Briefing Paper 324	June 2013

Textbook Alternatives

"Books are the carriers of civilization. Without books, history is silent, literature dumb, science crippled, thought and speculation at a standstill."

- Barbara W. Tuchman

1. Introduction

South Africa's education system is beset by a multitude of problems, and prominent amongst them is the government's inability to provide the necessary learning materials on time. The 2012 textbook saga not only highlighted the inefficiency of textbook distribution, but also the high cost of printing and transporting the material to more than 23 000 public schools.

This paper will focus on some alternatives to the traditional printed textbooks that may offer a solution to the challenges regarding shortages and delivery of textbooks.

2. Textbook Provision Policy

The Department of Basic Education's (DBE) Learner and Teacher Support Material (LTSM) policy seems a pretty straightforward affair – the DBE makes a budget, and a national textbook catalogue, available to all the provincial education departments (PEDs) to provide public schools with textbooks. For the 2013/14 financial year, the DBE allocated a total of more than R10 billion[1] for the nine PEDs to spend on LTSM[2]. The PEDs collate the school orders, appoint the tenderer(s) that will supply the books, and arrange for payment of the invoices.

However, this 'straightforward' process proved to be a nightmare for the DBE, and its provincial departments, when they failed to deliver textbooks to a number of schools in the Eastern Cape and Limpopo. Although this year's experience has been a great improvement on last year's, there have still been some reports of a lack of textbooks, especially in schools in rural areas. It seems that, even if the gross mismanagement that characterised the 2012 saga has been overcome, some of the administrative and logistical problems involved in the physical distribution of textbooks persist. And even if the distribution were perfect, there remains the question of the extremely high cost.

3. Alternatives

What then, if any, are the alternatives or possible solutions to alleviate the dual problem of textbook provisioning and pricing?

3.1. Open-source textbooks

According to the education NGO, OER-Africa,

"The concept of Open Educational Resources (OER) describes any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or licence fees"[3].

The form of licences normally applied to OER are the Creative Commons licences or open copyright licences, which provide legal mechanisms to ensure that people can retain acknowledgement

for their work while allowing it to be shared. The owner(s) can choose to restrict commercial activity if they so wish, or prevent people from adapting work if appropriate. OER has been growing over the last decade, especially in the tertiary education environment.

In 2012 the DBE decided to adapt OER science and maths books (developed by Siyavula) to be distributed countrywide. Siyavula textbooks were started by Mark Horner, who together with a team of 14 members, identified key education experts to contribute to writing textbooks and teacher guides for maths and science in grades 10-12. Siyavula not only shared the content of the books free of charge with the DBE, but also made the books available online in mobile-friendly and PDF formats. When the books were made available on the Mxit platform, more that 150 000 people subscribed within the first 48 hours[4]. The free downloadable textbooks also include embedded videos and presentations which make them more interactive than traditional print material.

The DBE was able to print and distribute approximately 2.5 million of these textbooks and teacher guides at an approximate cost of R35 per copy[5]. There were no costs to the schools and it did not disrupt their regular textbook budget.

3.2. E-textbooks

Digital textbooks are touted as another possible solution to the provision of textbooks. Digital versions of a textbook can be made available to be viewed either on a tablet computer or an e-reader at a considerably cheaper price than the traditional printed version. Unlike its printed equivalent, a digital book will never be out of stock, out of print or out of the library, and it is far easier (and more cost-effective) to update. E-textbooks are also more interactive, with a host of features that are not available in the printed versions.

However, the real challenge is to put a cheap, reliable reading device in the hands of those who need it. While it can be argued that tablet and e-reader prices have tumbled over the last few years, they remain unaffordable to most South Africans. Experts suggest that sub-R1000 tablets[6] are not quite adequate – they are slow, the touch screens are often very unresponsive, and the battery life is not very good – an issue that will be

a major drawback for most South Africans as a large number of schools do not have electricity. A decent tablet that will be up to the task, and fitted with connectivity options, can cost more than R2000. However, since prices are falling annually, it is not inconceivable that in the near future a decent tablet could be purchased for less than R1000. There are already high-quality, reasonably-priced, e-readers that can do the job as well as any tablet.

Beside the costs of tablets or e-readers and the real possibility of theft and loss, there are other issues that can limit the accessibility of e-textbooks: there is no standardised e-textbook (e-book) format with many of the propriety e-textbooks fitted with digital right management (DRM) technology that limits the usage of the material to a specific device; not all titles are available; there is a lack of local content developers; a lack of broadband Internet connectivity; and the durability of some e-readers is questionable.

3.3. Print-on-demand

So what happens when a learner does not have a textbook and is financially unable to access e-textbooks? Most often learners will either share one book or they will make (illegal) copies of the learning material. The print-on-demand solution allows the legal printing/copying of textbooks (and other books) for a fraction of the price that the original printed version would cost. In South Africa, Paperight[7] is the company that is pioneering this kind of publishing. The agreement between Paperight and the publishers is essentially a reprint-licence agreement, and such agreements historically have involved a 5–10% royalty. For example, for a traditionally-published book selling at R150, the retailer would get approximately R70 (46.7%), the publishers about R40 (26.7%) and R40 (26.7%) would go on shipping, stores, print, and waste. For a Paperight version, the same book would cost R135, with the publisher again getting R40 (29.6%), Paperight getting R10 (7.4%), and R85 (63%) going on printing and binding[8]. Paperight books work out about 10 to 20% cheaper than bookshop editions, though this depends on the copy shop's own printing charges.

Paperight has currently more than 160 outlets across the country, but the biggest challenge is increasing its presence in the rural areas.

3.4. Mobile education

According to a 2012 World Wide Worx Internet access report, a total of 7.9 million South Africans use their cell phones to access the Internet[9]. A 2012 report compiled by the UNICEF[10] stated that "South African adolescents and youth are the first adopters of mobile technology, with 72% of 15 to 24-year olds having a cell phone".

From these statistics it is easy to see why many believe that education via cell phones may also be an answer to delivering learning and teaching material, as evidenced by the popularity of the home-grown instant messaging platform, Mxit. The site has more than 10 million subscribers[11] in South Africa, and has become the leading platform for a host of mobile education tools. While Siyavula is the only publisher to have made its open-source textbooks available on Mxit, other free applications are just as popular. A maths tutoring system, Dr Maths, enables more than 32 000 learners across South Africa to chat, pose questions, and gain real-time support from qualified tutors.

The potential of platforms like Mxit to augment what happens in the classroom is huge and it could very well be one of the solutions to the ongoing textbook saga.

4. Conclusion

The provision of learning materials is a crucial element in ensuring that not one of the millions of our learners will be left behind in the race to receive an education. Government is duty-bound by our Constitution to see to it that it does its job well, and that means employing all the necessary means to do so. Digital textbooks, mobile education and other publishing models already exist, and perhaps it's time the government invested wisely in these alternatives.

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[1] This figure includes public ordinary schools, public special schools and ECDs. The budget for public schools only is more than 2.5 billion.

[2] Parliamentary Question 1679 in the National Assembly by Mrs Lovemore to the Minister of Basic Education.

[3] http://www.oerafrica.org/understandingoer/UnderstandingOER/tabid/56/Default.aspx

[4] Thandi O'Hagan (2013): *Mobility in Education: can mobile devices support teaching and learning in South Africa.* Focus, Issue 68, March 2013.

[5] Graham Shillington (2012): *Is Siyavula the answer to South Africa's textbook crisis?* Available online http://ventureburn.com/2012/10/is-siyavula-the-answer-to-south-africas-textbook-crises/

[6] Arthur Goldstuck (2012): *Pricey cheap tablets.* Available online at http://www.fin24.com/Opinion/Pricey-cheap-tablets-20120821

[7] See http://www.paperight.com

[8] Kevin Anderson (2013): *South Africa's Paperight holds opportunities for long-term journalism.* Available online: http://www.kbridge.com

[9] World Wide Worx (2012): *Executive Summary: Internet access in South Africa 2012.* Available online: http://www.worldwideworx.com/wp-content/uploads/2012/12/Exec-Summary-Internet-Access-in-SA-2012.pdf

[10] UNICEF (2012): *South African mobile generation.*

[11] www.mxit.com