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The DBE's workbooks as a curriculum tool

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The Department of Basic Education's workbooks are an impressive and most welcome recent intervention in our education system. Creating these workbooks has been a colossal undertaking. They have huge potential to improve teaching and learning in South Africa.

This policy brief is based on our study of the Grade 3 workbooks for English home language (EHL) and mathematics. We considered how well these workbooks are aligned with the official national curriculum (the Curriculum and Assessment Policy Statements – CAPS) and how they can best be used in classrooms to support the implementation of the CAPS.

Our main findings were that these workbooks

- are well aligned with the CAPS in key content areas,
- are best suited for use as a *practice tool*, for students to practise content that has been introduced systematically through classroom teaching or other resources, such as textbooks,
- could be used as a simple but efficient *monitoring tool*, to obtain a crude measure of curriculum coverage in key content areas by calculating the number of pages completed in the workbooks, and,
- could usefully be aligned with textbooks and the ANAs (Annual National Assessments) to improve system-wide alignment.¹

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¹ The ANAs, instituted in 2011, are the first programme of national population testing across grades. From 2011 to 2015 the ANAs were administered to all learners in Grades 1 to 6 and Grade 9 in mathematics and language.

1. What are the DBE workbooks and what is their purpose?

In 2011 the South African Department of Basic Education (DBE) developed a set of literacy/language and numeracy/mathematics workbooks for Grades 1 to 6 learners in public schools. By 2015 these workbooks had been extended to include English first additional language and life skills (in the foundation phase). For the learning area of language they are now available in all 11 languages from Grade R to Grade 6. For the learning area of mathematics they are available in all 11 languages from Grade 1 to Grade 3 and in English and Afrikaans from Grade 4 to Grade 9 (see Table 1).

TABLE 1: Workbook subjects and languages per grade

	Home language	First additional language	Mathematics	Life skills
Grade R	All 11 languages	English	All 11 languages (integrated book)	
Grades 1–3	All 11 languages	English	All 11 languages	All 11 languages
Grade 4	All 11 languages	English	English & Afrikaans	
Grade 5	All 11 languages	English	English & Afrikaans	
Grade 6	All 11 languages	English	English & Afrikaans	
Grade 7			English & Afrikaans	
Grade 8			English & Afrikaans	
Grade 9			English & Afrikaans	

The Grade 3 workbooks present the curriculum contents as colourful double A4 pages of activities. The DBE says that since 2012 the workbooks have progressively been aligned with the CAPS. The purpose of the workbooks is to ‘provide every learner with worksheets to practise the language and numeracy skills they have been taught in class’, to ‘help teachers track the progress of learners and provide extra support if needed’, and to be ‘a simple way to structure learning activities for learners’.²

2. Workbooks in South Africa

Recently, other uses have been suggested for the DBE workbooks. They could be the primary or even the sole resource for teaching mathematics and language. They could be used as a simple but efficient tool to monitor curriculum coverage across the educational system. The workbooks are being well received by schools and their use is widespread.³ But the extent of their use varies, and different schools use them for different purposes.⁴

Although the findings we report here are limited to the Grade 3 workbooks for EHL and mathematics, the issues we raise are relevant to wider studies of workbook purposes and could be useful for further investigation across all workbooks currently in the system.

2 DBE (Department of Basic Education), *Workbooks*, 2015. www.education.gov.za/Curriculum/Workbooks/tabid/574/Default.aspx

3 DBE, *Workbooks*; Australian Council for Educational Research, *Formative Evaluation of Textbooks and Workbooks in South Africa*, Report prepared for the DBE, Pretoria, 2013.

4 Mathews, C., Mdlulu, M. & Ramsingh, V., ‘The use of workbooks in South African Grade 3 mathematics classrooms’, *South African Journal of Childhood Education*, 4(1), 80–94, 2014; Taylor, N., *NEEDU National Report 2013: Teaching and Learning in Rural Primary Schools*, Department of Basic Education, Pretoria, 2014.

3. How well are the DBE workbooks aligned with the CAPS?

For the workbooks to be an effective curriculum tool they must be well aligned with the CAPS. We compared the coverage and weighting of the CAPS topics with the coverage and weighting of content in the tasks in the Grade 3 EHL and mathematics workbooks. We found that these workbooks are strongly aligned with the CAPS in the key areas of learning in these subjects, notably reading, writing and number concept development.

4. Curriculum alignment

One sign of a good educational regime is alignment between the intended, the implemented and the assessed curricula.⁵ Or, to put it another way, alignment between three elements of the curriculum: the curriculum policy statements of required learning, the actual curricular content with which students engage in the classroom, and the content that is tested.

Alignment is critical when it comes to texts that support the implemented curriculum, such as textbooks and workbooks. The moderate to strong alignment between the CAPS and the Grade 3 workbooks is very positive in this regard. It means that these workbooks could be aligned with other curriculum interventions, such as textbooks, and also with the ANAs. In this way, a strong statement of learning requirements (in the CAPS and ANAs), and support to meet these requirements (in the textbooks and the workbooks), could be made available to teachers.

Figure 1 shows the relationship between the various elements of the curriculum. In a system where there is widespread learner failure, a set of strong and well-aligned curriculum elements holds great potential for helping teachers to implement the curriculum and improve learning outcomes.

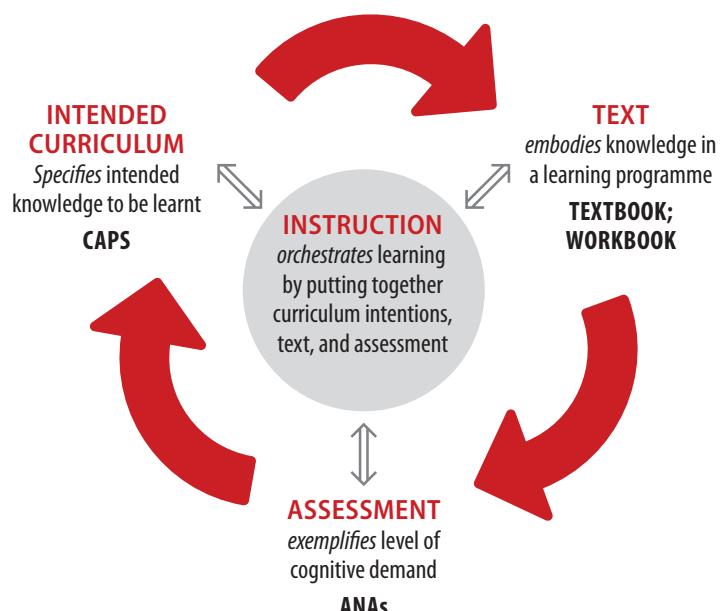


FIGURE 1: The curriculum process

Source: Adapted from Taylor⁶

5 Schmidt, W.H., McKnight, C.C. & Raizen, S.A. (with Jakwerth, P.M., Valverde, G.A., Wolfe, R.G., Britton, E.D., Bianchi, L.J. & Houang, R.T.), *A Splintered Vision: An Investigation of U.S. Science and Mathematics Education*, Dordrecht, The Netherlands: Kluwer Academic, 1996.

6 Taylor, N., 'Some uses of large-scale testing in South Africa: The case of the WCED test programme', Mimeo, Johannesburg: Joint Education Trust, 2009.

5. The workbooks as a curriculum tool

A curriculum tool is a text or other kind of resource that supports curriculum implementation. Our study aimed to identify the specific purpose of the workbooks as a curriculum tool. We evaluated how effective the workbooks are as four types of tool – for practice, assessment, monitoring and teaching.

- A **practice tool** is a resource that provides opportunities for the learner to rehearse content, concepts and skills through tasks and activities.
- An **assessment tool** provides tasks which make it possible to quantify the content, concepts and skills being assessed. It makes explicit the content, concepts and skills to be taught and, by using model answers, rubrics and so on, indicates what constitutes an appropriate production.
- A **monitoring tool** ascertains how much curriculum content is being covered and at what levels of cognitive demand.
- A **teaching tool** is used to structure learning activities for students and to present and explain content.

Practice, assessment and teaching tools are effective at classroom level, i.e. as used by the teacher. A monitoring tool can be used at this level and also at system level, i.e. to monitor coverage in schools nationally.

6. What kind of curriculum tool do the workbooks best represent?

A practice tool ✓

The Grade 3 EHL workbooks offer opportunities for learners to read and engage with texts. However, the texts are fairly basic, mainly comprising narrative fiction dealing with everyday and familiar themes, and the comprehension questions require mainly literal understanding of the texts. These workbooks also offer opportunities for practising writing, including writing extended text, and practising phonics, language structures, grammar and usage.

The Grade 3 mathematics workbooks offer opportunities to practise the curriculum content areas of number concept development, basic operations and rudimentary algebra. Most of the tasks in the workbooks cover these areas. However, they offer only limited opportunities for practising geometry, measurement and data analysis.

Neither the EHL nor the mathematics Grade 3 workbooks offer opportunities for remediation for learners who have fallen behind or extension for those who exceed the classroom or curriculum expectations. They are strictly grade level texts and do not offer differentiated learning opportunities.

An assessment tool ✗

The EHL and mathematics Grade 3 workbooks do not work well as an assessment tool. They do not consistently make explicit the contents or the concepts on which the tasks are based, i.e. they do not always make it clear what is to be assessed in a particular task. And they do not contain activities that draw together tasks from discrete content areas to be completed in one activity the way assessment tasks do, i.e. they do not model assessment texts. They do not provide model answers, solutions or assessment rubrics. They therefore have only limited use for fulfilling the DBE's aim of tracking learners' progress and diagnosing learners' needs for intervention.

A monitoring tool ✓

The overall high level of curriculum compliance of the Grade 3 workbooks suggests they could be an effective monitoring tool across the education system. A crude measure of coverage in key content areas could be obtained by calculating the number of pages or exercises completed in the workbooks.

That the potential of this form of monitoring has been recognised is evidenced by the fact that full use of the workbooks in schools was made mandatory in 2014.

As the NEEDU (National Education and Evaluation Development Unit) 2013 report highlights, however, this quantitative measure of curriculum coverage across classrooms will not indicate the *quality* of the work being completed or give a reliable indication of learners' progress.⁷ This would require a more in-depth investigation of how well students are completing the workbooks.

A teaching tool ✗

The DBE suggests that the workbooks present a simple way to 'structure learning activities for learners'. We suggest that if they are to be used to support teaching, they will need further development to make the content, concepts and skills on which the activities are based more explicit.

This could be done in various ways: by improving the activity overview notes in the workbooks; providing more comprehensive in-text notes, definitions and model answers; producing an aligned teacher guide; or *using the workbook alongside a good textbook*.

It has recently been proposed to produce a single textbook per subject per grade. A workbook could usefully be aligned with this textbook. The textbook would function as the primary transmission text, with descriptions of content, concepts and skills, and the workbook would function as a practice tool, for use either in class or as homework.

How can the Grade 3 EHL workbooks be improved as a practice and monitoring tool?

As a practice tool:

- Include a wider range of authentic, varied and interesting texts that resonate with learners' interests and extend their general knowledge and vocabulary.
- Add more tasks that require learners to read and write non-fiction texts. They will need to access meaning in non-fiction genres in Grade 4 – procedures in science, diagrams and charts in geography and science, and so on.
- Add more texts and comprehension questions that will teach a child to draw inferences and make evaluations – two vital skills that assessments show are lacking from both teacher and learner language competences in South African schools.

As a monitoring tool:

- Make the concepts, content and skills on which the tasks are based more explicit. The workbooks' current overviews of activities need to be made more comprehensive and consistent.
- Develop monitoring rubrics that can be piloted with district officials.

⁷ Taylor, NEEDU National Report 2013.

How can the Grade 3 mathematics workbooks be improved as a practice and monitoring tool?

As a practice tool:

- Increase the range of activities for learning shape and space, measurement and data handling.

As a monitoring tool:

- To monitor learners' progress better, rather than just measure coverage, vary the types of questions more. Add more questions that require complex reasoning, particularly for describing and completing number patterns, identifying and describing shapes and objects, using standard and non-standard units of measurement, and interpreting data.