

-Formative Evaluation of Workbooks and Textbooks South Africa-



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Background

Textbooks and workbooks have long been considered a critical challenge within the South African education system. The Textbook Development Institute notes that:

Concern about the quality and effectiveness of the textbooks used by educational institutions is the most neglected and underrated factor impacting on the quality of education in South Africa. Teachers are often blamed for the poor standard of education in the country. Little attention is however given to the poor standard or quality of the resources, particularly textbooks, which teachers are required to work with.¹

These issues have been identified as a major concern by the Presidency, and the Department of Basic Education was required by a Presidential injunction to develop and provide resources (and specifically workbooks) that would assist learners to improve performance in the critical areas of literacy and numeracy.² The DBE have undertaken a major initiative to provide Mathematics and Language workbooks to learners in order to accelerate progress towards Education for All, in terms of *access* to and *quality* of education. In addition to the development of workbooks, the DBE mandated that English as a first additional language (FAL) be introduced from Grade 1 in 2012.

The first delivery of workbooks to schools took place in 2011. The second delivery took place in 2012. The workbooks for Grades 1 to 9 were aligned with the CAPS. The optimal use of the workbooks, the Annual National Assessment (ANA), and the CAPS are seen to be the three priorities that will drive improvements in the Basic Education sector in South Africa.

These workbooks are intended to assist teachers and learners directly in the classroom. Specific objectives include:

- Provision of worksheets;
- Activities to reinforce language and literacy and mathematics and numeracy skills;
- Helping teachers monitor student performance;
- Provision of easy to use lesson plans;
- Assisting teachers to focus on the skills that learners should be acquiring each grade level as outlined in the curriculum.

These objectives were used to guide the development of the data collection tools, and inform the research questions.

Supplementary textbooks in Mathematics and Physical Science (developed by the Shuttleworth Foundation) for Grades 10 -12 were also delivered. Grade 10 textbooks have also been aligned to the CAPS. The provision of textbooks in Grades 10 – 12 is intended to provide adequate resources for students and to reinforce language and literacy skills.

The DBE with support from UNICEF commissioned ACER to undertake an independent formative evaluation of workbooks and textbooks in South Africa in the period April 2012-February 2013. The evaluation of the Workbook project is formative. It aims to:

1. Contribute towards the improvement of both the effectiveness (including quality) and utilisation of workbooks and textbooks in schools in South Africa;
2. Provide feedback on the performance of language and mathematics workbooks, to guide adjustments to future editions.

Methodology

In order to address the research questions, the study was separated into three parts: (a) a large-scale study drawing on a representative sample of schools (b) three school case studies and (c) a desk review of workbooks and textbooks.

1. For the large scale study component of the evaluation, a nationally representative sample of schools was selected. This part of the study was designed to give a global sense of how the intervention is working.
2. For the case studies, three schools were selected. This part of the study was designed to provide insights into the perceptions held by stakeholders in schools about the workbooks, to refine understanding of the performance and utilisation of workbooks, and to guide adjustments for future editions. The case studies used focus group discussions and in-depth interviews to gather data.
3. The desk review evaluated the textbooks and workbooks using criteria that drew from a literature review on the characteristics of quality workbooks and textbooks.

All three components of the study focused on Grades 3, 6 and 9 for the workbook evaluation. Data related to the Grade 10 textbooks came from classroom observations and the desk review.

Sampling

A total of 327 schools were selected to participate in the evaluation. Oversampling of schools from smaller provinces was undertaken and an equal number of schools was selected from each province. From each sample school, five teachers were randomly selected from a list of all teachers from the school who teach at the focus year levels (3, 6 and 9).

Data

Data were collected using an inventory/observation tool, Head of Department questionnaire, student questionnaire, teacher questionnaire, school governing body representative questionnaire, semi-structure School Leader interview, semi-structured grade 9 student focus group, semi-structured parent focus group and semi-structured teacher interview. A quality rubric for assessment of the books was also developed from the list of characteristics identified by this review. A total of 969 teachers responded to the teacher component of the survey. The respondent data were weighted so that the distribution of teachers broadly corresponded with the population of teachers across

weighting classes defined by three variables: region; a wealth variable; and school type.

The learners component of the survey had 455 respondents. There were 337 respondent records in the HOD data file with a similar number of respondents from each province. Weights were applied to the HOD data file so that the weighted distribution of HODs in the sample matched the distribution of schools across the nine SA provinces. There were 269 representatives who responded to the survey.

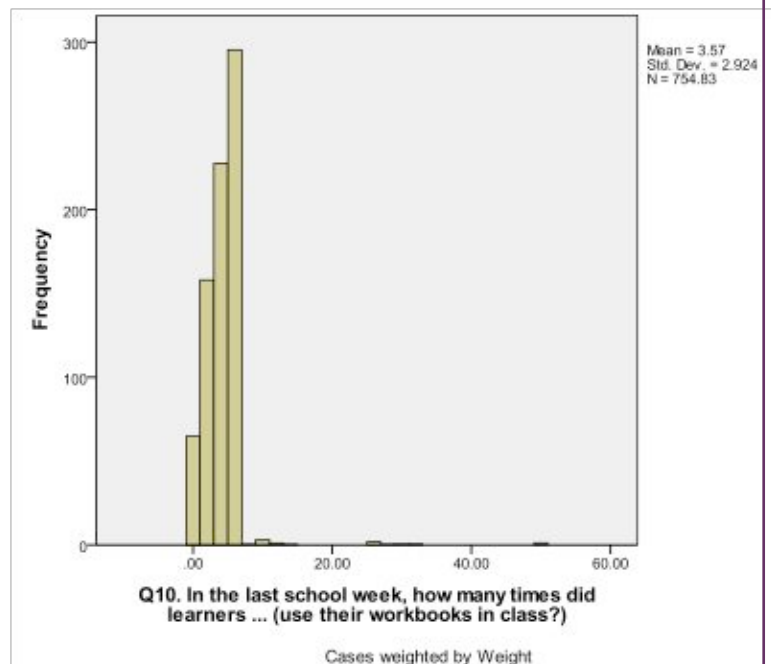
Research Questions and Findings

1. How are the textbooks and workbooks being utilised?

There were 290 schools from which data were available for this question. Of these, 63.5 per cent had all teachers reporting that learners were using workbooks, 22.1 per cent had no teachers reporting the use of workbooks, and in the remaining 15.5 per cent of schools, some teachers did and other teachers did not report the use of workbooks. Thus, in just under 80 per cent of schools, at least some teachers were using the workbooks.

Generally, at all case study schools, teachers and school leaders saw the workbooks as an effective tool in teaching and learning. However, most indicated that they use the workbooks to supplement the curriculum and that the workbooks are perceived as an 'add on' to the textbooks that were being used prior to the introduction of the workbooks. A majority of teachers and HODs indicate that learners use the workbooks every day. The frequency of use may be impacted by the availability of the workbooks to all students in class.

Figure 1 Teachers: In the last school week, how many times did learners use their workbooks in class?



Data on use of workbooks in class indicate teachers reported using workbooks more often in the last week than textbooks, teacher made worksheets and materials other worksheets and materials. However, these findings need to be viewed in the context of some findings from the case studies which indicate that some teachers perceive the workbooks as a supplement to the curriculum and therefore other textbooks are probably being used in conjunction with the workbooks.

Teachers indicated that the workbooks cater to a wide range of learner abilities. Teachers expressed some concern about the rate at which students are expected to progress through the books. About 40 per cent of teachers agreed that their learners find the pace of the workbook too fast (while around 35 per cent disagreed). While some of the evidence is conflicting, teachers report that the pace set for the completion of the work is about right for most students.

Topics are typically being covered in sequence in classrooms where the workbooks are used. HODs and learners also reported that the sequencing of topics within the workbooks allows for knowledge and skills development. There was no significant difference between pairs of best learners and poorer learners regarding sequence. There is some evidence to suggest that topics were less likely to be covered in sequence in Grade 6 and Grade 9 Mathematics compared with other areas.

Typically, the standard four exercises are being covered per week. Approximately half of teachers reported that learners finish the work they start and just under 40 per cent of learners agreed that the class finishes all the work in the workbook. Almost half of learners reported that they finish all the work in the workbook and a quarter reported that they do not. Teacher and learner responses and classroom observations indicate that Volume 1 workbooks are completed before Volume 2 more than half of the time.

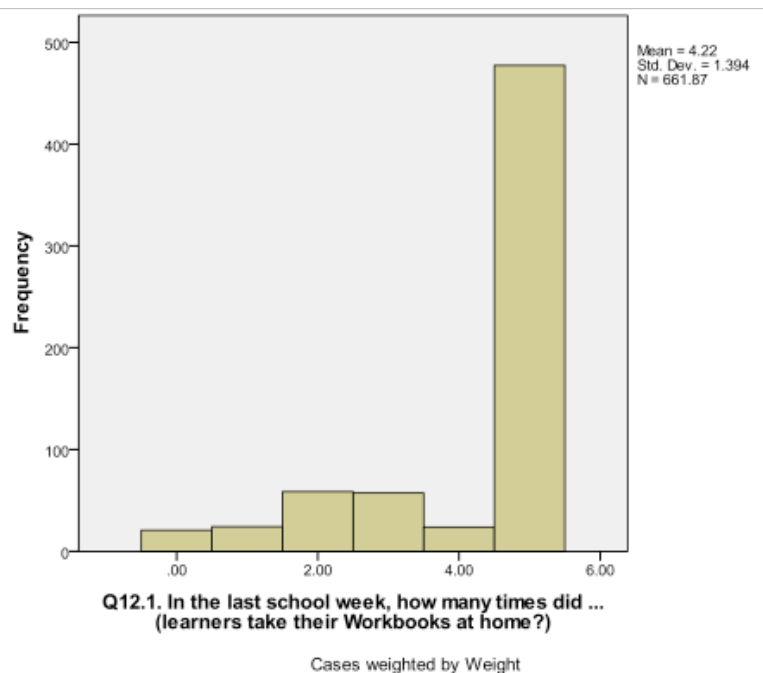
Classroom observations and responses from teachers and School Governing Body representatives provide evidence that, typically, teachers are assessing and correcting work within the workbooks. However, qualitative data collected in teacher interviews and focus groups indicate that while some teachers are assessing and correcting work within the workbooks, they may not be monitoring learner progress over time.

About half of teachers and HODs indicated that workbooks are not stored in the staffroom, the principals' office, the storeroom or the classroom. Open text responses indicated that 'other places' for workbooks storage included in the children's

possession, children's bags, in children's desks and in the library.

The vast majority of learners take their workbooks home most days. Almost three-quarters of teachers indicated that learners took their workbooks home five times and fewer than 5 per cent indicated the learners had not taken their workbooks home during the previous week. Approximately three-quarters of learners report being able to take some of their workbooks home, and almost the same proportion of learners indicate being able to take all of their workbooks home. They complete work within their workbooks for homework between 2.5 – 4 times per week. Approximately 65 – 70 per cent of learners are assisted by parents with completing work in the workbook for homework. The advantages of workbooks cited by parents in focus groups included children seeking out assistance from family and community members to complete exercises in their workbooks, and parents using the workbooks to learn themselves.

Figure 2 Teachers: In the last school week, how many times did learners take their workbooks home?



According to all stakeholders, approximately 65 – 70 per cent of parents assist learners with workbook completion. In-depth data from parent responses in focus groups indicate that while some parents help their children with homework, others struggle with the written language due to their own level of education. Simultaneously, parents and learners also indicated that the workbooks reduce the amount of parental assistance required as they enable learners to work independently, or with friends. Even parents who could not assist their children felt the workbooks help them understand the curriculum and give them the opportunity to participate in their child's education.

Barriers to full utilisation of the workbooks can be summarised as late or no workbook delivery, lack of communication with schools and parents regarding the aims and objectives of the workbooks, lack of formal assessment and monitoring, and errors in the workbooks. Although non-delivery was the most common barrier cited, it should be noted that approximately 80 per cent of learners were found to be using the workbooks. An analysis was undertaken to test the hypothesis that in schools where learners share workbooks in class, the utilisation of workbooks decreases. The analysis found that there is no evidence of this effect in the data.

The evidence suggests that there are few provincial differences in the number of teachers using workbooks in class. The evidence suggests that workbooks are somewhat more likely to be used in single grades rather than in multi-level grades. Learners in Western Cape, KwaZulu Natal, Gauteng and Eastern Cape were more likely to have been using workbooks since the beginning of the year as compared with Limpopo and Mpumalanga.

2. What is happening in schools where the workbooks and textbooks are not being utilised?

There were very few schools available to the study to investigate what is happening in those schools without workbooks, with only 21 schools in the sample reported as not having received them. This is therefore

insufficient information to try and generalise to the whole of South Africa. On average workbooks are less likely to be used by teachers of higher grades. Most schools where there are no workbooks and workbooks are not being used are following the National Curriculum Statement and CAPS. Other responses included 'BCVO', 'OBE', 'Oxford Spot' on and 'Departmental Curriculum'.



***'In subjects without the workbooks you really have to rely on just the teacher, in subjects with workbooks you can work alone from the book, and sometimes I only understand from the workbook and not the teacher.'* -Learner**

3. Do the workbooks and textbooks have the characteristics of quality text/workbooks?

A literature review was undertaken in order to identify the characteristics of quality textbooks/workbooks. Evaluation tools developed across international and national settings were reviewed also. A quality rubric was developed on the basis of the national and international reviews and each of the focus workbooks and textbooks was reviewed against the criteria.

Identified characteristics of quality textbooks and workbooks encompassed visual presentation, ease of use within context, writing quality and design, alignment with learning goals, age and grade appropriateness of assessment tasks, pedagogic approach, and reflection of societal values as enshrined in the Constitution of South Africa.

Assessors found that the workbooks have all of the characteristics of quality workbooks to a moderate to a major extent. The majority of characteristics of quality workbooks/textbooks were observed by assessors 'to a major extent.' All of the values of South Africa, as enshrined in the Constitution, are observable in the workbooks to a moderate or major extent. Assessors assessing the workbooks tended to agree that the workbook assessment tasks are fit for purpose. However, many assessors made this judgment with the caveat that this refers to the implicit learning goals within the workbooks.

Table 1 Characteristics of quality present in workbooks

	Not at All	To a minor extent	To a moderate extent	To a major extent
Presentation of books and of contents				X
Can be used effectively in classrooms				X
Writing Quality				X
Design				X
Each section of the book is clearly related to its learning goals			X	
Each assessment task is clearly aligned to the goals of the lesson			X	
Assessment tasks are age and grade appropriate				X
Allows for the different ways that students learn				X
Allow for different paces at which students learn				X
Encourages different ways to teach				X
Encourages critical thinking – students				X
Encourages teachers to share new ideas			X	
Democracy			X	
Social justice and equity			X	
Inclusion				X
Accountability and responsibility				X
Respect for the rule of law			X	
Ubuntu			X	
Reconciliation			X	



Parents reflected a positive attitude to workbooks in focus group discussions. Parents discussed the differences between the workbooks and their children’s other school books (textbooks) and commented that they find the workbooks interesting, informative and easy to understand. Parents felt that the workbooks stimulate interest in learning and school work and that they had noticed an improvement in their child’s understanding of subject matter (especially mathematics).

Parents also spoke of changes in their child’s attitude and behaviours towards homework and found children to be more confident, motivated and focused. Parents reported that their children are proud of their workbooks and the work they do in the workbooks.

Parents discussed the workbooks as tools that enable their children to get access to a better education and quality of life, a privilege which many parents felt they were denied.

‘It helps us parents, it teaches us about what the children are learning in school. It is almost as if we participating.’ Parent

Learners discussed being more interested in subjects that have workbooks. Learners perceived the workbooks as fun and reported looking forward to using the workbooks at school and also working together with friends to help each other.

Some learners experienced difficulty relating to the stories in the workbooks due to differing cultural and socio-economic backgrounds. However, exposing children to multiple lifeworlds within the curriculum and utilising diverse lived experiences is advocated by many education experts focusing on social justice within the classroom. On the whole, learners reported that the work covered in class is easier to understand with the help of the workbooks. Learners reported that in many instances they only understand the work when they look at the workbook, even after it has been explained by the teacher.

All of the characteristics of quality textbooks were also found in the textbooks. Half of the characteristics were observable 'to a major extent' and all other characteristics were observable 'to a moderate extent.'



Table 2 Characteristics of quality present in textbooks

	Not at All	To a minor extent	To a moderate extent	To a major extent
Presentation of books and of contents			X	
Can be used effectively in classrooms				X
Writing Quality			X	
Design			X	
Each section of the book is clearly related to its learning goals				X
Each assessment task is clearly aligned to the goals of the lesson				X
Assessment tasks are age and grade appropriate				X
Allows for the different ways that students learn				X
Allow for different paces at which students learn			X	
Encourages different ways to teach			X	
Encourages critical thinking – students			X	
Encourages teachers to share new ideas				X
Democracy	X			
Social justice and equity		X		
Inclusion		X		
Accountability and responsibility			X	
Respect for the rule of law	X			
Ubuntu	X			
Reconciliation	X			

Hypotheses

Three hypotheses were tested on the basis of the available evidence:

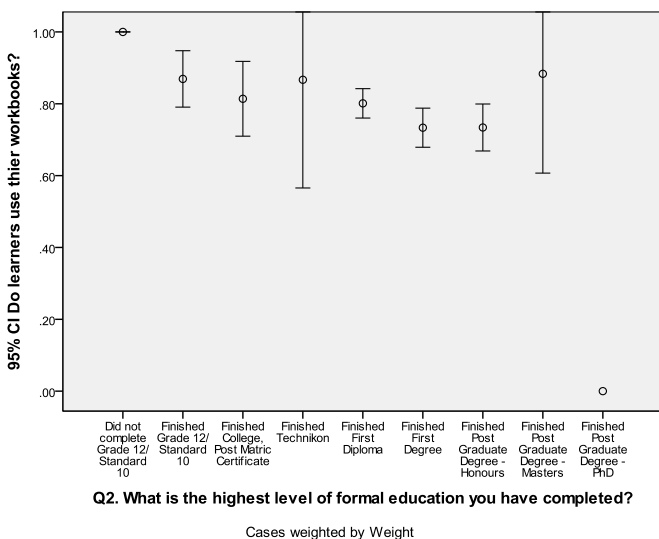
1. Unqualified teachers use the workbooks more often than qualified teachers;
2. The higher the quality of workbooks, the better utilisation by teachers;
3. As poverty increases, so does workbook use.

There is no evidence to suggest that unqualified teachers use the workbooks more often than qualified teachers.

There is also no clear evidence that workbook use is related to the level of teacher qualification. However, a greater proportion of teachers who did not complete Grade 10/Standard 12 use the workbooks than those teachers who have finished Grade 10/Standard 12, college, a first diploma, a first degree or a post graduate degree or honors. However, there was no statistically significant difference between those teachers who did not complete Grade 10/Standard 12 and teachers who completed technikon or a Masters degree.

Therefore, overall workbook use is not associated with qualification or level of qualification.

Figure 3 Do learners use their workbooks by teacher qualification?



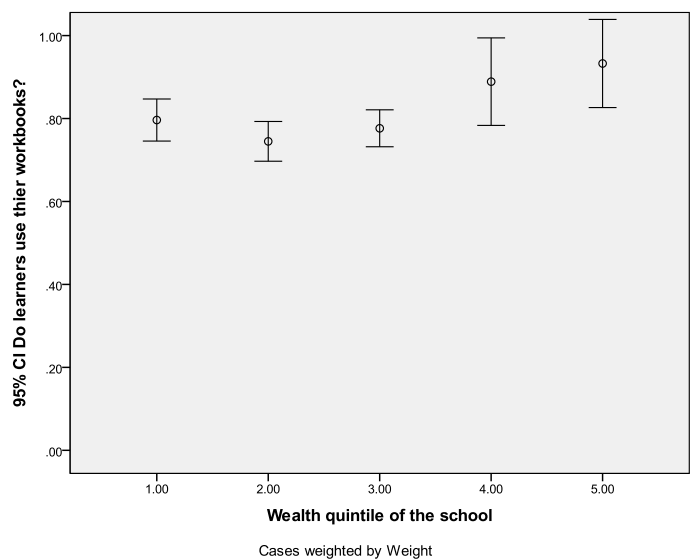
There is little evidence to suggest that the higher the quality of workbooks, the better utilisation by teachers. The number of quality characteristics assessed to be present 'to a major extent' in workbooks was used as the measure of quality. The workbook assessed to

be of the highest quality was Grade 6 English FAL, followed by Grade 6 Mathematics, Grade 3 Home Language, Grade 6 Home Language, Grade 3 Mathematics and Grade 9 Mathematics.

There was no evidence that the workbooks assessed as exhibiting the greatest number of quality characteristics 'to a major extent' were better utilised by teachers, using the measures developed to measure utilisation.

No evidence was found to support the hypothesis that the use of the workbooks is related to the wealth category of the school. The only statistically significant difference between wealth categories was that of category 5 and category 2, with a greater portion of wealth category 5 schools taking up workbook use. This is likely to be related to workbook availability.

Figure 4 Wealth category of the school by use of workbooks



Conclusions

Nearly all schools are using the workbooks. Workbooks are being utilised in approximately 80 per cent of schools by at least some teachers. The biggest barrier to workbook use was reported as non-delivery of workbooks, suggesting that where the workbooks are available, they are quickly taken up by schools.

While most teachers see the workbooks as effective tools and use them on a daily basis, there are some indications that they are not using them as part of their mainstream teaching activities. Although shortages at the class level do not appear to reduce the frequency of workbook use, shortages may be limiting their full use.

The workbooks and the textbooks were assessed to have the characteristics of quality workbooks. Assessors tended to observe the characteristics of quality textbooks linked to learning goals and assessment to a greater extent than in the workbooks. However, the values of South Africa were assessed to be observable to a greater extent in workbooks than in textbooks.

Barriers to full utilisation of the workbooks can be summarised as late or no workbook delivery, lack of communication with schools and parents regarding the aims and objectives of the workbooks, lack of formal assessment and monitoring, and errors or perceived errors in the workbooks.

Recommendations

On the basis of the available evidence, the following recommendations are made in order to contribute towards the improvement of both the effectiveness and utilisation of workbooks and textbooks in South Africa and provide feedback to guide adjustments to future editions:

1. In terms of what schools can influence, the most important factor is the quality of the teacher in front of the classroom.³ It is recommended that professional training for teachers related to using the workbooks be undertaken. A professional training pilot program might incorporate and compare teacher perceptions of those completing training and those who had not in order to compare pedagogic differences.
2. Provide training DVDs for teachers showcasing the ways in which the workbooks can be used creatively within classrooms.
3. Develop a communication strategy to inform School Management, teachers, parents and learners about the workbook project, including the aims of the project. It is crucial for parents to understand the aim of the workbooks and have an understanding of how it might help their child. Developing a

communication strategy for parents, specifically, is likely to increase utilisation in the home. As part of the communication strategy, it is recommended that the aims and objectives of the workbook project be made explicit to schools and parents. For teachers, this might include explanations regarding the approach to language within the workbooks in order to reduce the perception of errors.

4. Consider the addition of an information sheet for parents with each workbook.
5. Consider making learning goals explicit within the workbooks.
6. Provide templates to monitor learner progress in workbooks.
7. Ensure all workbooks undergo further editing.
8. Provide more space within workbooks for learner responses.

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