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**A SPENDING REVIEW ON THE
DEPARTMENT OF BASIC EDUCATION'S
WORKBOOKS PROGRAMME**

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NATIONAL TREASURY

Executive Summary

The workbooks programme was introduced in 2011 to provide home language and mathematics workbooks to learners to improve performance in literacy/ languages and numeracy/ mathematics. The programme has been successful in providing these workbooks to learners, with 100 per cent coverage in all three years covered by this review.

The workbooks programme has managed to contain costs through a variety of measures. The books are developed by educators seconded from provincial departments and universities. Printing and distribution services are centrally procured to reduce these costs. Costs are further contained using low-grade paper as these workbooks are only meant to last a year.

These savings have allowed for the expansion of the programme. Workbooks are now provided to more grades (mathematics up to grade 9 and a grade R workbook covering literacy, numeracy and lifeskills) and in additional subjects (grade 1-6 English first additional language and lifeskills).

This spending review questions whether these efficiencies have allowed the funding of other deliverables from these savings that are not central to the objective of the workbooks programme - improving language and mathematics outcomes – and makes the following recommendations.

- The key recommendation is that the lifeskills workbooks can be discontinued, without compromising the objective of providing workbooks to improve language and mathematics performance. This would initiate savings of R130 million per year.
- The English first additional language and grade R workbooks, although outside the initial scope of the programme, do support language and mathematics learning across all grades. These workbooks should therefore not be discontinued.
- More accurate demand data can be sourced from the Learner Unit Record Information Tracking System (LURITS), which will see a reduction of over-runs to accommodate errors. This could generate savings of R106 million per year.
- The programme's underspending has increased from R2 million in 2017/18 to R115 million in 2019/20. This may be due to a once-off reduction of one of the key cost drivers (e.g. fuel). Further analysis of the spending trend is required before a recommendation in this regard can be made.

Summary

This spending review focuses on the workbooks programme of the department of basic education. The programme provides over 60 million workbooks to all schools each year. Due to efficient implementation, the department has expanded the programme to cover additional areas. It is this efficiency, and subsequent expansion, that allows for savings to be made on this programme, without affecting the stated programme objective of providing workbooks to improve literacy and numeracy/ mathematics performance.

Despite significant investment in basic education, learner performance in key areas (language and mathematics) remains poor. Evidence of this poor performance can be found in the sector's Systemic Evaluation and Annual National Assessments, as well as various international assessments. The quality of education, especially in literacy and numeracy/ mathematics would have to improve to enable learners to gain the benefits from education that will allow them to move out of poverty and reduce inequality in society.

An analysis of the Systemic Evaluation results indicated that learners were not covering all the work at the appropriate level per grade and that sequencing of learning was often poor. The basic education sector set out to address these shortcomings and ultimately improve language and mathematics outcomes by providing workbooks in the key learning areas (mathematics and language) with activities that are correctly sequenced and support learning at the appropriate level.

The workbooks programme has managed to contain costs through a variety of measures. The use of seconded subject specialists to design and develop the workbooks has reduced development costs. Around 60 million workbooks are provided each year. Savings as a result of economies of scale are made in the printing, transporting, warehousing and finally delivery of the workbooks to schools. These activities are brought together in one contract, thereby improving oversight and monitoring as there is only one contract to monitor. Finally, since workbooks are given to learners to keep, they are only meant to last one year. Less expensive paper can thus be used, generating further savings.

Notwithstanding these cost saving measures, the programme has successfully and timeously provided home language and mathematics workbooks to all schools in each of the three years covered by this review. About 1.5 million additional workbooks for each subject are distributed each year to address shortfalls mainly arising from inaccurate demand estimates.

The programme savings have meant that the workbooks could be made available for other subjects and grades, without compromising the quality and ability to provide home language and mathematics workbooks to all grade 1 – 6 learners. The programme now provides workbooks to more grades (mathematics up to grade 9), grade 1-6 English first additional language (FAL) and lifeskills workbooks, as well as a grade R workbook covering literacy, numeracy and lifeskills.

The programme is allocated just over R1 billion each year, increasing from R1.048 billion in 2017/18 to R1.170 billion in 2019/20 at an average annual CPI-aligned rate of 5.7 per cent over this period. The difference between the total spent to provide roughly the same number of workbooks in 2017/18 as in 2019/20 is 0.9 per cent, which sees the programme underspending by R115 million in 2019/20. Considering that the programme quality and performance is similar in both years, it could not be determined whether this underspending was due to further efficiencies in the production process or a once-off reduction in the price of some of the cost drivers (e.g. fuel costs).

Table 1: Average cost of workbooks

Cost R'm	2017/18	2018/19	2019/20	Average
Grades 1-6 HL	260 327	272 523	260 098	264 316
Grades 1-9 Maths	367 996	389 113	390 076	382 395
Grades 1-6 Eng FAL	213 295	201 484	207 811	207 530
Grades 1-3 Lifeskills	135 091	126 343	130 687	130 707
Grade R	69 153	69 310	66 956	68 473
TOTAL	1 045 861	1 058 773	1 055 628	1 053 421
Cost per book	R17.33	R18.45	R17.50	R17.75

The average cost for each of these workbooks over the period under review was R17.75. Every learner gets two of each workbook for the year – one at the start of term 1 and the 2nd at the start of term 3. The total cost per subject is thus R35.50, considerably less than commercially available workbooks that cost between R140 and R180 each. Furthermore, two independent studies found that these workbooks are of good quality (Australian Council for Educational Research (2013); and Hoadley and Galant (2016). The workbooks programme is thus an efficient as well as a cost effective one.

Recommendations and Conclusion:

The allocation for workbooks can be reduced without compromising the stated objectives of providing workbooks to support the learning and teaching of languages and mathematics. The

following recommendations identifies areas where these reductions can be made and the programme strengthened.

- **Discontinue the lifeskills workbooks:** The provision of lifeskills workbooks is outside the scope of this programme. The average cost for the provision of these workbooks is R130 million, which is how much will be saved with its discontinuation, without affecting the programme objectives.
- **Continue the English FAL and grade R workbooks:** These workbooks, although outside the initial scope of the programme, do support language and mathematics learning across all grades. These workbooks should therefore be continued.
- **Use the Learner Unit Record Information Tracking System (LURITS) for more accurate demand estimates:** The number of additional workbooks to cover unexpected changes in enrolment and repetition can then be reduced by 1 million per workbook, a saving of R106 million per year.
- **Close monitoring of spending:** There is insufficient information to determine whether the underspending in 2019/20 is the result of further efficiencies or a once-off cost reduction in key inputs. Programme spending should thus be carefully monitored before a firm recommendation can be made in this regard.
- **Explore the possibility of digitising the workbooks:** This would allow for the expansion of the programme to other subjects, but will require additional start-up costs and compromises the development of fine motor skills associated with writing.
- **Research the impact of workbooks on performance:** We know that workbooks reach all schools timeously and there is evidence of widespread use of the workbooks. But little is known of the impact of the workbooks on learner performance. Research on the effectiveness of the workbooks in improving learner performance in literacy and numeracy/ mathematics will inform policy on the use and expanded use of workbooks to support learning and teaching.

The workbooks programme meets its stated objective to provide workbooks to support the learning and teaching of language and mathematics. It does this at a comparatively low cost, progressively saving more and more funds as efficiencies were extended throughout the programme. These savings have been used to expand the programme into areas beyond its initial objective. It is here that there is potential for reductions – ironically almost that the programme’s efficiency is the main reason for the recommendation that the allocation be reduced.

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DISCLAIMER: This document is not for quoting or circulation. It was done as part of the NT training exercise on the spending review methodology and is intended for discussion purposes. Further, there were some data limitations and both the appropriate level of information, and its correctness could not be independently verified.

1 Introduction

This spending review will focus on the workbooks programme of the department of basic education that provides over 60 million workbooks to learners each year. The review is part of a broader approach to the Budget process as a tool to find savings necessitated by government's fiscal approach.

Despite significant investment in basic education, learner performance in key areas (language and mathematics) remains poor. Evidence of this poor performance can be found in the sector's Systemic Evaluation and Annual National Assessments, and the international assessments Progress in International Reading and Literacy Study (PIRLS), Trends in International Mathematics and Science Study (TIMSS) and the Southern and Eastern African Consortium for Monitoring Educational Quality(SACMEQ). The quality of education would have to improve to enable learners to gain the benefits from education that will allow them to move out of poverty and reduce inequality in society.

An analysis of the Systemic Evaluation results indicated that learners were not covering all the work at the appropriate level per grade and that sequencing of learning was often poor. The basic education sector set out to address these shortcomings and ultimately improve language and mathematics outcomes by providing workbooks in the key learning areas (mathematics and language) with sets of activities that are correctly sequenced and support learning at the appropriate level. These workbooks will be complemented by lesson plans for teachers, which will serve as a guide to ensure correct sequencing and full coverage of work per subject per grade. The workbooks and lesson plans will be developed nationally by subject specialists. They would be provided every year as each learner would get her/his own workbook in which to complete the activities.

The workbooks programme was introduced in 2010/11 and has managed to contain costs through a variety of measures, allowing for the expansion of the programme to include more elements than initially planned. The programme set out to develop, print and distribute workbooks in the home language and mathematics to learners to address the poor performance in language and mathematics. The books are developed by educators seconded from provincial departments and universities. Printing and distribution services are centrally procured to reduce the cost of printing. Costs are further contained using low-grade paper as these workbooks are only meant to last a year. This spending review will explore whether these efficiencies have allowed the funding of other deliverables from these savings that are

not central to the objective of the workbooks programme - improving language and mathematics outcomes.

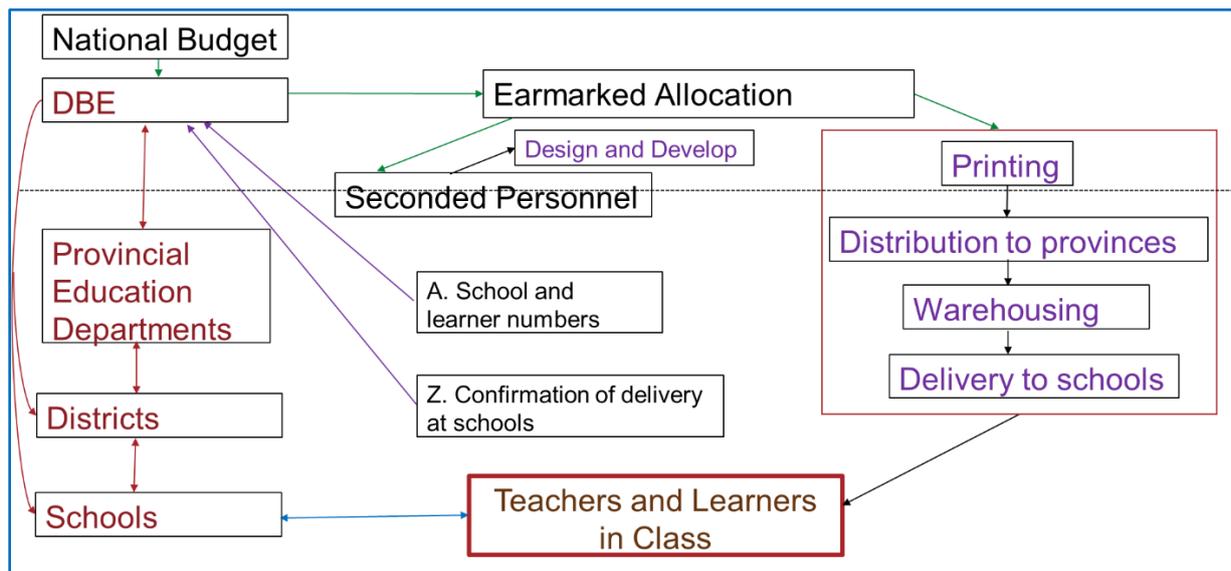
2 Policy and Institutional Information

The Workbooks Programme is a national programme to provide workbooks to learners to improve learning and teaching outcomes in mathematics and language/ literacy. The workbooks are aligned to the Curriculum and Assessment Policy Statements (CAPS). The mathematics workbooks are provided to learners in the language of learning and teaching (LOLT) and the home language workbooks in the respective home languages learnt. The programme was later extended to include lifeskills and first additional language (FAL) where that language is to become the LOLT from grade 4 onwards. This is the case in over 70 per cent of South African schools, where English, as first additional language, becomes the LOLT despite it not being the home language. Lifeskills workbooks are also in learners' home language up to grade 3 and thereafter in the LOLT.

The programme is implemented by the national department of basic education in the Curriculum and Quality Enhancement Programmes chief directorate, which is in the *Curriculum, Policy Support and Monitoring* programme. Staff in the chief directorate oversee the programme, with their duties split between workbooks (about 50 per cent of their time) and other curriculum enhancement programmes. They are responsible for the secondment of specialist educators from provincial education departments and universities, who design and develop the workbooks. The chief directorate is also responsible for managing the printing, transport and delivery of workbooks.

Implementation of basic education happens at provincial level, so a fair degree of cooperation between the spheres is critical to ensure that the right number of the correct workbooks in the appropriate language reach each school. The required cooperation and communication is depicted in the diagram below, with clear communication lines needed between schools, districts, provincial education departments and the national department. These lines of communication ensure that the national department knows how many books each school requires and in what language these books are required. They also provide for a feedback loop to confirm delivery of the correct number and language of workbooks.

Figure 1: Institutional Arrangements and Process Design



Schools provide an estimate of the number of learners per grade for the following year, including the language required for each of the workbooks, to their districts. These estimates are based on current enrolment and previous new enrolment numbers in grades 1 and R. Schools also confirm delivery once that has happened.

Education district offices do some verification of the estimates, checking these against previous enrolment patterns and submit estimated workbook numbers per school in their district to provincial education departments (PEDs). They also verify the delivery of workbooks and effect small changes (top-ups or the collection of extras) where these are necessary.

Two managers are employed by the national department in each province at a deputy director level. They coordinate and oversee these activities at provincial level, and are the direct link between PEDs and the national department. They are also meant to address any problems that crop up with any of the provincial-level activities.

3 Programme Chain of Delivery

The department receives an earmarked allocation for workbooks. These funds are used to pay specialist educators seconded from provincial education departments and universities to design and develop the workbooks. Critically therefore, the workbooks are thus government owned. The largest portion of the funds is used for the printing and delivery of the workbooks.

Table 2: Logframe of the Workbooks Programme

IMPACT		Improved Learner Performance in key subjects (languages and maths)			
Indicator		Percentage of learners scoring above XX%			
Frequency		Annually			
Source of data		Annual National Assessment Results - Systemic Evaluation - PIRLS - TIMSS			
OUTCOME		Learners complete curriculum and learn at appropriate level for key subjects			
Indicator		Curriculum coverage			
Frequency		% of schools that report that they complete the curriculum on time			
Source of data		District Reports			
Final Output		Workbooks delivered and distributed			
Indicator		Number of workbooks delivered disaggregated by school and province			
Frequency		Annual			
Source of data		Schools, Districts and Provincial Dept Reports - DBE APP			
Intermediate outputs	IOUT1	Completed workbooks and Lesson Plans for grades 1-9	IOUT 2	Workbooks and LPs printed	Workbooks and LPs distributed to each school
Indicator		Workbooks and LPs completed		Number of workbooks printed	
Frequency		Annual		bi-annual	
Source of data		DBE		DBE	
Activities	1.4	Refine curriculum and lesson plans after feedback	2.2	Print workbooks and LPs	Teachers receiving LPs
Indicator				Number of workbooks printed Unit cost per workbook printed Unit cost per LP printed	Number of teachers receiving LPs
Frequency				Bi-annual	Annual
Source of data				DBE	Schools, Districts and PEDs
Activities	1.3	Pilot workbooks and LPs (no longer being done)	2.1	Estimate the number of workbooks needed	Workbooks given to learners
Indicator		Workbooks piloted		Estimates of Demand	Number of learners receiving workbooks
Frequency		Annually		Annual	Annual
Source of data		DBE		Schools, Districts and PEDs	Schools, Districts and PEDs
Activities	1.2	Develop/ write workbooks and LPs aligned to CAPS			Delivery to schools
Indicator		Workbooks developed			Number of schools received workbooks
Frequency		Annually			Bi-annual
Source of data		DBE			Schools, Districts and PEDs
Activities	1.1	Design workbooks			Transport and storage of workbooks and LPs
Indicator		Workbooks designed			Workbooks received by provinces
Frequency		Annually			Bi-annual
Source of data		DBE			PEDs
Inputs		CAPS, Subject Specialists		Learner numbers, by language and grade	Learner numbers, by language, grade and per school
Programme elements		Design and develop workbooks and lesson plans (LPs)		Printing	Delivery of workbooks and LPs
Responsibility		CD: Curriculum and Quality Enhancement Programmes		CD: Curriculum and Quality Enhancement Programmes	CD: Curriculum and Quality Enhancement Programmes

There are three key elements about the workbooks and lesson plans that need to be considered in the development phase. Firstly, workbooks and lesson plans have to be aligned to the CAPS curriculum. In this way, they support the implementation of the curriculum, which underpins teaching and learning in South Africa. Secondly, the activities in the books have to be of an appropriate standard to ensure that learners work at the correct level for their grade. And finally, the lesson plans provide a guide to teachers in terms of the required pace at which they need to work to ensure that they cover all elements of the curriculum for that grade by the end of the year. The workbooks and lesson plans, when used appropriately, provide activities for learners to do, thereby applying what is taught. They therefore strengthen learning and teaching of the required skills, while also assisting teachers in pacing their teaching so that they cover the necessary work over the course of the year. Workbooks do not replace textbooks and readers, but complement these other tools in the teaching and learning process.

The workbooks and lesson plans were initially piloted at a few schools when they were first introduced. They were then revised based on the feedback from the pilot before being finalised. This pilot phase is not applied any longer, since feedback from the previous year's

workbooks informs the development of the next year's workbooks. Since it is also not necessary to design new workbooks each year, the design process has become more streamlined over time as workbooks are merely updated each year. Consequently, specialist educators do not need to spend as much time working on workbooks as in the past, which is another area of cost saving.

Meanwhile, the department has to determine the number of workbooks and the languages in which they are required for each school (the *estimates of demand*). This information is provided to the national department by each school, through districts and provinces, who verify the authenticity of the information provided by schools before passing it on to the next level.

With the design and development of the books completed, and credible estimated number of books required established, the workbooks are then printed. This is a key opportunity to realise savings considering the large numbers involved here. One would also expect that savings will be realised by using the Government Printing Works, specifically set up to provide specialised printing for government. However, the department does not use Government Printing Works as they do not have the capacity to print as required at this scale and would need to outsource the printing anyway.

The department has also found that costs are further reduced when combining the four major arms of this process, viz. printing, distribution to provinces, warehousing and delivery to schools. These four activities are thus procured as one service and the national department has one service provider to hold accountable for the entire value chain.

Each workbook comes in two parts, with workbook 1 used from January to June, and workbook 2 from July to December. This arrangement allows for thinner, more user-friendly workbooks. It also gives the department more time to complete the workbooks, as they have until term 1 to complete workbook 2, to ensure delivery thereof in term 2, in time for use in term 3.

Once workbooks have been delivered to schools, the national department relies on schools to confirm delivery, on district offices to verify that delivery – with provinces and national doing further selected verification of delivery. Principals have to report any shortages or errors, with the corrections made at district level. The expectation is that workbook 1 will be ready for use from the first day of the school year and workbook 2 from day 1 of the 3rd term.

The workbooks are presented to learners to keep – the books are theirs. They do the activities in the books, so another learner won't be able to use the books thereafter. This also allows

learners to take them home every day and keep them at the end of the year. This simple act starts to build a set of books in many homes where books would normally have been absent. On another level, this single use of workbooks allows the department to use low grade paper for these books, which further reduces their costs.

4 Performance Analysis

The Workbooks programme has been very successful in providing workbooks to learners at all schools. The performance indicator targets for workbooks in the annual performance plan (APP) relate to the home language and mathematics workbooks. For home language workbooks, the target is that 100 per cent of schools receive grade 1-6 home language workbooks, while for mathematics it is 100 per cent receiving grades 1-9 mathematics workbooks. The department has met this target in each of the past three years (and for even longer than this).

The department also provides workbooks for grades 1–6 English first additional language (FAL) to schools where English is to be used as the language of learning and teaching (LOLT), as well as grades 1-3 Lifeskills and grade R workbooks. Delivery of these workbooks is also 100 per cent as they are delivered to primary schools with the home language workbooks, although they are not indicators in the department’s APP. In total, the department provides around 60 million workbooks to schools each year.

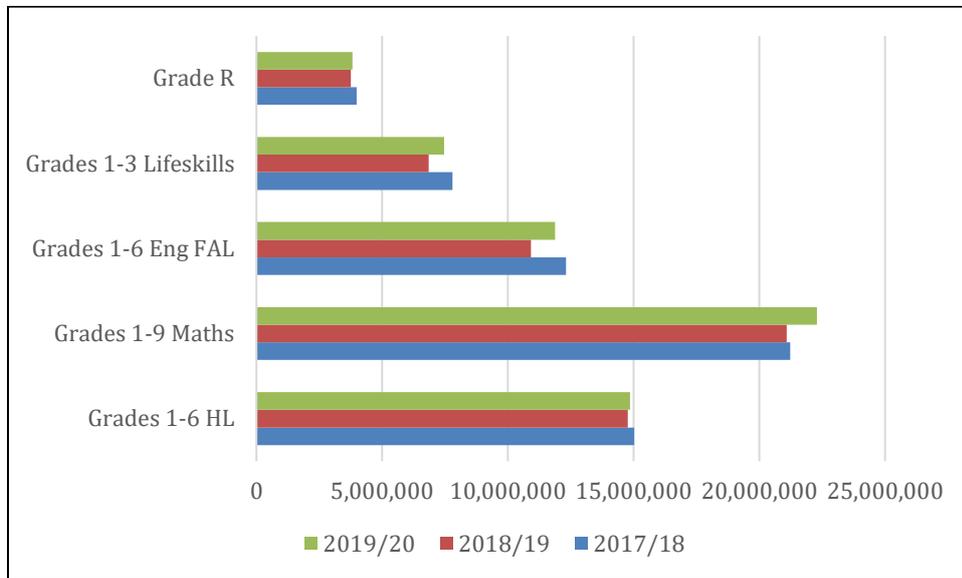
Table 3: Total Workbooks Provided

Workbooks Provided	2017/18	2018/19	2019/20	Total
Grades 1-6 HL	15 021 680	14 769 440	14 859 950	44 651 070
Grades 1-9 Maths	21 234 500	21 088 050	22 285 890	64 608 440
Grades 1-6 Eng FAL	12 307 750	10 919 450	11 872 700	35 099 900
Grades 1-3 Lifeskills	7 795 140	6 847 196	7 466 440	22 108 776
Grade R	3 990 348	3 756 260	3 825 345	11 571 953
TOTAL	60 349 418	57 380 396	60 310 325	178 040 139

As indicated previously, the number of workbooks provided is determined by the number of learners per grade in a particular year. There were just over 9 million learners in grades 1-9 in public ordinary schools in each of the three years reviewed, with slightly more learners in 2017 and 2019 than in 2018. Two mathematics workbooks are provided to all learners in grades 1-9, and over 21 million of these workbooks were provided in each of the years. This duplication is evident across all the workbooks. The additional numbers are built in to the totals for each

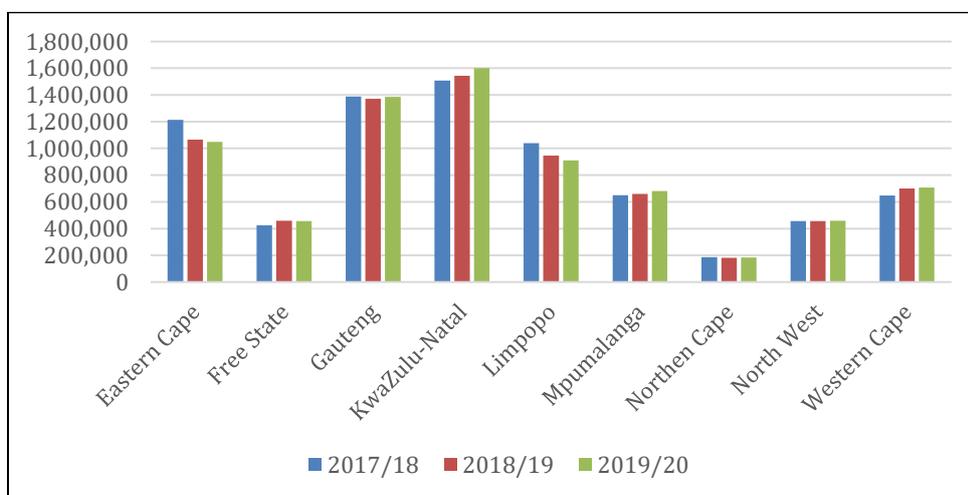
province to address any shortfalls or changes that may arise. The variation in the number of learners in a particular year is mainly responsible for the variation in the number of books delivered, with around 3 million fewer books provided in 2018/19 than the other years. This variation is also due to repetition rates and incorrect demand data.

Figure 2: Workbooks provided per year



The graph above shows that this dip is most acute for English FAL and Lifeskills, and all workbook numbers go back up in 2019/20, with the biggest increase in mathematics workbooks in that year.

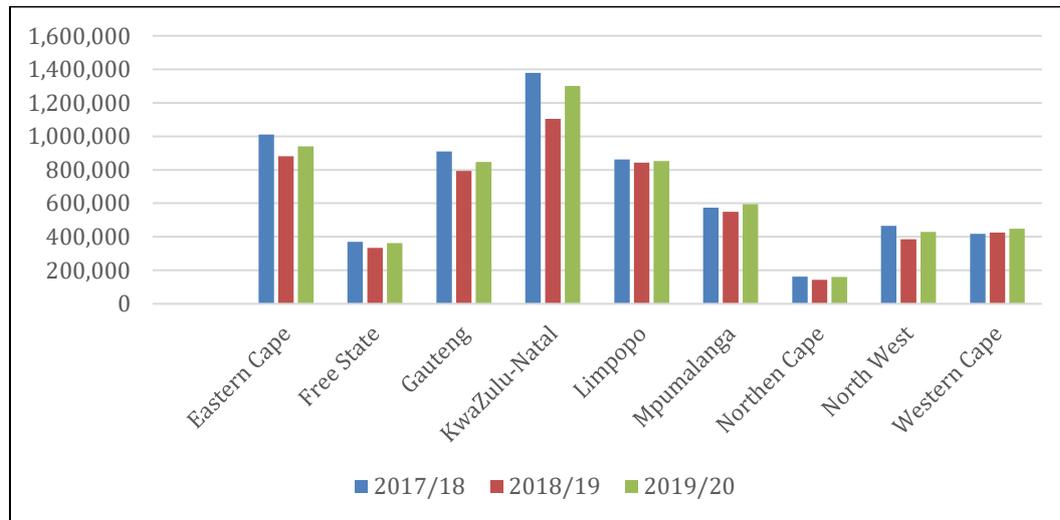
Figure 3: Volume 1 Home Language Workbooks Provided Per Province



The variance within provinces for home language workbooks across the three years is small. A closer look at the distribution of these workbooks across provinces in the graph above

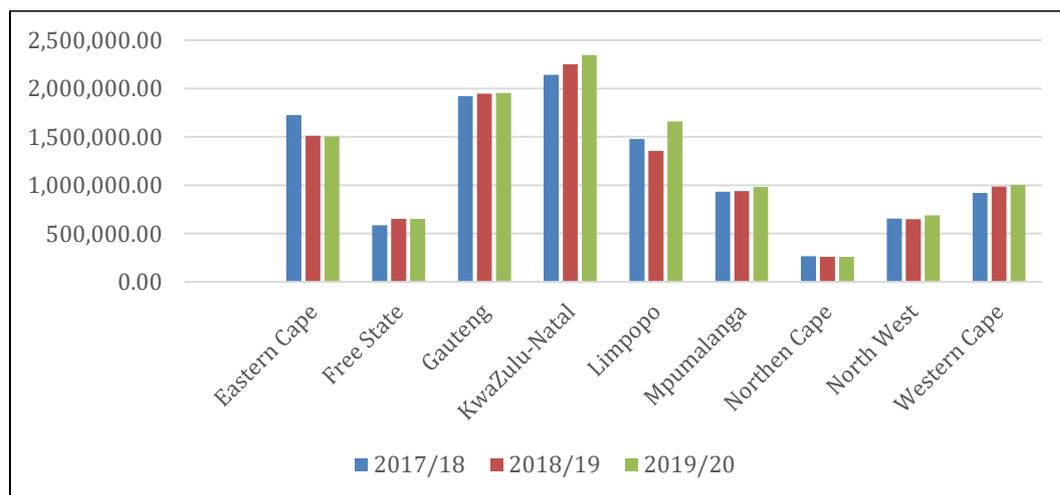
broadly illustrates this view, with Eastern Cape and Limpopo numbers steadily declining, while KwaZulu-Natal's steadily increase over the three years.

Figure 4: Volume 1 English FAL Workbooks Provided Per Province



KwaZulu-Natal has a similar pattern for English FAL, whereas the Eastern Cape numbers increase in 2019/20 after an initial decline in 2018/19.

Figure 5: Volume 1 Mathematics Workbooks Provided Per Province



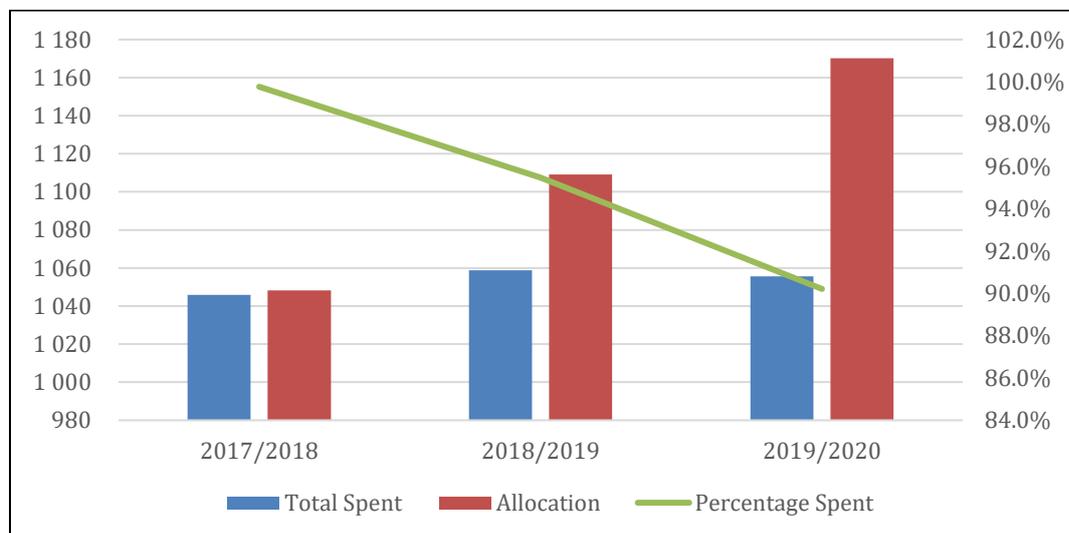
A closer examination of the distribution of mathematics workbooks across provinces shows a mostly similar picture. Numbers in the Eastern Cape decline steadily over the three years, as for Home Languages, but Limpopo's numbers bounce back up after a decline in 2018/19. KwaZulu-Natal shows a similar steady increase over the three years, along with the Western Cape and Gauteng in 2018/19.

The mathematics workbooks are provided to all learners at public ordinary schools, so these numbers should closely reflect the enrolment patterns in these grades. Enrolment is mostly steady across all provinces in these three years, which suggests that the steady increase in KwaZulu-Natal numbers is affected by incorrect or conservative demand estimates. While there is a need to build in some additional numbers to address unexpected changes in enrolment, more accurate demand data will avoid the current levels of duplication.

5 Expenditure Observations

The department of Basic Education receives an allocation for the workbooks that is earmarked by the National Treasury. This earmarking means that these funds can only be used for the workbooks, unless National Treasury provides approval for a variation. The allocation was R1.048 billion in 2017/18, growing by 5.8 per cent to R1.109 billion in 2018/19 and by 5.5 per cent to R1.170 billion in 2019/20.

Figure 6: Workbooks Spending

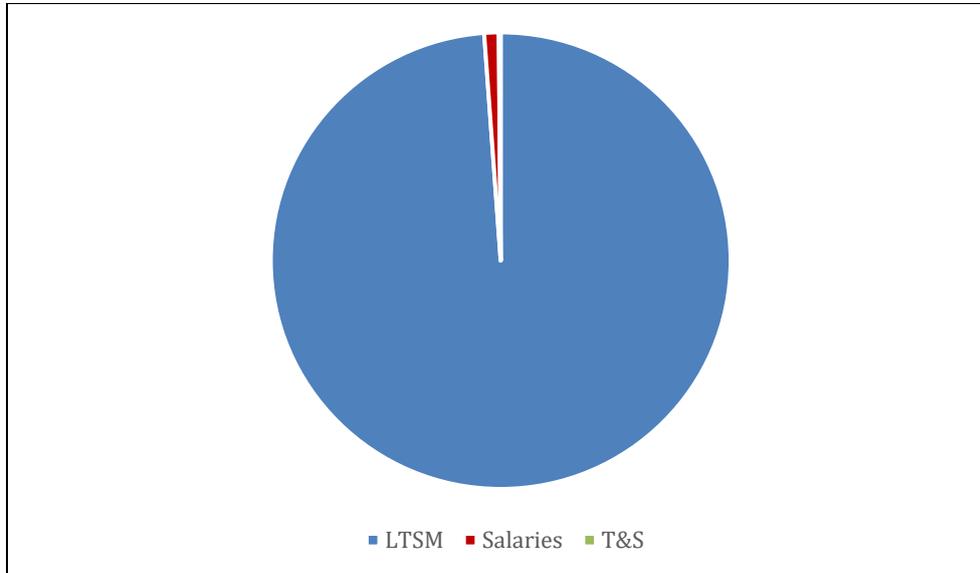


Programme spending as a percentage of allocation declines from 99.8 per cent in 2017/18 to 90.2 per cent in 2019/20. Total spent increases by 1.2 per cent in 2018/19, before decreasing by 0.3 per cent in 2019/20, while the allocation kept increasing in line with CPI. Unspent workbook funds increase from R2 million in 2017/18 to R115 million in 2019/20.

Closer analysis of the main areas of spending in figure 7 below indicates that over 98 per cent of the total spent is spent under *Goods and services: Inventory: learner and teacher support*

materials (LTSM), i.e. nearly all the money is spent on one item. The remaining 2 per cent is spent on salaries and travel and subsistence.

Figure 7: Main Areas of Spending



This picture of expenditure illustrates the combination of the main cost drivers of the programme (printing, transport to provinces, warehousing and delivery to schools) under one umbrella (LTSM). The department claims that it is easier to hold one service provider accountable for this entire process. In the past, where these services were split, service providers would be reluctant to take accountability for delays, tending to blame others in the value chain for any problems. Now that there is a single service provider for all elements, delays are quickly identified and addressed. Furthermore, by combining the services, even further savings from economies of scale are possible. This latter assertion is supported by the 2.9 per cent increase in LTSM costs from 2017/18 compared to 2019/20 for roughly the same number of workbooks, while input costs like labour, ink, fuel, etc. increased by much more than 2.9 per cent over these two years.

The two other areas where spending exceeds R1 million is salaries (average of R10m per year) and travel and subsistence (average of R1.4 million per year). These payments are for the management, monitoring and oversight of the programme, including the 18 managers in the provinces, and the design and development of the workbooks by specialist educators.

The estimated costs for the various workbooks are derived from the total number per type of workbook provided per year. The spending per type of workbook therefore reflects the total provided. Costs per workbook do not differ from one type to the other as I was unable to get a breakdown of costs per type.

Table 4: Average cost of workbooks

Cost R'm	2017/18	2018/19	2019/20	Average
Grades 1-6 HL	260 327	272 523	260 098	264 316
Grades 1-9 Maths	367 996	389 113	390 076	382 395
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TOTAL	1 045 861	1 058 773	1 055 628	1 053 421
Cost per book	R17.33	R18.45	R17.50	R17.75

The average cost per workbook ranges between R17 and R19 over these three years, at an average cost of R17.75 per workbook. Considering that each learner gets two workbooks for the year, that's a total average cost of R35.50 for the workbook package per learner. This cost includes lesson plans for teachers. Commercially available workbooks sell for around R160 on average. These government produced workbooks are therefore cost effective by comparison.

An evaluation of the workbooks in 2013 by the Australian Council for Educational Research (ACER) found the workbooks to be of good quality. A study of grade 3 mathematics and English home language workbooks by Hoadley and Galant in 2016 concluded that the workbooks represent effective tools for practicing the curriculum. The workbooks are arguably good value for money, considering their overall cost and quality.

The increasing efficiencies of the workbooks programme has allowed the department to extend their coverage. The programme was initially introduced to improve literacy and mathematics performance by providing home language and mathematics workbooks to learners. As the programme delivery became more efficient, overall costs were reduced, thereby allowing the department to provide workbooks to more grades (mathematics up to grade 9) and to introduce English FAL, lifeskills and grade R workbooks. This expanded coverage is the case across all years covered in this review.

Notwithstanding this expansion, the programme costs continue to be contained, and the programme has progressively underspent by increasing amounts each year, from R2 million in 2017/18 to R115 million in 2019/20. The workbooks programme is seemingly very efficient and cost effective.

6 Options

In this section, I propose options to consider to generate savings. Before doing so, it is worth reflecting on the stated outcome of this programme - to improve learning outcomes in the key subject areas of literacy and numeracy/ mathematics. The aim is to do this by providing languages and mathematics workbooks.

I believe that the provision of English FAL workbooks to learners for whom English is not a home language, but who will use it as the language of learning from grade 4 onwards, is a critical measure in improving language outcomes, along with the home language workbooks.

The lifeskills workbooks are useful for the overall development of learners, but outside of the intended outcome of the programme. It is thus a “nice to have”, rather than essential to the programme objectives. Similarly, for the grade R workbooks as they fall outside the compulsory school going phase which starts at grade 1. On the other hand, these workbooks provide literacy and numeracy support at this level, albeit only to learners attending grade R at public ordinary schools. Savings of between R130 million and R200 million could thus be considered if one were to stop the lifeskills workbooks (R130 million) or both lifeskills and grade R workbooks (R200 million).

Considering the rising underspending trend (R115 million in 219/20) with full delivery, further savings may also be possible. Changes in programme costs as a result of reducing the number of books to be printed and delivered will need to be considered before making a final recommendation in this regard as average costs per book may increase due to reduced volumes.

About 1.5 million more workbooks per type than required are printed, transported, warehoused and delivered each year to accommodate possible incorrect demand data. All schools are now compliant with the Learner Unit Records Information Tracking System (LURITS), which tracks each learner through the system. Information like the school the learner attends, her/his home language, the language of learning and teaching at her/his school are all included in LURITS.

This system can thus be used to provide the demand estimates more accurately, with small adjustments for repetition and new enrolments. A more efficient estimate of demand could reduce the number of workbooks required each year by a million for each workbook type. If the focus is to be on home language, English FAL and mathematics, that would equate to 6 million fewer workbooks per year (2 workbooks per year per subject). At an average cost of R17.50 per workbook, this equates to a saving of R106 million per year.

Finally, there is the possibility of digitising the workbooks. This option may generate savings in the long term, but would probably require additional funding at the outset for the provision of a digital device to all learners. Learners would do activities on their devices, which they would need to retain for the duration of the programme, as opposed to using them for one year only. The benefit would be that material for all subjects could be loaded onto one device, which would allow for the programme to be extended to other subjects without incurring much additional costs. The downside is that the benefits of practicing writing in a workbook will be lost, along with the key development of fine motor skills that writing stimulates. The actual physical presence of books in households where this is typically not the case will also be lost. And the responsibility of having to look after a digital device may weigh heavily on young children. These negatives will have to be addressed before adopting a digitised solution.

There are definitely possibilities for generating savings in the workbooks programme. Even though the programme is very efficient and effective in that it reaches all targeted beneficiaries, further efficiencies are possible by improving determining demand. By focusing on the programme's stated outcome, production of at least one of the workbooks can be stopped as it falls outside of the scope of the programme. Finally, by considering current under spending trends, further savings may be possible.

7 Recommendations and concluding remarks

The workbooks programme is a successful and efficient programme. The programme delivers around 60 million workbooks to over 9 million learners each year – in time for them to be used at the start of the academic year or the 3rd term in the case of workbook 2. The allocation for workbooks has now risen to R1.2 billion in 2019/20. Over 95 per cent of the funds allocated for the programme is spent each year, except in 2019/20 when 90.2 per cent of the allocation was spent.

Recommendation 1: Discontinue the lifeskills workbooks

The large volume of workbooks printed, transported, stored and then so efficiently and timeously delivered to schools has allowed for reduced costs, without compromising on the ability to deliver books as required. These savings were used to expand the workbooks programme to include other subjects and grades. It is here that the primary source for savings to be given up by the programme without compromising its efficiency in providing workbooks to improve literacy and numeracy/ mathematics can be sourced. The lifeskills workbooks contribute to a broader educational objective, but does not have a direct impact on improving literacy and numeracy, as do the languages and mathematics workbooks. The lifeskills workbooks can thus be discontinued, without compromising on the programme's specified outcome of improving literacy and numeracy. This action will result in a saving of R130 million per year.

Recommendation 2: Continue the grade R workbooks

Grade R is outside of the compulsory school grades. A case could be made for the discontinuation of these workbooks on those grounds. These workbooks cover literacy, numeracy and lifeskills and are only provided to grade R learners at public primary schools. The building blocks for successful literacy and numeracy outcomes in later grades and arguably throughout schooling are laid in a quality grade R programme (see 2013 DPME Report on the Impact of the Introduction of Grade R on Learning Outcomes). These workbooks provide grade appropriate and CAPS aligned activities that will help teachers and learners build that foundation and thereby improve the quality of grade R. The programme should thus continue to provide these workbooks.

Recommendation 3: Use LURITS for more accurate demand estimates

The sector will get more accurate demand estimates if LURITS is used as the primary source for this data as it includes information on each learner's home language, current grade and language of learning and teaching at the school being attended. The cushion built into the number of additional workbooks provided to accommodate errors in this regard can thus be significantly reduced from the 1.5 million to 500 000, which will generate a saving of R106 million per year.

Recommendation 4: Track the underspending to assess for savings

The programme underspent by R114 million or just under 10 per cent in 2019/20, up from R50 million in the previous year, while continuing to meet all deliverables. This may have been the result of once-off cost saving measures (a lower fuel price for example). Too little is known about the reason for the increased underspending to infer that this trend will continue. The reasons for the growth in underspending need to be determined and then spending tracked more closely so that a recommendation on whether this trend can be the basis for further cuts to the programme or not.

Recommendation 5: Explore the possibility of digitising the workbooks

Digitising the workbooks may require additional funding to get started, but could save costs in the long term and allow for the expansion of the programme. There are possible disadvantages like fewer opportunities for the development of fine motor skills in young children that is gained by writing with a pen or pencil and ensuring that the digital workbooks are theft-proof. This option should thus be thoroughly explored before being considered.

Recommendation 6: Research the impact of workbooks on performance

Hoadley and Galant (2016) show that the workbooks meet the objective of providing activities that support the curriculum. The 2013 ACER study found that the workbooks are of a good quality, and a 2012 National Education Evaluation and Development Unit (NEEDU) report indicates that the workbooks are widely used at schools. But there has not been any wide-ranging study on the effectiveness of workbooks to improve learning outcomes. This may be because of the difficulty to ascribe language or mathematics improvement to one element (e.g. the workbooks) when multiple factors affect performance (parental support, nutrition, teacher competence, etc.). Nonetheless, research methodologies do exist that could be used to attempt to do so. Research into the impact of workbooks on literacy and numeracy/mathematics performance will confirm whether this is not only an efficient programme, but also an effective one.

The workbooks programme provides around 60 million workbooks to schools each year, in time for them to be used from the start of terms 1 and 3. The programme has met this target in each of the three years reviewed. The books are of good quality. Programme efficiencies have been passed on to other areas of the programme that has seen it expanded to include other subjects. These efficiencies are what primarily creates the possibility for a reduction in the allocation for workbooks.

8 References

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DISCLAIMER: This document is not for quoting or circulation. It was done as part of the NT training exercise on the spending review methodology and is intended for discussion purposes. Further, there were some data limitations and both the appropriate level of information and its correctness could not be independently verified.

Appendices

Spending Items from BAS for the Delivery of the Workbooks Programme

	2017/2018	2018/2019	2019/2020	Grand Total
ADMINISTRATIVE FEES: PAYMENTS	3	282	12	297
ADVERTISING		-		-
AGENCY&SUPRT/OUTSOURCED SERVICES	-			-
AUDIT COST:EXTERNAL	-		-	-
CATERING:DEPARTML ACTIVITIES	0	341	16	358
COMMUNICATION		1		1
COMPUTER SERVICES			608	608
CONS SUPPLIES		3	12	15
CONS:STA,PRINT&OFF SUP	2	8	4	15
CONSULT:BUSINESS&ADVISORY SERV	738	340	975	2 053
H/H:EMPLOYEE SOCIAL BENEFITS		45		45
INV:LEARN&TEACH SUPP MATE	1 012 955	1 046 582	1 043 057	3 102 594
INV:OTHER SUPPLIES			-	-
MINOR ASSETS	1	3	2	5
OPERATING LEASES			2	2
OPERATING PAYMENTS	17 231	-	-	17 231
OTHER MACHINERY & EQUIPMENT	104	29	32	165
RENTAL & HIRING		259		259
SALARIES AND WAGES	14 329	6 978	9 497	30 804
SOCIAL CONTRIBUTIONS	370	353	376	1 098
TRAVEL AND SUBSISTENCE	128	3 018	1 036	4 182
VENUES AND FACILITIES		532		532
Total Spent	1 045 861	1 058 773	1 055 628	3 160 263

Number of Workbooks Provided per Province

Workbooks Provided	Year		Eastern Cape	Free State	Gauteng	Kwazulu Natal	Limpopo	mpumalanga	Northern Cape	North West	Western Cape	TOTAL
Grades 1-6 Home Language	2017/18	Vol 1	1 214 245	425 340	1 387 750	1 508 335	1 039 440	648 895	185 390	455 235	646 210	7 510 840
		Vol 2	1 214 245	425 340	1 387 750	1 508 335	1 039 440	648 895	185 390	455 235	646 210	7 510 840
	2018/19	Vol 1	1 066 240	458 735	1 371 785	1 544 205	947 035	659 940	180 790	455 030	700 960	7 384 720
		Vol 2	1 066 240	458 735	1 371 785	1 544 205	947 035	659 940	180 790	455 030	700 960	7 384 720
	2019/20	Vol 1	1 048 315	455 900	1 384 670	1 601 505	909 900	681 910	182 675	458 025	707 075	7 429 975
		Vol 2	1 048 315	455 900	1 384 670	1 601 505	909 900	681 910	182 675	458 025	707 075	7 429 975
Total			6 657 600	2 679 950	8 288 410	9 308 090	5 792 750	3 981 490	1 097 710	2 736 580	4 108 490	44 651 070
Grades 1-9 Mathematics	2017/18	Vol 1	1 723 865	585 365	1 920 740	2 142 240	1 477 895	930 750	264 730	654 005	917 660	10 617 250
		Vol 2	1 723 865	585 365	1 920 740	2 142 240	1 477 895	930 750	264 730	654 005	917 660	10 617 250
	2018/19	Vol 1	1 511 455	650 700	1 947 940	2 249 625	1 354 475	939 520	257 680	648 980	983 650	10 544 025
		Vol 2	1 511 455	650 700	1 947 940	2 249 625	1 354 475	939 520	257 680	648 980	983 650	10 544 025
	2019/20	Vol 1	1 502 205	651 945	1 953 695	2 346 910	1 657 985	980 355	259 540	688 920	1 001 390	11 042 945
		Vol 2	1 502 205	651 945	1 953 695	2 346 910	1 657 985	980 355	259 540	688 920	1 001 390	11 042 945
Total			9 475 050	3 776 020	11 644 750	13 477 550	8 890 710	5 701 250	1 763 900	3 983 810	5 805 400	64 608 440
Grades 1-6 English FAL	2017/18	Vol 1	1 010 835	371 065	909 760	1 378 505	861 935	575 125	162 375	465 555	418 720	6 153 875
		Vol 2	1 010 835	371 065	909 760	1 378 505	861 935	575 125	162 375	465 555	418 720	6 153 875
	2018/19	Vol 1	881 090	334 040	793 475	1 104 720	842 310	549 285	142 430	386 290	426 085	5 459 725
		Vol 2	881 090	334 040	793 475	1 104 720	842 310	549 285	142 430	386 290	426 085	5 459 725
	2019/20	Vol 1	941 325	362 980	846 245	1 300 460	853 275	594 995	160 110	428 850	448 110	5 936 350
		Vol 2	941 325	362 980	846 245	1 300 460	853 275	594 995	160 110	428 850	448 110	5 936 350
Total			5 666 500	2 136 170	5 098 960	7 567 370	5 115 040	3 438 810	929 830	2 561 390	2 585 830	35 099 900
Grades 1-3 Lifeskills	2017/18	Vol 1	573 170	226 105	743 895	888 130	456 665	339 420	93 175	245 680	331 330	3 897 570
		Vol 2	573 170	226 105	743 895	888 130	456 665	339 420	93 175	245 680	331 330	3 897 570
	2018/19	Vol 1	501 878	202 715	656 685	679 475	447 845	317 565	81 120	203 370	332 945	3 423 598
		Vol 2	501 878	202 715	656 685	679 475	447 845	317 565	81 120	203 370	332 945	3 423 598
	2019/20	Vol 1	544 050	218 550	701 345	808 800	441 105	345 605	92 245	230 220	351 900	3 733 220
		Vol 2	544 050	218 550	701 345	808 800	441 105	345 605	92 245	230 220	351 900	3 733 220
Total			3 238 196	1 294 740	4 203 850	4 752 810	2 691 230	2 005 180	533 080	1 358 540	2 031 150	22 108 776
Grade R	2017/18		681 020	178 068	667 340	777 120	719 440	353 220	100 560	226 440	287 140	3 990 348
	2018/19		567 930	189 760	641 730	777 440	573 620	368 460	93 000	225 120	319 200	3 756 260
	2019/20		567 460	185 200	657 305	874 820	532 120	371 240	94 220	217 600	325 380	3 825 345
Total			1 816 410	553 028	1 966 375	2 429 380	1 825 180	1 092 920	287 780	669 160	931 720	11 571 953
GRAND TOTAL			26 853 756	10 439 908	31 202 345	37 535 200	24 404 910	16 219 650	4 612 300	11 309 480	15 462 590	178 040 139

