difficulty in setting appropriate assessment tasks and making reliable judgements about competence.

In fact, it is highly unlikely that poorly equipped teachers will be able to set high-level tasks that extend students' understanding. While Helen Sidiropoulos is referring to Mathematics teachers, it is highly likely that a similar phenomenon exists in other disciplines.

"Properly qualified teachers in mathematics instruction in high-poverty classes are a common denominator the world over, which negatively impact on reform initiatives (Arnott et al. 1997; Darling-Hammond 1997; Weiss, 1994). This is because poorly qualified teachers often provide low-level access to high-level content and reform-based pedagogy (Lubienski, 2002; Oakes, 1990)." (Sidiropoulos H, 2008)

There is doubt whether assessment at the school level was taking place in many schools under apartheid. If it was taking place, it consisted primarily of tests and examinations. The changes required in the new qualification to include alternate assessments and research assignments were seen and experienced as a serious challenge by teachers.

Alternate assessment is not a simple process, as noted by Willa Louw:

"According to Anderson (1998:13), it unfortunately takes time. He says: "Moving away from traditional assessment procedures toward alternative assessments is a major theoretical change, and change takes time. It is important for instructors to move slowly and communicate to students the goals and rationale behind their alternative assessment practices. In moving toward alternative assessment, instructors should listen to students, negotiate with them, and ask for their feedback. This enables instructors to gain insight into what is working and what is not working." (Louw W, 2003)

The lack of credibility of school-based assessment results that comes from a system where teachers lack the necessary skills and knowledge, is borne out by a study into school-based assessment by Umalusi, the national quality assurance body.

"The broad conclusions of this study are that continuous assessment accuracy was weakest in terms of the great leniency of assessment in many schools (inflated CASS marks), although unreliability of assessment also was a cause for concern in some cases. This required targeted interventions. There was also evidence of a clear hierarchy in terms of assessment accuracy. schools in the top and even the second quintiles of the SES* distribution assessed much better. " (Van den Berg and Shepherd D, May 2008)

* SES = Socio-economic status

The IEB schools are all independent with little or no financial support from the state. As such, they fall predominantly within the top and second quintiles of the SES and the indication of better quality of school-based assessment is borne out by IEB research into school-based assessment results. (Oberholzer A, 2009).

It is no wonder that there was a strong reaction to the assessment requirements of the new curriculum and qualification.

“Assessment has been the area where most criticism has been aimed at the national curriculum since C2005. The panel questioned what the problems were with the assessment policies, whether there was sufficient clarity and appropriate use of assessment policies and guidelines, and what stakeholders, particularly teachers, thought should be done to address the problems.” (Review of the Implementation of the *National Curriculum Statement*, 2009).

The plea from teachers has been for greater clarity in specifications of tasks and coherence across all phases of schooling. There is also an expressed need for detailed in-service training in assessment. The use of statistical reports from the school-based assessment process at Year 12, could be used to focus direct interventions in schools where there is clearly a mis-match between standards applied at the school level and the standards required by the external examination. The intervention should address not only assessment but also the knowledge base and the pedagogical content knowledge of teachers.

A second issue is the apparent administrative overload that teachers have experienced as a result of the recording, reporting and moderation processes, required for SBA. Since 25% of the final results in Year 12 is gained from SBA, there is an obligation on the quality assurance system to ensure (a) that the required evidence has been provided by students (compliance) and (b) that the evidence reflects the correct standard (reliability and validity).

Naturally this will require from teachers additional administrative work that they did not previously have to worry about. Umalusi’s directives require that there is moderation of SBA work at four levels i.e. internally at the school, at the cluster or regional level, at the level of the assessment body’s head office and finally by Umalusi. To facilitate the moderation process, the work of the teacher as well as students is presented as a portfolio of evidence. Teacher and student portfolios require specific documentation and reports that facilitate the moderation process. While these requirements are not beyond what one could see as reasonable for the purpose of moderation, they do have to be specially prepared, and hence take up time which teachers believe could be more fruitfully spent on other tasks that would benefit students more directly. The general outcry from the profession about teacher overload in addition to the psychological impact of massive changes in the system caused the Minister of Education, Angie Motshekga, to review the implementation of the new curriculum. The following statement comes from the review report:

“Teachers across the country complained about onerous administration requirements and duplication of work. However, the planning requirements of teachers has become unnecessarily complicated and appear to make little contribution to improving teaching or student attainment; on the contrary, the administrative burden around assessment and planning appear to impact negatively on teaching and contact time.” (Review of the Implementation of the *National Curriculum Statement*, 2009)

A third issue is the overload on students in respect of the number and types of tasks required for SBA. These are stipulated in policy.

The following policy statement prescribes the number of tasks across subjects offered at Year 12:

Table 10: Number of Formal Recorded Assessment Tasks for Grade 12

SUBJECTS		TERM 1	TERM 2	TERM 3	TERM 4	TOTAL
Language 1: Home Language		5	5*	4*		14
Language 2: Choice of HL or FAL	HL	5	5*	4*		14
	FAL	5	5*	4*		14
Life Orientation		1	2*	2*		5
Mathematics or Mathematical Literacy		3	2*	2*		7
Subject choice 1		2	2*	(2*) 3*		(6 [#]) 7
Subject choice 2		2	2*	(2*) 3*		(6 [#]) 7
Subject choice 3		2	2*	(2*) 3*		(6 [#]) 7

* One of these tasks in Term 2 and/or Term 3 must be an examination

The number of internal tasks per subject differs from 6 to 7 as specified in Section 3 of the Subject Assessment Guidelines.

(National Protocol for Recording and Reporting (Grades R – 12), 2006)

The following policy statement prescribes the kinds of assessment tasks that should be performed in SBA:

“Examples of formal assessments include projects, oral presentations, demonstrations, performances, tests, examinations, practical demonstrations, etc.” (National Protocol for Recording and Reporting (Grades R – 12), 2006).

Many of the subject curricula have assessment standards that require research or investigation. When drawing up the subject assessment guidelines for these subjects, subject panels worked independently, attending to the assessment standards in their own subjects, without an overview being undertaken to address repetition. The outcome of this was that students in Year 12 are often expected to do 5 or 6 research projects during the year.

The following was the finding of the curriculum review process on the question of overload on teachers and students:

“ In terms of the usefulness and quality of assessment methods, parents and teachers widely cited the unnecessarily complex and unhelpful assessment demands on themselves and their children /students, such as portfolios, research tasks and projects. Apart from the generally superficial nature and the lack of educational rigour of these tasks, the review team was concerned that they do not offer equal opportunities for learning across communities. Rural and economically

disadvantaged students do not have access to appropriate resources, nor do their parents understand the complexity of assessments such as research projects, resulting in futile activities.”
(Review of the Implementation of the *National Curriculum Statement*, 2009)

The question of fairness, given the historical disadvantages that result from over 20 years of apartheid, is highlighted in this observation. The tragic aftermath of this system on the social fabric of South African education is enormous and plagues every effort at developing not only reliable and valid assessment strategies, but most importantly fair assessment.

Further the findings of Schwartz et al. who looked at depth versus breadth in high school science courses. They come to the following conclusion:

“We conclude that teachers should use their judgement to reduce coverage in high school science courses and aim for mastery by extending at least one topic in depth over a period of time.” (Schwartz M et al, 2008).

Even though their discussion relates to content coverage within the subject of high school science, the principle of depth versus breadth being of greater value to students in the long term could equally apply to the notion of appropriate skills development through appropriate assessment opportunities within the field of research.

Moderation

The administrative requirements to conduct face-to-face moderation in Year 12 has already been discussed in relation to teacher workload.

There are difficulties with the systemic moderation processes. Assessment bodies are obliged to conduct face-to-face moderation of SBA before the SBA results of a school are accepted as part of the final result of a student. In addition, to ensure comparability from school to school, Umalusi conducts statistical moderation of the school-based assessment results onto the mean and standard deviation of the examination results of an examination centre, before they are included into the final result. Given the findings of the tendency for inflation of SBA results, outlined in the report “Signalling Performance”, this is probably an appropriate strategy.

However Umalusi allows a ‘tolerance level’ of the SBA mean of between 5-10% above the examination mean. If the SBA mean of a school is within that tolerance level e.g. examination Mean + 8, there is no adjustment of the SBA. If the SBA mean is outside of that tolerance level the adjustment is to a mean which is 5% above the examination mean of the school. That means that SBA marks across schools are not treated in the same way by the system. This is unfair as the legitimate expectation is that the administrative processes in a system will treat all students in the same way, the notion of administrative justice.

Some teachers, in compiling the SBA result, aim to provide students with as accurate a picture as possible of the result that he/she may expect in the examination. Many teachers are aware of the tolerance level allowed by Umalusi but do not believe in giving students a higher mark for SBA, thereby reflecting more a lenient standard than students can legitimately expect to achieve in the examination. Hence the system provides a dilemma for teachers - do they pitch SBA at a lower level than the standard expected in the examination so that their SBA mean falls within the tolerance level of 5-10% above the examination mean or do they assess as accurately as possible and provide their students with an accurate picture of their expected performance in the examination. Or do they assess at an accurate standard

and then submit higher SBA marks to the assessment body i.e. ‘doctor’ the SBA marks before submission. Clearly the administrative process provides a challenge for teachers and possibly encourages undesirable responses from teachers.

The following illustrates the effect of this system on a specific candidate’s results.

School SBA Mean: 71.35%	School Exam mean: 69.28%
School SBA Std Dev: 8.43	School Exam Std Dev: 8.43

The student received the following marks: Exam: 236/300
Unadjusted SBA: 77/100 Adjusted SBA: 79.8%
Final result: 315.8/400 i.e. 79%

If the teacher had chosen to take advantage of the statistical standardisation process and had raised all SBA marks by 7 marks before submission (on the assumption that he/she knows the accuracy of his/her own assessment and 7 marks being more or less halfway between 5 and 10), the school statistics and the ‘adjusted’ SBA for this student would have been as follows:

School SBA Mean: 78.35%	Unadjusted SBA: $77+7 = 84$
-------------------------	-----------------------------

Because the SBA mean now falls within the Umalusi tolerance level of 5 to 10% above the examination mean, this student’s SBA of 84 will remain as is i.e. there will be no adjustment. Hence the final mark for this student would be $236+84 = 320$ i.e. 80%

This example illustrates that the student’s final result is not dependent on anything the student has control over, but rather is dependent on a flaw in the processes of the system, which does not treat all SBA adjustments in the same way. This clearly needs attention as it is simply unfair.

There is also a further consideration with statistical moderation. One of the assumptions in the model is that the kinds of tasks in both sets of results are consistent.

As noted, the SBA in the NSC is quite varied, including a range of alternate assessments including orals, practical work, research tasks, projects. This happens in other systems too and provided that there is general similarity between the two sets of requirements, statistical moderation is permissible.

“ However, the school-based components of the GCSE are frequently intended to assess objectives that can not readily be assessed in a formal examination so there will not necessarily be a direct relationship between the internally and externally assessed components’ marks; this may invalidate this type of moderation. Nonetheless, in some circumstances, this form of moderation (known as statistical moderation) will be the most appropriate method available. The GCSE General Criteria (DES, 1985) specify the conditions under which statistical moderation may be applied in the GCSE: these include an overlap of assessment objectives between internally and externally assessed components, and a high correlation between the components.” (Good F, 1998).

Wilmut, citing Ward (1982), further discussed the logic of using statistical moderation:

“Any form of statistical moderation using a reference component consisting of a written paper is open to the criticism that the procedure is statistically illogical. If the teacher-assessed component and the reference component have a low correlation because they are assessing

quite different examination objectives, then clearly the adjustment of one by relating it to the other is not justified. On the other hand, under conditions where it *is* justified, i.e. the two components are highly correlated, it is questionable whether assessment of coursework is necessary at all. So, on measurement grounds, it could be dispensed with. But, the fact that two components are highly correlated, does not mean that they are necessarily testing the same objectives. Hence there may be good reasons for retaining the teacher assessed component for its contribution to the content validity of the examination.” (Wilmot J, 2004)

While this observation raises a number of issues, the situation remains that a substantial part of SBA in South Africa is made up of components that do not necessarily correlate well with the external examination. However, given the poor history in South Africa of good quality school-based assessment, serious consideration must be given to the observation that it is only through making school-based assessment compulsory and hence making teachers accountable for their work throughout the year, that the necessary upgrading of the teaching community may be achieved. This strategy however depends on having appropriate monitoring of implementation including ways of detecting schools or teachers where implementation and results are inappropriate, relevant and useful feedback to the teachers and remedial interventions. Until these strategies are in place across the system, we will make little progress in using SBA as a tool for improving the quality of the learning experience of many students.

Other uses of quality SBA results

If there is agreement in the system that a set of SBA marks are accurate, the use of the results could fruitfully be extended to address some other issues in the system.

The current face-to-face moderation processes do require additional financial expenses on the part of schools and the examining body. Trends from previous face-to-face moderation processes and reports from the statistical moderation process are likely to ‘throw up’ class groups where the teacher may not be entirely on track. By the same token these processes will also identify teachers who are on track. Alternate processes could be employed with these teachers so that there is a very streamlined moderation process. This would mean that teachers who are doing a good job could be left to their own devices and attention of the assessment body could focus on schools and teachers where there is a need for an intervention.

Pre-requisites for such a system are:

- A history of reliable performance at a school;
- A comprehensive set of reports and statistics “to alert the awarding body to some apparent discrepancies in standards” (Wilmot, 2004);
- A credible process that ensures that the required SBA is actually taking place at the school;
- A valid intervention strategy that addresses the teacher’s knowledge base to improve his/her ability in assessing reliably against required standards.

A further consideration is the supplementary examination. One of the key reasons that entitles a student to write a supplementary examination is the instance where a student is unable to write part or the whole of the original examination at the designated time, for a valid reason e.g. illness, incapacitation. If a school’s SBA results are considered reliable, consideration could be given to using the student’s performance in the SBA or a key aspect of

the SBA (e.g. the preliminary examination as the final result. This would remove the need to write the examination 3 months later and hence reduce the stress on the student. There would need to be appropriate checks and balances in the system so that such a provision is not abused.

Currently there is no provision in the system for a professional judgement to be made about a student whose final result falls on a borderline e.g. 79%. Since the process of assessment is not an exact science, it is very difficult to say whether the child who gets 79% is really not an A candidate. However, if we have included school-based assessment as part of the result because we believe that, among other things, it improves the reliability of the final judgement, it would be logical to use the SBA result in making a final professional judgement on a child that falls at the borderline. If in the earlier example the SBA of the student was 80% or more, the decision could be made to condone the final result to 80%; however if the SBA was 77% for example, there is a reason for the student's final result to remain at 79%. In the South African system, the key border points would be at the distinction level i.e. 79%, at the pass in a designated subject for university entrance i.e. 49%, and at the pass/fail level i.e. 39%.

References

1. Axiom Education, <http://www.axiomeducation.org/strategy.htm>
2. Taylor N, JET Bulletin No. 15, September 2006
3. Black P, Harrison C, Lee C, Marshall B, Wiliam D, Assessment for Learning: Putting it into Practice, Open University Press, 2003
4. Sidiropoulos H, The Implementation of a Mandatory Mathematics Curriculum in South Africa, 2008
5. Louw W, My love affair with alternative assessment: integrating quality assessment into OBE courses for distance education, Unisa Progressio 2003 25(2):
6. Van der Berg S and Shepherd D, Signalling Performance: An analysis of Continuous Assessment and Matriculation Examination Marks in South African Schools, Umalusi, May 2008
7. Oberholzer A, Looking for the needle in a haystack, IAEA Conference 2009,
8. Report of the Task Team for the Review of the Implementation of the *National Curriculum Statement*", Final Report, October 2009,
9. An Addendum to the Policy Document, The National Senior Certificate: A Qualification at Level 4 on the NQF, regarding the National Protocol for Recording and Reporting (Grades R – 12), 2006
10. Schwartz M, Sadler P, Sonnert G, Tai R, Depth versus Breadth: How Content Coverage in High School Science Courses Relates to Later Success in College Science Coursework, Wiley periodicals, 2008
11. Good, F, A method of Moderation of School-based Assessments: Some Statistical Considerations, Journal of Royal Statistical Society. Series D (The Statistician), Vol 37, No. 1 (1998)
12. Wilmut J, Experiences of Summative Teacher Assessment in the UK, a review conducted for the Qualifications and Curriculum Authority, John Wilmut, 2004