NIC SPAULL AND ADAIAH LILENSTEIN

3. ASSESSING EARLY LITERACY OUTCOMES IN BURKINA FASO AND SENEGAL

Using DHS and PASEC to Combine Access and Quality

INTRODUCTION

The ability to read for meaning and pleasure is arguably the most important skill that children learn in the early years of primary school. Almost all future learning will depend on this fundamental understanding of the relation between print and spoken language. It is therefore not surprising that literacy, built upon a firm foundation of basic reading, is used as one of the primary measures of school efficacy. In West African countries, as in many other developing countries, many children never learn to read at a basic level in the dominant language, French, which is a foreign language for most students. This is because they do not attend school for long enough, and/or because the quality of their schooling is so low that they never breach this critical threshold. The fact that many children do not acquire basic reading and writing skills in the early years of primary school does not prevent them from proceeding to higher grades. This is largely because many countries adhere to a system of social, rather than competency-based, promotion. Moreover, the formal school curriculum proceeds unchanged, assuming that students have mastered skills in previous grades that only a negligible minority have really attained (Pritchett and Beatty, 2015).

Education occupies a pre-eminent role in the social and economic development discourses, both in Africa and internationally. In the academic literature, authors such as Hanushek and Woessman (2008), and Goldin and Katz (2009) have used empirical evidence to show the intimate links between educational expansion, educational quality, and economic growth. Looking more broadly, Easterlin (1981) provided the historical narrative of the 25 largest nations in his presidential address to the Economic History Association. He argued that their economic prosperity depended on diffusing knowledge about new production techniques, which was itself predicated on the establishment and expansion of mass schooling.

Yet, as we have mentioned in earlier work (Spaull and Taylor, 2015), education has taken centre stage in the global development discourse not only because of its economic significance. There are also widely acknowledged social benefits, including lower fertility (Basu, 2002), improved child health (Currie, 2009), reduced societal violence and improved human rights (Salmi, 2000), promotion of a national – as opposed to a regional or ethnic – identity (Glewwe, 2002), and,

finally, increased social cohesion (Heyneman, 2003). Over and above these singular benefits of education, Sen (1999) and Nussbaum (2006) offer broader theories in which education plays a central role in expanding the individuals' capabilities and freedoms and in enabling them to pursue the sorts of lives they have reason to value.

Burkina Faso and Senegal are both francophone West African countries characterized by low levels of economic development and high rates of poverty. The United Nations Development Programme ranks Burkina Faso as 183rd of the 188 countries included, while Senegal is the 170th (UNDP, 2015). While the academic education literature on these two countries is relatively sparse, two recent reviews of their education systems provide a helpful contextual narrative for schooling in Burkina Faso (Dembélé, Somé, and Ouédraogo, 2015a, 2015b) and Senegal (Manion, 2015; Salmon and Dramani, 2015). One salient feature that we find worth noting is the rapid expansion of access to education in the previous two decades. From 2000/01 to 2007/08, enrolment in Senegalese elementary schools grew from 72% to 90%, while enrolment in middle schools grew from 20% to 39% and enrolment in secondary schools grew from 9% to 16% (Manion, 2015). In Burkina Faso, the expansion has been more dramatic. In 2000/01 there were 5,131 schools in the country (614 of which were private) with 17,456 classrooms. These numbers grew to 11,545 schools (2,279 of which were private) with 43,661 classrooms, representing a two- to three-fold expansion in schools/classrooms (Dembélé et al., 2015b). With such a rapid expansion of access to education – in Senegal, but particularly in Burkina Faso – there is inevitably an impact on such learning conditions as class sizes, learning and teaching resources, and the recruitment and training of teachers. This impact is most pronounced when the expansion occurs in a country with little economic activity and few national resources, such as Burkina Faso. In these instances, it is imperative to look at both the proportion of children who are in and out of school (access), and, as well, the learning outcomes of those in school (quality); not simply at one or the other. In this chapter, it will become clear that far too few Burkinabe and Senegalese children are learning to read in French by the end of Grade 5, or acquiring emergent literacy skills by the end of Grade 2. Additionally, we highlight the relationship that inequality has with educational access and literacy. With this challenge in mind, we argue that the need for sustained political and financial support for early reading and writing is a developmental imperative.

EDUCATION FOR ALL AND THE DISCONNECT
BETWEEN ACCESS AND QUALITY

It is precisely because of the social and economic benefits mentioned earlier that most countries have declared education to be a basic human right, enshrined as it is in both the Universal Declaration of Human Rights (United Nations, 1948) and the African Charter on Human and Peoples' Rights (African Commission on Human and Peoples' Rights, 1981). In order to operationalize these aspirational goals, the international community has committed itself to a number of large-scale

initiatives. These started with the two UNESCO World Conference on Education for All initiatives, which were hosted first in Jomtien (Thailand) in 1990 and then in Dakar (Senegal) in 2000. Here all participating countries expressed a commitment to universal primary education. This goal was also affirmed at the Millennium Summit in New York in 2000, where the Millennium Development Goals (MDGs) were set. The MDGs represented the primary agenda for the global development community from 2000 to 2015.

All of these movements have been tremendously successful at expanding access to education. Between 1980 and 2010, the average years of schooling for those aged 15 years and over who were living in developing countries increased from 4.3 years to 7.1 years (Barro and Lee, 2013). However, in the late 2000s, a growing number of scholars highlighted the disconnect between schooling (quantity) and learning (quality) in developing countries, showing that additional years of schooling and new competencies acquired were correlated only very loosely, if at all (for some examples, see Filmer, Hasan, and Pritchett, 2006; Hanushek and Woessman, 2008; Majgaard and Mingat, 2012; Pritchett, 2013).

In addition, the academic literature was, and largely remains, almost entirely bifurcated. Articles focus either on access to education, looking at enrolment and grade completion, or on the quality of education, primarily analysing cross-national assessments, such as the Trends in International Mathematics and Science Study (TIMSS), the Progress in Reading Literacy Study (PIRLS), and the Programme for International Student Assessment (PISA). Articles do not, however, address access and quality simultaneously. A cursory overview of the literature also reveals that the vast majority of studies looking at education in Africa focus on issues of access to education rather than on the quality of education, despite the increasing availability of cross-national assessment data on the continent. The two primary sources of cross-national data are the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ) and the Programme d'Analyse des Systèmes Éducatifs de la CONFEMEN (Programme for the Analysis of Education Systems of CONFEMEN Countries; PASEC). (CONFEMEN denotes the Conference of Education Ministers of French-Speaking Countries.) The former assesses countries in Southern and East Africa, while the latter assesses countries in francophone West Africa and a few other countries.

A disconnected discourse, focusing on one issue or the other, is problematic for two reasons. First, observing the quantity of education without regard for its quality clouds the analysis, primarily because the underlying assumption that enrolment and attainment are correlated with learning is often not true, as this chapter will demonstrate. Second, analysing educational outcomes for those attending school without considering the enrolment and dropout profiles of the countries under review is likely to bias the results. Developing countries with lower enrolments and higher dropout rates perform better, on average, than otherwise similar countries that have higher enrolments and fewer dropouts (UNESCO, 2005). This phenomenon is largely due to the selection effects involved: The 'strongest' (that is, the wealthiest,

most advantaged, and most able) students enrol and then remain in the schooling system (Lambin, 1995).

The only way to correct for these biases is to find some method of combining measures of both access and quality into an integrated statistic. This was precisely the aim of our earlier work in Southern Africa (Spaull and Taylor, 2015). In that study, we developed a method – which we have also applied in this chapter – for creating a composite statistic of educational quantity and educational quality by combining household data (Demographic and Health Survey; DHS) on grade completion and survey data (SACMEQ) on cognitive outcomes for 11 African countries. The indicator that we created was called 'access to literacy' and measured the proportion of children from a particular cohort that both completed Grade 6 and acquired basic literacy skills. The present study extends this work by shifting the focus to two West African countries – Burkina Faso and Senegal – and using PASEC data instead of SACMEQ data.

DATA AND METHOD

In this chapter, we use the latest publicly available data from PASEC as well as matched-cohort DHS data. PASEC differs from SACMEQ in that PASEC tests both Grade 2 students and Grade 5 students at the beginning and end of the year, while SACMEQ tests only Grade 6 students and only at the end of the year. In this chapter, we use end-of-year assessments only. PASEC has developed three learning benchmarks based on the percentage of items answered correctly rather than any psychometric properties or aggregation (as in SACMEQ).

The PASEC assessment has a multiple choice format; one can score 30% simply by answering the questions randomly. Based on this fact, PASEC and CONFEMEN separate achievement on the assessment into levels. PASEC Level 1 is a score between 0% and 24% correct answers. This score is lower than what could be obtained by answering randomly; students scoring at this level are considered to be failing scholastically. Level 2 is a score between 25% and 40%. This level encompasses students scoring just below and just above what a series of random answers would give. Thus, these students are demonstrating basic knowledge barely, if at all. At this level, according to PASEC and CONFEMEN, students are not failing, but they also do not possess basic knowledge of reading and writing. Level 3 is the final level and includes all scores above 40%. At this level, students are said to possess basic knowledge of reading and writing (Education Policy and Data Center, 2012). The threshold of 40% is barely above a score that can be achieved by guessing. This is a low threshold of basic literacy and statistics gained using this threshold can be viewed as an upper-bound estimate (i.e., we are confident that we are not underestimating literacy levels but not confident that we are not overestimating them). It has also been used before with earlier rounds of PASEC surveys (Michaelowa, 2001). The PASEC tests are broadly grade-aligned; a score that falls within the Level 3 benchmark indicates that the student possesses basic knowledge of reading and

writing that is suitable for that grade level. Hence, we consider a Grade 2 child who has reached Level 3 to have acquired 'emergent literacy'; a Grade 5 child who has reached Level 3 is seen as having acquired 'basic literacy'. These distinctions are somewhat arbitrary given PASEC's own arbitrary assignment to levels. However, since a Grade 2 student is just beginning to read and a Grade 5 student should be reading at this level, we think this nomenclature is appropriate.

In Burkina Faso, PASEC 2006 tested 2,116 Grade 2 students and 2,221 Grade 5 students from 158 primary schools drawn from a nationally representative sample. In Senegal, PASEC 2006 tested 1,979 Grade 2 students and 1,910 Grade 5 students from 180 primary schools also drawn from a nationally representative sample. To find corresponding household survey data, in order to assess grade completion, we used the DHS data from 2010 in Burkina Faso and from 2012–13 in Senegal. In Burkina Faso, 14,424 households were surveyed, while in Senegal 4,175 households were surveyed.

In most African countries, the practices of delayed enrolment and grade repetition are widespread, leading to a considerable proportion of older students in earlier grades. For example, in Burkina Faso, 10% of those currently enrolled in Grade 5 in DHS 2010 were age 14 or above, despite the fact that students in this grade should be 10 years old. Thus, in order to find an appropriate age cohort, one needs to select those ages where everyone who might be expected to complete Grade 5 has already done so. For example, one cannot use an age cohort such as 15- to 17-year-olds since many 15- and 16-year-olds may go on to complete Grade 5, even though they have not completed it yet. Using a cohort aged 15 to 17 will thus underestimate the true Grade 5 completion rate. With this in mind, we chose cohorts for this study by selecting the youngest age cohort (with a five-year grouping) in which at least 95% of the cohort was not currently enrolled in Grade 5 (or in Grade 2 for the Grade 2 cohort). For Grade 5, the cohort is 16 to 20 years in both Burkina Faso and Senegal. For Grade 2, the cohorts are 11 to 15 years for Burkina Faso and 12 to 16 years for Senegal.

DHS datasets were chosen to match these age cohorts. For example, the average Burkinabe is 12 years old in Grade 5 and the PASEC data were collected in 2006; those students would be 16 years old in 2010 and 20 years old in 2014. Hence, a DHS dataset collected in 2010 matches our chosen age cohort relatively well. The DHS dataset that best matches the Grade 2 Burkinabe cohort was also the 2010 DHS dataset. To match Senegal Grade 2 and Grade 5 we used the 2012–2013 DHS dataset. For a more detailed discussion on cohort matching using these two countries, see Lilenstein (2016).

Overall, the method applied here is not technically complex and in many instances simply involves multiplying the percentage of a cohort that completes Grade 5 with the percentage of the PASEC sample that acquires basic literacy skills in Grade 5. For example, our data show that 60% of a cohort of Senegalese children completes Grade 5 (DHS), but only 37% of Grade 5 students acquire basic literacy skills (PASEC). Thus, the access-to-basic-literacy rate would be 22% (60% x 37% = 22%): Only 22%

of a cohort of Senegalese children will complete Grade 5 and acquire basic literacy skills. Notice how both the grade completion rate (60%) and the PASEC literacy rate (37%) both overestimate the success of the schooling system when they are seen in isolation. We argue that the access-to-literacy rate is the best indicator of school system performance, since it accounts for both access (quantity) and learning (quality).

Because of space constraints, we will not repeat the technical details explaining how the method accounts for differential enrolment (and subsequent sample-selection) in the PASEC survey. This involves identifying the proportion of the DHS sample that makes it into the PASEC sampling frame, given that this differs by socio-economic status, and its interaction with gender. We direct the reader to Spaull and Taylor (2015) for a detailed explanation.

RESULTS

The national level results that combine measures of both grade completion (from DHS) and learning (from PASEC) appear in Figure 1 for the Grade 2 cohort, and Figure 2 for the Grade 5 cohort. From these graphs, we see that the levels of non-enrolment are high in both countries, but especially in Burkina Faso.

The Grade 2 cohort in Burkina Faso sees only two in every ten (23%) learners achieving basic literacy. Senegal's cohort only does slightly better at three in every ten (34%).
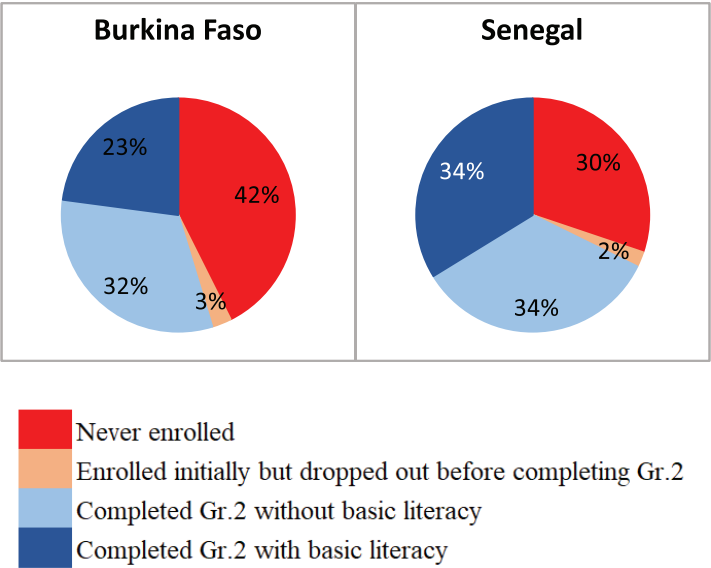

Figure 1. National levels of access and quality of education – Grade 2 literacy

Looking at the Grade 5 cohort in Burkina Faso, we see that, of 10 Burkinabes, five will not enrol in school, one will enrol but drop out before Grade 5, three will complete Grade 5 but not acquire basic literacy skills, and only one (11%) will complete Grade 5 and acquire basic literacy skills.
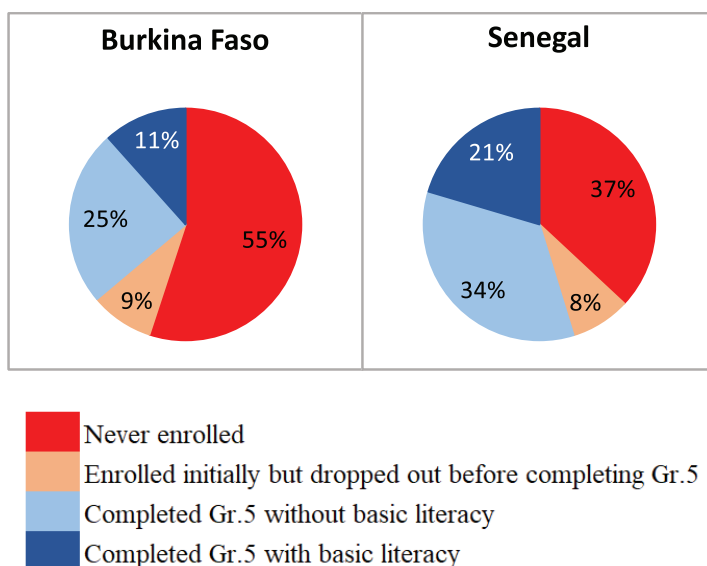

Figure 2. National levels of access and quality of education – Grade 5 literacy

In both cohorts and in both countries, between 25% and 34% of children do complete the respective grade (either Grade 2 or 5) but do not acquire either emergent literacy skills (Grade 2) or basic literacy skills (Grade 5). This points to the absence of learning even among those who are enrolled and do progress into higher grades. It is also worth noting that, in Burkina Faso, fewer than 25% of a cohort acquire grade-appropriate skills in either Grade 2 or Grade 5; in Senegal the percentage is slightly higher only among the Grade 2 cohort, at 34%.

Access: Quantity of Education

Table 1, focusing on Grade 2 data, and Table 2, focusing on Grade 5 data, summarize the rates for access, literacy, and access-to-literacy for Burkina Faso and Senegal. The first and second columns of Tables 1 and 2 show non-enrolment and dropout rates among students in Burkina Faso and Senegal for the Grade 2 and 5 cohorts respectively. In comparing the rates of those who never enrol with those who drop out, it becomes clear that, as one might expect, there is almost no dropping out at the Grade 2 level;

even at the Grade 5 level, the levels of dropout pale in comparison to the incredibly high levels of non-enrolment. With both the Grade 2 cohort and the Grade 5 cohort in Burkina Faso, 59–76% of the poorest group of students will never enrol in school. By comparison, only 15–25% of the richest group of Burkinabes or Senegalese will not enrol in school. Non-enrolment among the poorest group in Senegal is lower than it is in Burkina Faso, with 43–53% of the poorest group never enrolling in school.

While many studies have looked at the large disadvantages that girls face relative to boys in some countries (Lewis and Lockheed, 2006), the evidence in Tables 1 and 2 shows that these are minuscule in comparison to the inequalities between the wealthiest 20% of children and the poorest 40% of children. In Burkina Faso, the gap in Grade 2 completion between boys (57%) and girls (52%) is small (completion rates are shown in the third column of Tables 1 and 2). In stark contrast, the wealthiest group of Burkinabes is twice as likely to complete Grade 2 (82%) as the poorest group (38%). The gender gap widens in Grade 5, but is still small relative to the wealth gap, which increases to four times. The situation is better in Senegal, but the wealthiest group of students is still more than one and a half times as likely to complete Grade 5 (71%) as the poorest group (40%).

Looking at the 'double disadvantage' (Lewis and Lockheed, 2006) faced by girls who are also poor – and who are therefore part of two groups that are individually and jointly disadvantaged – we compared the poorest 40% of girls with the poorest 40% of boys. Although there is some disadvantage to being poor and female, this ranges between 6 and 7 percentage points in Burkina Faso and from 0 to 5 percentage points in Senegal. In Burkina Faso, this could represent a floor effect: access rates are so low among the poor (16% in Grade 5) that there is little room for further inequalities to emerge between boys and girls.

It is interesting that although neither Burkina Faso nor Senegal displays large gender inequalities overall or among the poor, gender inequality is evident among the rich in both countries. In Burkina Faso, only 59% of wealthier females will complete Grade 5, compared with 77% of wealthier males; in Senegal, 62% of wealthier females will complete Grade 5, compared with 81% of wealthier males. This gap is smaller among the Grade 2 cohorts, ranging between 5 and 10 percentage points. This could be because the cohort is a more recent cohort, or because the gap only emerges in higher grades.

Learning: Quality of Education

If one limits the analysis to the PASEC sample and asks simply how much learning is taking place among those students who do complete Grade 2 or Grade 5, the answer is not encouraging. These results appear in the fourth column of Tables 1 and 2. Fewer than half of all students assessed in PASEC in these two countries reached Level 3 (emergent literacy in Grade 2 and basic literacy in Grade 5); the exceptions are the richest group in Senegal, and for Grade 2, females in Senegal and the richest females in Burkina Faso. The gaps in learning outcomes between the richest and

Table 1. *Access, literacy, and access-to-literacy rates for Burkina Faso and Senegal in Grade 2*

Sub group	1. Never enrolled		2. Drop out before Gr2		3. Completed Gr2		4. PASEC emergent literacy rates (Gr2)		5. Completed Gr2 but did not reach emergent literacy		6. Completed Gr2 with emergent literacy	
	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal
National	43 (1.0)	30 (1.7)	3 (0.2)	2 (0.3)	55 (1.0)	68 (1.8)	42 (2.9)	50 (2.9)	32 (3.0)	34 (3.4)	23 (3.0)	34 (3.4)
Males	40 (1.1)	30 (1.9)	3 (0.3)	2 (0.4)	57 (1.2)	67 (1.9)	43 (2.9)	49 (3.2)	32 (3.2)	34 (3.8)	25 (3.2)	33 (3.8)
Females	45 (1.1)	30 (2.2)	3 (0.3)	2 (0.3)	52 (1.1)	68 (2.2)	40 (3.3)	51 (3.3)	31 (3.5)	33 (3.9)	21 (3.5)	35 (3.9)
Poor40	59 (1.3)	43 (3.5)	3 (0.3)	3 (0.4)	38 (1.2)	54 (3.3)	35 (4.0)	36 (5.8)	25 (4.2)	34 (6.7)	13 (4.2)	20 (6.7)
Mid40	39 (1.3)	24 (2.2)	3 (0.3)	1 (0.3)	58 (1.3)	78 (2.2)	40 (4.5)	48 (3.0)	35 (4.7)	41 (3.7)	23 (4.7)	37 (3.7)
Rich20	16 (1.2)	15 (2.9)	2 (0.3)	1 (0.8)	82 (1.2)	84 (3.2)	51 (3.5)	72 (3.7)	40 (3.7)	23 (4.9)	42 (3.7)	61 (4.9)
Poor40M	56 (1.5)	44 (2.9)	3 (0.4)	3 (0.7)	41 (1.5)	54 (2.9)	37 (4.3)	33 (7.1)	26 (4.6)	36 (7.6)	15 (4.6)	18 (7.6)
Poor40F	63 (1.5)	43 (5.0)	3 (0.4)	3 (0.6)	35 (1.5)	54 (4.5)	32 (5.1)	39 (6.7)	24 (5.3)	33 (8.1)	11 (5.3)	21 (8.1)
Mid40M	36 (1.6)	24 (2.6)	3 (0.4)	1 (0.5)	61 (1.6)	77 (2.6)	43 (4.5)	46 (3.9)	35 (4.8)	43 (4.7)	26 (4.8)	34 (4.7)
Mid40F	41 (1.6)	24 (2.6)	3 (0.4)	2 (0.5)	56 (1.6)	78 (2.6)	37 (5.4)	49 (3.5)	35 (5.7)	42 (4.7)	21 (5.7)	36 (4.7)
Rich20M	10 (1.4)	13 (3.2)	2 (0.5)	2 (1.6)	88 (1.5)	87 (4.2)	49 (3.8)	74 (4.0)	45 (4.1)	23 (5.8)	43 (4.1)	64 (5.8)
Rich20F	21 (1.6)	17 (3.8)	1 (0.5)	0 (0.1)	78 (1.6)	82 (3.9)	53 (4.2)	70 (4.7)	37 (4.5)	25 (6.1)	41 (4.5)	57 (6.1)

Notes: 1. Values shown are percentages. 2. Standard errors are given in parenthesis. 3. Column 6 represents the access-to-basic-literacy rate.

Table 2. Access, literacy, and access-to-literacy rates for Burkina Faso and Senegal in Grade 5

Sub group	1. Never enrolled		2. Drop out before Gr5		3. Completed Gr5		4. PASEC basic literacy rates (Gr5)		5. Completed Gr5 but did not reach basic literacy		6. Completed Gr5 with basic literacy	
	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal	Burkina F.	Senegal
National	55 (1.1)	37 (1.8)	9 (0.4)	8 (0.6)	36 (1.0)	55 (1.7)	32 (2.4)	37 (2.6)	24 (2.6)	35 (3.2)	12 (2.6)	20 (3.2)
Males	48 (1.4)	34 (2.1)	10 (0.7)	8 (0.8)	42 (1.3)	58 (2.2)	34 (2.7)	38 (2.8)	28 (3.0)	36 (3.6)	14 (3.0)	22 (3.6)
Females	62 (1.2)	40 (2.2)	8 (0.5)	9 (0.9)	31 (1.1)	52 (2.1)	29 (2.7)	36 (3.1)	22 (2.9)	33 (3.8)	9 (2.9)	19 (3.8)
Poor40	76 (1.4)	53 (2.8)	8 (0.7)	9 (0.8)	16 (1.1)	40 (2.6)	24 (3.0)	18 (4.3)	12 (3.2)	33 (5.0)	4 (3.2)	7 (5.0)
Mid40	58 (1.5)	30 (2.5)	10 (0.7)	9 (0.9)	32 (1.3)	63 (2.1)	26 (2.9)	38 (3.2)	24 (3.2)	39 (3.8)	8 (3.2)	24 (3.8)
Rich20	25 (1.3)	24 (3.3)	9 (0.8)	6 (1.4)	67 (1.4)	71 (3.5)	41 (3.5)	58 (4.0)	39 (3.8)	30 (5.4)	28 (3.8)	41 (5.4)
Poor40M	71 (1.8)	51 (3.3)	9 (1.0)	9 (1.0)	20 (1.4)	43 (3.1)	25 (3.9)	21 (4.5)	15 (4.2)	34 (5.4)	5 (4.2)	9 (5.4)
Poor40F	81 (1.4)	54 (3.9)	7 (0.8)	9 (1.2)	13 (1.2)	38 (3.5)	23 (3.5)	17 (4.9)	10 (3.7)	31 (6.0)	3 (3.7)	7 (6.0)
Mid40M	49 (2.0)	27 (2.6)	12 (1.0)	9 (1.5)	40 (1.8)	65 (2.5)	29 (3.4)	37 (3.1)	29 (3.8)	41 (4.0)	11 (3.8)	24 (4.0)
Mid40F	68 (1.7)	32 (3.1)	8 (0.8)	9 (1.2)	24 (1.5)	61 (2.7)	22 (3.6)	35 (3.4)	19 (3.9)	40 (4.3)	5 (3.9)	21 (4.3)
Rich20M	14 (1.5)	18 (3.2)	9 (1.3)	4 (1.3)	77 (2.0)	81 (4.1)	44 (4.0)	58 (4.6)	43 (4.5)	34 (6.1)	34 (4.5)	47 (6.1)
Rich20F	33 (1.7)	30 (4.5)	8 (1.0)	8 (2.5)	59 (1.9)	62 (5.0)	38 (3.6)	62 (5.6)	37 (4.1)	24 (7.5)	22 (4.1)	38 (7.5)

Notes: 1. Values shown are percentages. 2. Standard errors are given in parenthesis. 3. Column 6 represents the access-to-basic-literacy rate.

poorest groups are not as large in Burkina Faso as they are in Senegal. Among the richest group in the Grade 5 cohort in Burkina Faso, 41% acquired basic literacy compared to 24% in the poorest group. In Senegal, the gap is larger: the percentage of Grade 5 students acquiring basic literacy in the richest group (58%) is three times the percentage in the poorest group (18%).

Figure 3 shows the breakdown of grade completion and learning outcomes for the various subgroups in Senegal for the Grade 5 cohort (16- to 20-year-olds). Here, the marked difference in learning outcomes between the wealthiest 20% of children and the remaining 80% is apparent. The wealthiest group of children have very low non-enrolment rates and even lower dropout rates. While approximately 35% of children complete Grade 5 but still do not acquire basic reading skills, the percentage of children who do complete Grade 5 and acquire basic literacy skills among the richest group (41%) is twice as high as the national average (20%) and five times as high as among the poorest group (7%). A similar pattern is evident in Burkina Faso (Figure 4). All the groups perform worse than their counterparts in Senegal. It is interesting to note that although the percentage of the wealthier group that completes Grade 5 and acquires basic literacy skills is low (28%), it is still seven times the corresponding percentage for the poorest group, which is only 4%.
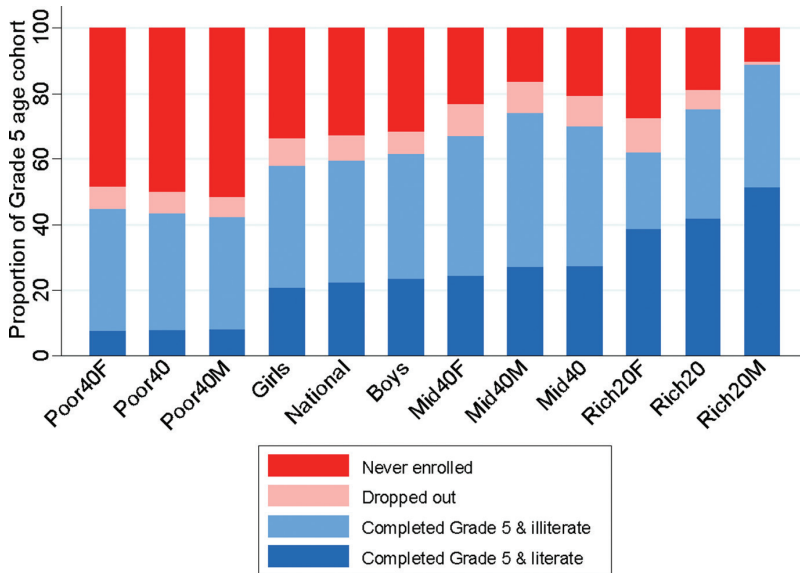

Figure 3. Grade 5 completion and learning outcomes by sub-groups for the cohort of 16- to 20-year-olds in Senegal (Grade 5 cohort)
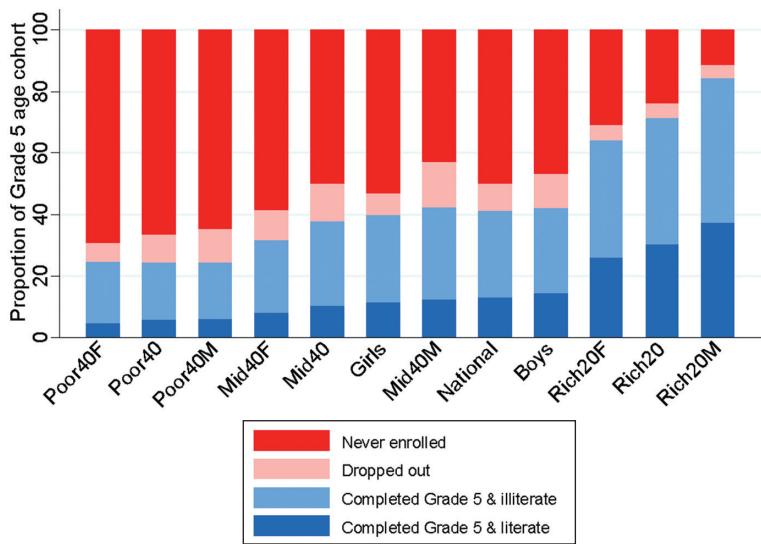
Figure 4. Grade 5 completion and learning outcomes by sub-groups for the cohort of 16- to 20-year-olds in Burkina Faso (Grade 5 cohort)

Access to Learning: Combining Quantity and Quality of Education

The low levels of learning and the high levels of non-enrolment are sobering in and of themselves; when combined, they depict a crisis in education in these two countries. In Burkina Faso, the access-to-emergent-literacy rate (in the last columns of Tables 1 and 2) is only 23%: only one in four children will complete Grade 2 and acquire emergent literacy skills. The access-to-emergent-literacy rate in Senegal is only 34%: one in three children will complete Grade 2 and acquire emergent literacy skills. Looking at the slightly older cohort, the results are even more concerning. The access-to-basic-literacy rate in Burkina Faso is only 12%; that is, only 12% of a cohort will complete Grade 5 and acquire basic literacy skills. In Senegal, only 20% of a cohort will complete Grade 5 and acquire basic literacy.

Among the richest group of students, the access-to-emergent-literacy rate in Burkina Faso (42%) is more than double the national average. In Senegal, the access-to-emergent-literacy among the richest group (61%) is also double the national average. The inequalities are larger at the higher grades. As mentioned previously, the access-to-basic-literacy rate in Senegal is five times as high for the richest group (41%) as for the poorest group (7%). In other words, two in five students in the wealthy group will complete Grade 5 and acquire basic literacy skills, compared to less than one in 10 in the poorest group. In Burkina Faso, only one in 20 children (4%) from the poorest 40% of the population completes Grade 5 and acquires basic literacy skills. It is a real possibility that not a single student among the poorest

40% of Burkinabe children completed Grade 5 and acquired basic literacy skills. This is because the standard error corresponding to the 4% estimate is 3.2; the 95% confidence interval therefore overlaps with zero. In other words, once we take sampling variation into account, the confidence band for this estimate ranges from 0 to 10%.

In our earlier research on sub-Saharan Africa (Spaull and Taylor, 2015; Taylor and Spaull, 2015), we included both Malawi and Mozambique. Both countries have low levels of economic and social development and may appear comparable to Burkina Faso or Senegal. For example, of the 188 countries included in the United Nations Development Program's Human Development Index, all four of these countries rank in the lowest 5% of the index (UNDP, 2015). Yet, even in Mozambique – the SACMEQ country with the lowest access-to-literacy rate – 17% of children among the poorest group completed Grade 6 and acquired basic literacy skills. In Malawi, the corresponding figure is 25%. These figures are much higher than the 6% for the poorest group in Burkina Faso or the 8% for Senegal. Having said this however, unfortunately the SACMEQ and PASEC levels are not currently comparable. One might expect the SACMEQ basic literacy level to be more difficult, given that it is assessing a higher grade and that the levels are psychometrically calibrated, but this is speculation.

Before we reach the conclusion section, two technical issues are worth highlighting. First, there are currently no universally shared definitions of 'literacy', 'emergent literacy', or 'basic literacy'. As a result, estimates here cannot be compared to those using SACMEQ or any other data. This problem, which is ongoing, needs to be resolved before any meaningful global learning goals can be measured or monitored. To that end, we encourage organizations such as CONFEMEN, SACMEQ, UNESCO, and similar institutions, to collaborate with the goal of sharing and linking literacy test items and definitions of literacy.

Second, we intend to conduct this same analysis using more recent PASEC data (for example, 2014 data). Given the extremely low levels of basic reading proficiency, the hope is that considerable improvements have occurred between PASEC 2006 and 2014. Nevertheless, this research provides a useful baseline against which to compare any progress, whether in access, learning or equity between socio-economic groups.

CONCLUSION

The picture that emerges from this analysis, based on the DHS and PASEC data, is truly dire. In the most recent cohort that we assessed in Burkina Faso, more than a third had never been to school, another third completed Grade 2 without even the most elementary emergent literacy skills, and only one in four children (23%) had completed Grade 2 with emergent literacy. The figures for Senegal are only marginally better, with 30% of the cohort reporting that they had never enrolled in school, while 34% completed Grade 2 without acquiring emergent literacy skills,

and only one in three children (34%) completing Grade 2 with emergent literacy skills. Since the Grade 5 cohort that we examined were 16 to 20 years old (in 2010 for Burkina Faso and in 2012–13 for Senegal), and since access to education has expanded considerably in these countries (especially Burkina Faso), the figures are even lower for this cohort. Nevertheless, it is truly worrying that among the 2010 cohort of Burkinabes 16 to 20 years old, half had never been to school, 9% dropped out before Grade 5, 25% completed Grade 5 without basic literacy skills, and only 11% completed Grade 5 with basic literacy skills. Among the Senegalese cohort, only 21% completed Grade 5 with basic literacy skills. With some fairly conservative assumptions, one can say that at least 75% of these older cohorts did not acquire – and, arguably, will not acquire – basic reading and writing skills. It is difficult to appreciate how this can be in the 21st century.

The only thing more troubling than the national averages is the socio-economic inequalities that they hide. Among the poor in both countries, at most 20% of the youngest cohort will complete Grade 2 with emergent literacy and fewer than 10% of the older cohort will complete Grade 5 with basic literacy skills. The wealthiest 20% of Burkinabe and Senegalese children are six to seven times as likely to complete Grade 5 with basic literacy skills as the poorest 40% in each country. While the access-to-emergent-literacy rate among the poorest group of Burkinabe girls is 13%, the corresponding figure for the wealthiest Burkinabe girls is 42%. Among Senegalese girls, the comparable figures are 20% and 61% respectively.

The analysis presented is particularly pertinent to discussions around the UN Sustainable Development Goals (SDGs). On one hand, this analysis highlights the importance of such goals, which prioritize both access to education and, as well, learning outcomes. On the other hand, they call into question the validity of a single undifferentiated goal, indiscriminately applied to Burkina Faso and Brazil, Senegal, and South Africa. We fully agree that countries such as the two that are the focus of this chapter require prioritized support and funding from the international community, and even that the rate of progress here must be much more rapid than in other countries. At the same time, we caution that the only thing worse than setting an unambitious goal is setting one so unrealistic that no one believes that it can or will be achieved. Setting an unrealistic goal provides absolution from any responsibility or accountability: no one believes that the goal can or will be achieved, and consequently no one is held responsible when it is not achieved. Setting ambitious but plausibly achievable goals is the most prudent road ahead. With sustained political and financial support for the early years of schooling, and specifically for improvements in the quality of teaching early reading, it is not unreasonable to think that rapid progress is possible. Ensuring that all children learn to read and write in the early years of primary school is necessary, not only for their educational development, but also for the economic, social, and cultural development of the countries in which they live.

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