



Textbook availability and use in Rwandan basic education: A mixed-methods study



Lizzi O. Milligan^{a,*}, Leon Tikly^{b,c}, Timothy Williams^d, Jean-Marie Vianney^e,
Alphonse Uworwabaye^e

^a Department of Education, University of Bath, Bath, UK

^b Graduate School of Education, University of Bristol, Bristol, UK, UK

^c Centre for Education Rights and Transformation, University of Johannesburg and at the Centre for International Teacher Education, Cape Peninsula University of Technology, South Africa

^d Harvard Graduate School of Education, Harvard University, Boston, USA

^e School of Education, University of Rwanda, Kigali, Rwanda

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ABSTRACT

Textbooks and related learning materials, such as workbooks and teacher guides, are widely assumed to be key inputs in effective schooling systems. Some recent statistical analyses have challenged the validity of such assumptions and highlighted the tendency for textbook availability to be used as a proxy for textbook use. However, few studies have explored whether textbooks are actually used, and if not, why not. This article aims to address this gap in the literature by presenting the findings from a nationwide survey of textbook use in Rwandan basic education and providing a detailed analysis of current use of textbooks in a range of Rwandan classroom settings and an exploration of the barriers to their effective use. Findings show that textbooks are infrequently used because of inconsistencies in the availability of textbooks for all learners and perceptions of the quality and accessibility of those books that are available. Conclusions suggest the implications for textbook development, distribution and use in Rwanda and point to the need for greater understanding of the complexities of the ways that textbooks can be used as effective learning support materials for all learners.

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1. Introduction

Millions of dollars are invested annually by African governments and donors to purchase textbooks and related learning materials such as workbooks and teacher guides. The rationale for such investment is rarely fully explained beyond general statements about the importance of learning support materials (LSM) for the provision of quality education. Two recent World Bank publications have reiterated the primarily positive impact of textbook use, particularly as a cost-effective measure to improving learning outcomes (Fredriksen and Brar, 2015; Read and Bontoux, 2016). Fredriksen and Brar (2015: 22) highlight that 'there is widespread agreement that, apart from qualified and committed teachers, no other input is likely to be more cost-effective than high quality learning materials available to all students'. Read and Bontoux (2016) further suggest that repeated evidence for forty

years has shown the overwhelmingly positive impact of textbooks on learning. However, they do conclude that this is dependent on the textbooks being available for teachers and learners to use and in a language that is widely understood. This evidence base has recently been challenged (Glewwe et al., 2009; Kuecken and Valfort, 2013). These studies have questioned the widespread advocacy of the positive and significant correlation between textbook use and improved learner outcomes in low income countries since textbook availability in schools is often used as a proxy for textbook use. While these studies quantitatively highlight the need to understand more about the ways that textbooks are used, few empirical studies have explored textbook use in class situations, their mediation by teachers and how they aid or hinder learning, particularly in disadvantaged socio-economic communities and for all learners (Opoku-Amankwa, 2010).

Rwanda's promotion of textbooks can be seen to be underpinned by a strong belief in their positive impact on learning. Improving learning outcomes is central to the government's broader aims of social and economic development (Williams,

* Corresponding author.

E-mail address: e.m.a.milligan@bath.ac.uk (L.O. Milligan).

2016). The emphasis on quality is highlighted in the 2013–2018 Education Sector Strategic Plan (ESSP). Target 3 of the ESSP calls for improved quality and learning outcomes across primary and secondary education (MINEDUC, 2013: 9). One of the ways quality has been conceptualized in the ESSP is through ensuring that children have access to effective learning materials in the classroom. This includes the provision of textbooks. Output 3.4 for Target 3 explicitly references the need for improved student/textbook ratio as well as access to reading material for all schoolchildren. This has resulted in both public and private initiatives such as USAID funded project 'Literacy, Language, and Learning' aiming to improve the availability and use of innovative reading instructional materials.

Recent data has pointed to the successful distribution of textbooks in schools across the country. Through its decentralization policy, Rwanda's capitation grant system has successfully enabled head teachers to procure textbooks directly from publishers based upon the particular needs of the school (Transparency International, 2012). This system has shifted the decision-making responsibility to schools to choose the quantity and type of textbooks and reading materials they require (MINEDUC, 2013: 21). Some recent studies have suggested that this has led to improved learner/textbooks ratios (MINEDUC, 2014; Transparency International, 2013). Textbooks have thus been identified as a tool that can help to improve learning across all subject areas.

There is very limited understanding of the ways in which textbook availability translates into actual textbook use in Rwandan classrooms. This article addresses this gap in the literature, both in Rwanda and by drawing implications further afield. Perceived barriers to systematic textbook use are explored and conclusions consider the ways that textbooks can be used more effectively to support learner outcomes.

2. Literature review

In the era of 'the learning agenda', there has been a renewed interest in what are the most effective inputs that contribute to improved learning for all learners. Here, textbooks are frequently cited in key donor documents as a key component of a positive learning environment (Hanushek and Woessmann, 2010; Department for International Development, 2010; Fredricksen and Brar, 2015). The positive relationship between textbook use and learner outcomes is often discussed in a general manner without reference to the evidence or the contexts from where such evidence has been collected. For example, in the Department for International Development (DfID) (2010) guidance note *learning and teaching materials: policy and practice for provision*, the relationship between textbook availability in schools and learner outcomes appears uncontested with only references made to two projects from early 2000s. Similarly, in World Bank documentation, it is claimed that the availability of textbooks appeared to be the single most positive factor in predicting educational achievement (World Bank, 2008; Fredricksen and Brar, 2015). Fehrler et al. (2009) in their study of 22 Sub-Saharan countries, also concluded that textbook investment are cost-effective, customizable and useful. These studies suggest that LSM, and textbooks in particular, are effective inputs to learning. Such arguments have underpinned many governments and donors' widespread provision of textbooks. It follows that if textbooks are delivered into school settings, then children will learn more effectively.

The simplicity of the presentation of the relationship between textbooks and learning, however, has the tendency to mask the complexities of this relationship. Firstly, there is limited consideration given to issues related to the quality, relevance and accessibility of the textbook. Heyneman (2006: 47) has outlined some of the key determinants of a quality textbook:

A pedagogically effective textbook is accessible to the full range of student experience and ability. It is natural in the teacher's hands. It is expected to build readiness for the next level, its modules fit well with teacher preferences and choices, and it chooses topics and their sequencing based on an understanding of student preferences. Learning how students respond to various language levels, sequences, and the mixture of pedagogical strategies is why good textbooks are rare and why effective textbooks are always more costly.

This highlights the complexity of the content of textbooks, the ways in which they are used in classrooms by teachers and how they are applied to learners with different cognitive and language abilities. It also brings into question how far widespread assumptions can be held about the effectiveness of textbooks, as a homogeneous entity, without greater understanding of the content of the books and the complexity of their use by teachers and learners alike.

Secondly, it has been argued that much of the evidence used to show the effectiveness of textbooks draws on measures for textbook availability or presence in the classroom rather than actual analysis of the ways in which they are used by teachers and learners to support learning. Spaul (2012) has noted that while a number of studies have found that the educational returns to textbooks are large and significant in South Africa (Van der Berg and Louw, 2006) and Sub-Saharan Africa (Fehrler et al., 2009), this refers to the availability of textbooks rather than whether and how they are used. This critique is not new. Twenty years ago, Moulton (1994) reviewed the literature related to how teachers use textbooks in the USA and 'developing countries'. Moulton (1994) explores whether textbook availability can be used as a proxy for textbook usage, particularly within World Bank studies, and highlights that the links between availability and use are rarely established.

Kuecken and Valfort (2013) highlight the lack of evidence for the impact of textbook access on learner achievement before analysing the Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ) data. They find no average impact of textbook access (ownership or sharing in the classroom) on achievement for primary learners. Glewwe et al. (2009) also highlight that much of the evidence for the relationship between textbook use and learner outcomes should not be taken for granted because of the way in which variables have been identified and included. For example, they point to the Heyneman and Jamison (1980) study which showed positive correlations between textbook access and student test scores in literacy and maths but they argue that these are at risk of bias because of omitted variables.

There is a very limited body of literature which has qualitatively explored the ways that textbooks are actually used in classroom situations. In one small scale study of 60 classroom observations in one school in Kumasi, Ghana, Opoku-Amankwa (2010) highlighted that although the national textbook policy expects 1:1 textbook-to-learner ratio, classroom norms do not allow for textbooks to be used regularly. These include teachers' attitudes towards the textbook policy, the large class sizes and the seating arrangements in the classrooms which force learners to share textbooks on one work bench. Interestingly, he observes that when learners share there is often 'a power broker' within the group who controls access to the textbook. In the current authors' research in schools across East Africa, we can draw on many anecdotes of textbooks' presence in schools that support some of the observations drawn by Opoku-Amankwa (2010). These include that the books are often locked away, infrequently used in classroom teaching and very rarely available for student independent learning. There are clear limitations, though, to drawing on such anecdotal evidence which

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