Every child is a National Asset

AEAA Presentation

Sub-theme-Aligning educational assessment to curriculum and classroom practices

Title - ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL-BASED ASSESSMENT IN GRADE 12 MATHEMATICS: A CASE OF THE GAUTENG PROVINCE DEPARTMENT OF BASIC EDUCATION IN SOUTH AFRICA

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Read to Lead

Presentation Outline

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Introduction

- SBA makes up 25% of the Grade 12 Mathematics final mark in South Africa, but its role remains unclear.
- Unlike the final exam, SBA lacks a clearly defined purpose in policy.
- SBA tasks in mathematics often mirror exam tasks, reducing their formative value.
- Challenges include inflated marks, poor task quality, and weak moderation.
- This study examines whether SBA adds educational value to teaching, learning, and assessment.

Introduction

		Tasks	Weight (%)
School-based assessment	Term 1	Test Project/Investigation Assignment	10 20 10
	Term 2	Test Mid-Year Examination	10 15
	Term 3	Test Trial Examination	10 25
School-Based Assessment			100
School-Based Assessment mark (as % of promotion mark)			25%

Research Problem

- In South Africa, School-Based Assessment (SBA) contributes 25% to the Grade 12 Mathematics final mark, but its unclear purpose, exam-like tasks, and persistent issues such as inflated marks and inconsistent implementation raise questions about its true educational value and effectiveness.
- This study questions whether SBA meaningfully contributes to mathematics assessment and learner outcomes

Aim of Study

- The main purpose of this research was to investigate the use of SBA in Grade12 mathematics in the South African school system.

Research Question

The main research question in this study was:

- What is the use of SBA in Grade12 mathematics in the South African school system?

Literature Review

- Global Debate on SBA:

SBA is intended to complement standardized exams by assessing broader skills, but its implementation varies widely across countries (AFT et al., 1990; Cook, 2018).

- Challenges in High-Stakes Contexts:

SBA aims to improve learner engagement and teaching quality but faces difficulties globally, especially where it impacts high-stakes exams like South Africa's NSC, where it accounts for 25% of the final mathematics mark (Howie, 2012

- High-Stakes Pressure Effects:

The significant weight of SBA in final results can pressure teachers to "teach to the test," causing grade inflation and reducing trust, as observed in England (Black et al., 2012; Suto & Shiell, 2009). In contrast, countries like Norway and Germany experience less political contention around SBA (Suto & Shiell, 2009

Literature Review

- Teacher Capacity Issues:

Effective SBA depends on motivated, supported teachers. Teacher experience, qualification, and professional autonomy critically influence SBA success (Weingarten in Will, 2019; Black & Wiliam, 1998; Antony et al., 2019; Veloo et al., 2016; Azian et al., 2018).

Limitations of Standardized Testing:

Standardized tests ensure comparability but often fail to assess creativity and critical thinking, narrowing curricula and increasing learner anxiety. SBA aims to address these gaps but struggles due to implementation challenges (Shafiyeva, 2021; Carroll, 2013; Briggs, 2013; Jorgenson, 2012; Orfield, 2004; Novinger & Compton, 2005; Phi Delta Kappa, 2015).

Theoretical Framework

- The General Systems Theory views School-Based Assessment (SBA) as a complex system involving multiple level from the DBE to school interacting to influence its effectiveness (Mele, Pels & Polese, 2010).
- This study uses systems thinking to explore how the intended curriculum aligns with what is practiced and how stakeholder roles shape SBA (Meadows, 2009).
- Checkland's Soft Systems Methodology provides a structured way to identify challenges and improvements in SBA implementation (Checkland, 1999). Together, these approaches help examine how SBA functions within South Africa's education system and its impact on assessment quality and learner outcomes

Research Methodology

A Mixed-methods sequential exploratory research design with two phases was used

- Phase 1- Qualitative

Semi-structured interviews with Grade 12 Mathematics teachers and subject advisors to explore SBA implementation.

- Phase 2-Quantitative

Surveys with teachers and analysis of secondary Grade 12 SBA performance data to validate qualitative findings

- Data analysis

Thematic coding for interview data; statistical analysis including Cronbach's alpha (≥0.6) to test survey reliability across key SBA themes

Findings

SBA Practices and Challenges

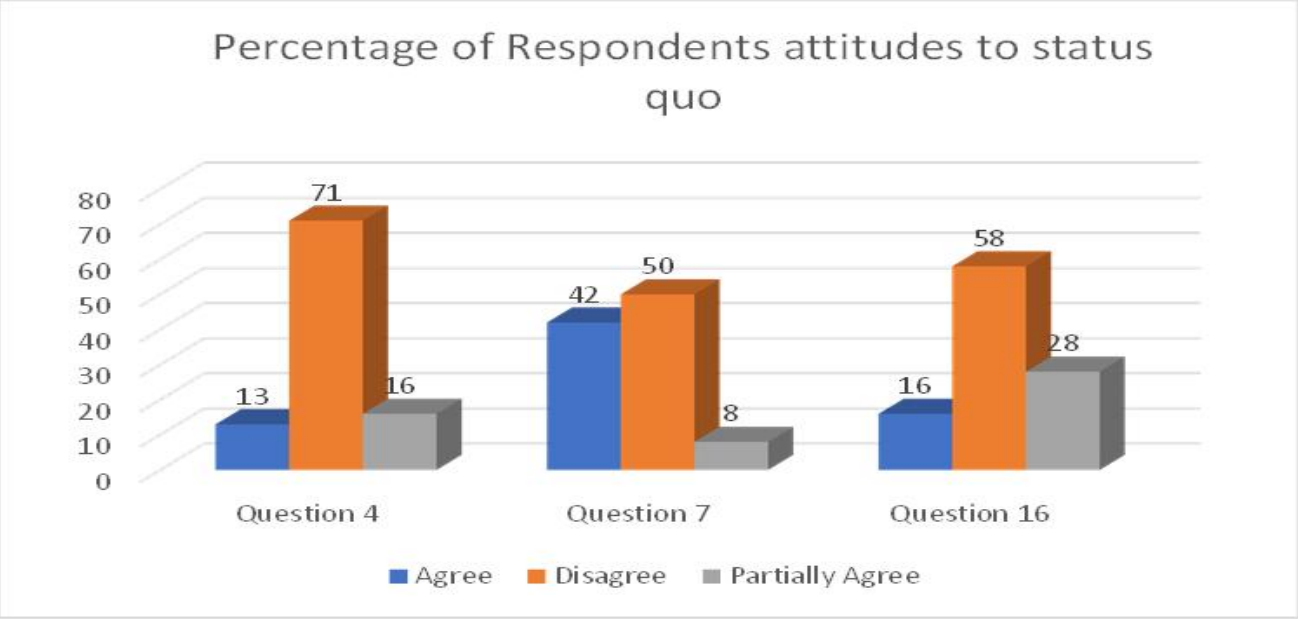
SBA Mimics Final Exam-SBA tasks often closely resemble final exam questions, reducing SBA's intended formative and diverse assessment

Unclear purpose-Many teachers are uncertain about the specific role and objectives of SBA in Grade 12 Mathematics, which affects how they approach its implementation

Challenges in Implementation: Persistent issues include inflated marks, uneven teacher competence and training, inadequate resources, and inconsistent moderation and monitoring processes

Disconnection Between Policy and Practice : There is a significant gap between the Department of Basic Education's SBA policy and what happens in classrooms, highlighting the need for clearer guidelines and better support system

Findings on the impact of high stakes exams



Question 4	SBA in Grade12 mathematics will be more meaningful if the tasks are not similar to the final year examinations
Question 7	SBA in Grade12 should only consist of tests without investigations/projects and assignments
Question 16	Grade12 mathematics SBA should have more investigation/projects than assignments and tests

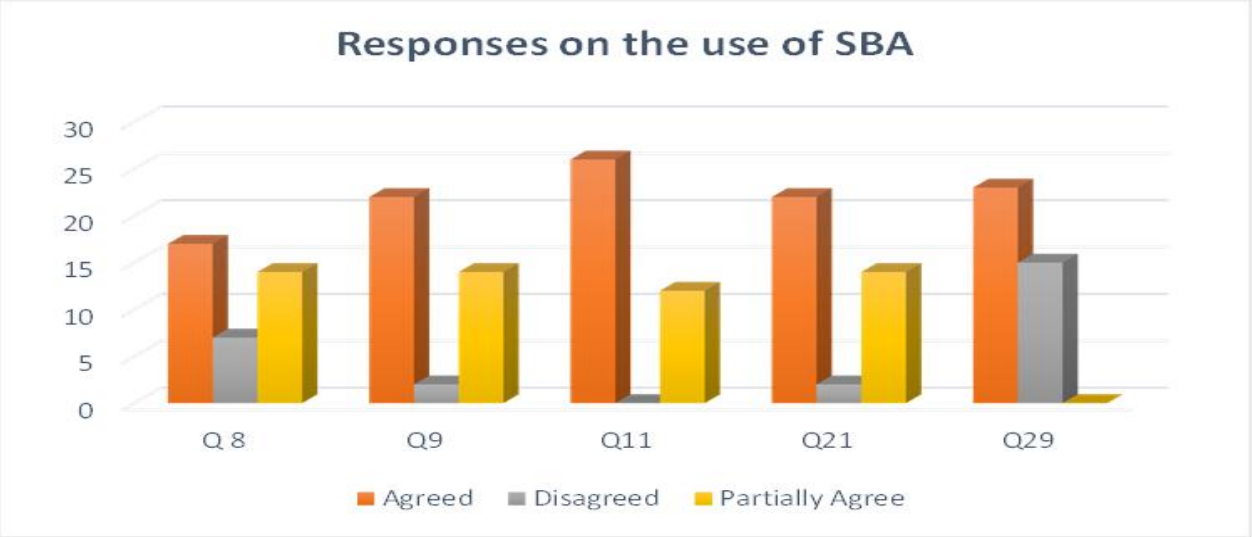
Table 2: Set B of the survey question

Benefits of SBA to teaching and learning

- Improves Curriculum Coverage and Teaching Consistency: ensures teachers follow the teaching plan and cover all required topics within set timelines
- Identifies Learning Gaps and Informs Teaching: Continuous assessment helps teachers detect learner difficulties early and adjust their instruction accordingly
- Enhances Learner Motivation and Engagement: learners take SBA seriously when they know these contribute to their final marks, increasing participation and effort
- Builds Learner Confidence and Self-Esteem: SBA offers multiple chances for success, helping learners who struggle with high-pressure exams feel capable and motivated
- Encourages Learner Reflection and Responsibility: Learners reflect on feedback, track their progress, and engage more actively in discussions about their performance.
- Prepares Learners for Final Examinations: SBA tasks familiarise learners with exam formats and standards, helping them manage time and reduce exam anxieties
- SBA increases the chances of learners to pass grade 12

- Balances Formative and Summative Assessment-SBA serves both as a learning tool (formative) and contributes to final grading (summative), offering a more holistic view of learner progress

Findings on the use of SBA



Item	Response
8	*The main purpose of SBA in Grade12 is to monitor teaching and learning.*
9	*The SBA in Grade12 mathematics is good as it assesses a learner holistically rather th just using the end of year examination.*
11	*The SBA in Grade12 mathematics is valuable in assisting learners in preparing for the end of year examination.*
21	*The SBA in Grade12 mathematics will assist my learners to pass mathematics in Grade12.*

Table 1: Set A of Survey questions

Discussion

- Although SBA is marred with so many challenges it is playing an important role towards teaching and learning in South Africa
- There is major challenge between conceptual alignment and practice due to high stakes examination that needs to be addressed by the DBE
- The credibility of SBA is two-fold-SBA as a mark and SBA as a process.
- SBA as a mark is not credible due to the systemic pressures associated with high stakes examination
- SBA as a process is extremely credible as the process enhances teaching and learning
- There is need for DBE to redefine the SBA to address the policy disjuncture with practice

Conclusion

SBA in Grade 12 Mathematics is currently treated more as an administrative task than a tool for meaningful learning. Despite its potential to support continuous assessment and improve outcomes. To unlock its value, the DBE needs to align policy and practice.

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