



**Association for the Development of Education in Africa**

**ADEA Biennial Meeting 2003  
(Grand Baie, Mauritius, December 3-6, 2003)**

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**Elements to Assess the Quality of Primary Education  
in French-Speaking Africa: Programme for the Analysis  
of Educational Systems of the CONFEMEN countries (PASEC)**

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**Working Document  
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## Acronyms and abbreviations

<b>ADEA</b>	Association for the Development of Education in Africa
<b>BREDA</b>	UNESCO Regional Office for Education in Africa
<b>CIEP</b>	Centre international d'études pédagogiques (France)
<b>CONFEMEN</b>	Conférence des Ministres de l'Education des pays ayant le Français en partage
<b>INEADE</b>	Institut national d'études et d'actions pour le développement de l'éducation (Sénégal)
<b>MLA</b>	Monitoring Learning Achievement
<b>NESIS</b>	National Education Statistical Information Systems
<b>PASEC</b>	Programme d'Analyse des Systèmes Educatifs des Pays de la CONFEMEN
<b>PRSP</b>	Poverty Reduction Strategy Papers
<b>SACMEQ</b>	Southern Africa Consortium for Monitoring Educational Quality
<b>SAP</b>	Structural Adjustment Programs
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization



## ABSTRACT

Evaluating the quality of education is a complex undertaking that remains uncommon in African countries. Indeed, comparative data conveying a precise idea of the situation as to the quality of education in Africa are still only very rarely available. Several programmes, such as the Programme for the Analysis of Educational Systems of the CONFEMEN<sup>1</sup> countries (PASEC), are attempting to compensate for this shortage of data on the quality of education. The present document makes a modest contribution to appraising the quality of primary education in some 10 countries in French-speaking Africa, relying essentially on the PASEC database.

Since the early 1990s, PASEC has undertaken evaluations of primary education in the subjects of French and mathematics for pupils in the second and fifth years of primary school. The results of these tests provide material for an objective description of the quality of basic education. However, it is only since 1996 that PASEC has used the same evaluation instruments<sup>2</sup> in the various countries it has surveyed. Thus five countries, Burkina Faso, Cameroon, Ivory Coast, Madagascar and Senegal have become subject to the same survey agreement, justifying an inter-country comparison. We shall make use of these data first of all, therefore, in attempting to form a clear picture of the quality of primary education.

However, in order to cover a greater number of countries, we have then adopted a second indicator of the quality of education as a basis for comparing countries that have not completed the same tests. This indicator, the rate of drop-out, takes account of pupils who fail to master elementary knowledge at their level of education.

We felt it would be of interest to round off our approach by a considering yet a further indicator of the quality of primary education, namely the proportion of pupils who could read and write competently on completion of full primary schooling.

Finally, we have also considered matters related to the varied nature of education systems, in order to refine the diagnosis. It seemed particularly important to go some way towards answering the following questions: are there many differences between pupils and, if so, are they attributable to the pupils themselves or to conditions inherent in their schooling?

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<sup>1</sup> Conference of Education Ministers of Countries Using French as a Common Language, [www.confemen.org](http://www.confemen.org)

<sup>2</sup> Before that date, evaluations were conducted by different research teams that used their own evaluation instruments.

# 1. AVERAGE ATTAINMENT LEVELS OF PUPILS IN FIVE COUNTRIES IN FRENCH-SPEAKING AFRICA

1. Before setting out the findings themselves, it is helpful to explain the methodology in order to highlight limits of which it is important to be aware for the analysis of results.

## 1.1. Methodology and limits to the evaluation

2. The basic methodological principle of the PASEC is simple and consists in a comparison. In order, therefore, to determine the least costly and most effective education system, a very wide variety of possible school circumstances are compared. By proceeding in this way, an attempt is made with the help of standardized instruments to observe the attainment levels of pupils in a range of different educational contexts.

3. While sampling has been based on a representative set of schools, the survey has on occasions departed slightly from strict compliance with the principle of representativeness in order to reflect the diversity. In cases, therefore, where a group of interest to us corresponds to only a small share of the population, it may be over-represented thereby creating a bias that has to be taken into account when the average score for the country is calculated. On interpreting the findings, the limited accuracy of the scores thus has to be borne in mind and greater importance attached to the trends identified than to the figures after the decimal point.

4. Initially, the tests set for pupils in the second and fifth year of primary education were devised in Senegal by a team from the CIEP<sup>3</sup> and the INEADE<sup>4</sup>. They were then validated during a regional workshop. These tests focus on the basic skills (read, write and numeracy) and they have been elaborate in order to respond to the PASEC's methodology i.e. to respond to this question: Why pupils are different in terms of learning achievement? These tests were thus conceived to make differences between the pupils and not to take stock of knowledge of the pupils as it is generally the case. We should not be disappointed by average scores of 50/100 which rise from the structure of the tests. The interest rests more on the variations observed between the countries.

5. In all, 566 schools and over 20 000 pupils were surveyed in the five countries cited above.

6. Let us start, therefore, by examining in detail the results of the PASEC tests in the five countries concerned. We have decided to set the findings out here by level and subject.

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<sup>3</sup> Centre international d'études pédagogiques (France).

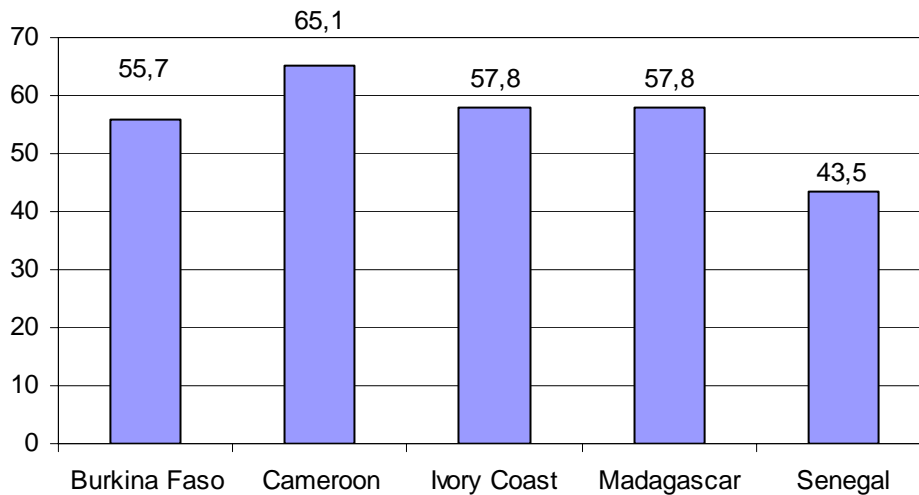
<sup>4</sup> Institut national d'études et d'actions pour le développement de l'éducation (Sénégal).



## 1.2. Results of second-year tests

7. Figure 1 shows the results of assessment tests in French among pupils at the end of their second year (CP2).

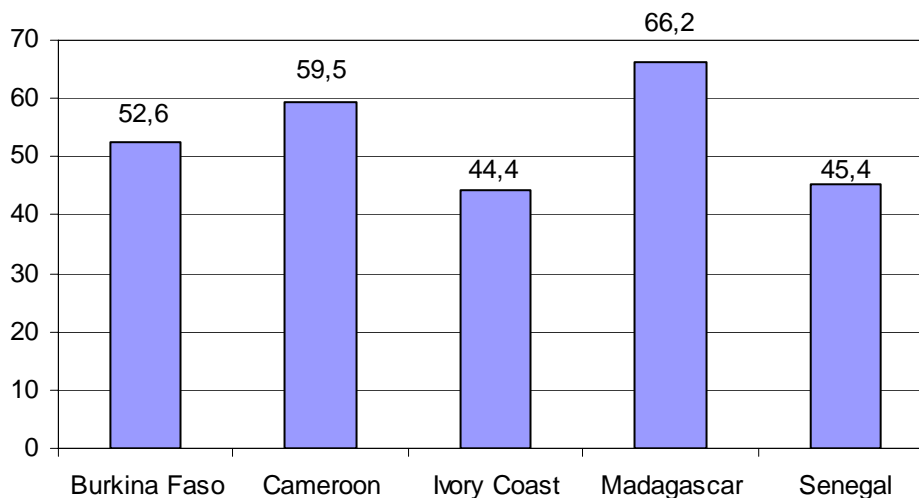
**Figure 1 Average second-year score in French (out of 100)**



8. Three countries (Burkina Faso, Ivory Coast and Madagascar) have similar scores between 55 and 58 out of 100. In comparison, Senegal lags markedly behind with a score some 12 points lower than the average for the three foregoing countries. By contrast, Cameroon with a score of 65.1 out of 100 records much higher levels of performance. There are major differences between countries with over 20 points between the minimum and maximum average second-year scores in French.

9. Figure 2 shows the results of assessment tests in mathematics among pupils at the end of their second year.

**Figure 2 Average second-year score in mathematics (out of 100)**



10. As far as mathematics is concerned, Madagascan pupils appear to perform better with a score of 66.2 out of 100. However, it should be pointed out that this is the only country in which children begin their education in their mother tongue. Two trends are apparent in the results for the remaining countries, namely average results for Burkina Faso (52.6) and Cameroon (59.5), and markedly lower scores for Ivory Coast (44,4) and Senegal (45,4).

11. In the case of Burkina Faso, Cameroon and Senegal, the results of these tests appear to correlate strongly with those obtained in French. The weak score in the Ivory Coast points to the existence of a problem specific to the teaching of mathematics. As in the case of French, a difference of almost 20 points is observed between the highest and lowest scores.

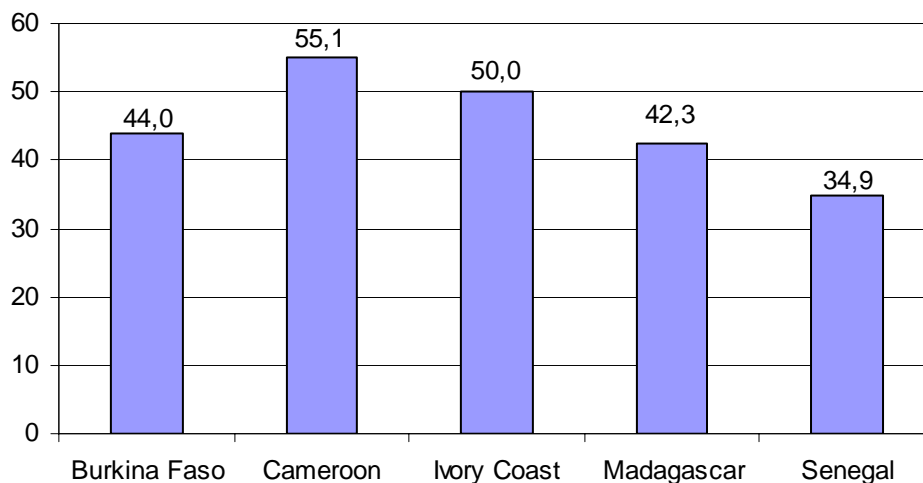
12. On average, these second-year results are somewhat modest in the light of the difficulty of the tests. Furthermore, they reflect the existence of major disparities between the education systems of the countries concerned, which require more thorough investigation if the reasons for them are to be understood.

13. Let us now consider the trends that emerge from the fifth-year results.

### 1.3. Results of fifth-year tests

14. Figure 3 shows the results of assessment tests in French among pupils at the end of their fifth year (CM1).

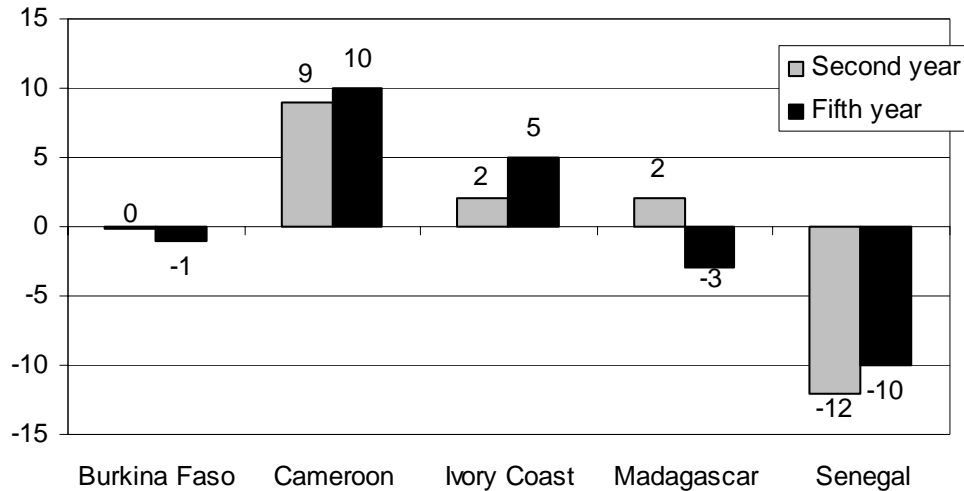
**Figure 3 Average fifth-year score in French (out of 100)**



15. Trends not unlike those in the second-year results are apparent, with somewhat modest average scores and a very similar country rating. Cameroon scores highest with 55.1 out of 100 while Senegal remains well behind with 34.9 out of 100. This cannot be illustrated by comparing the second- and fifth-year results, as the tests are not directly comparable. On the other hand, one may consider the variation in average deviations of each country between the second and the fifth years.

16. Figure 4 thus shows the average deviation of the score in each country for the French language tests. The averages are 56 for the second year and 45.3 for the fifth year respectively.

**Figure 4 Average deviation in the second and fifth years in French**

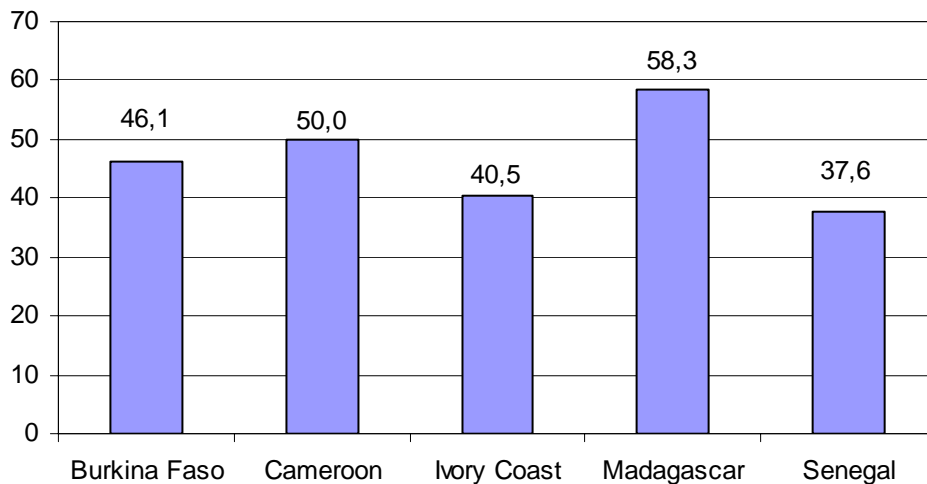


17. This diagram thus confirms that Burkina Faso, Ivory Coast and Madagascar register close-to-average scores, while Senegal is very definitely behind (- 12 points). At the other extreme, Cameroon displays results that are some 10 points above the average.

18. It is also clear that the scores of Madagascar and, to a lesser extent, Burkina Faso decrease more than in the other countries between the second and fifth years. While Madagascar was slightly above the average in the second year, the country appears to have fallen behind in the fifth year. It may be worth considering whether these trends are attributable to shortcomings in education between the second and fifth years or variations in the rigour of selection procedures from one country to the next. In attempting to answer this question, we need to examine so-called 'survival rates' in the various countries (cf. 4.1.3 Survival rates).

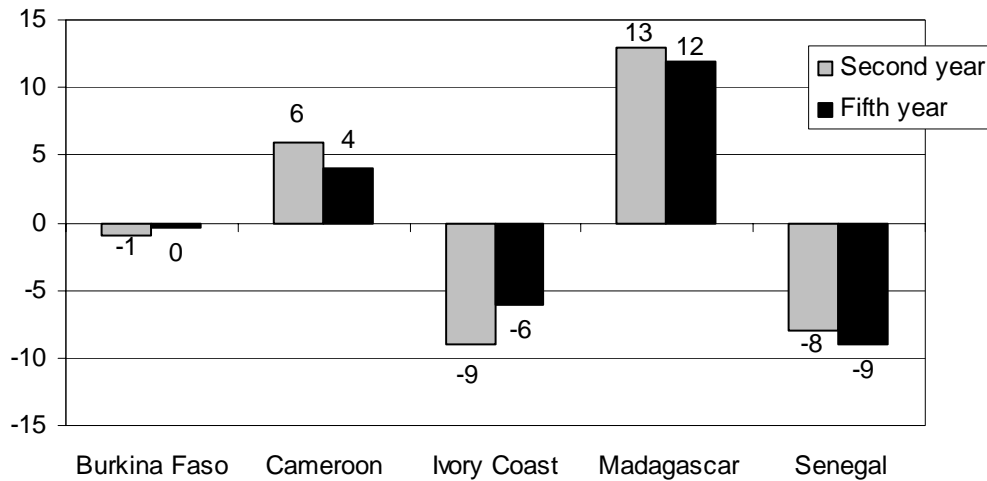
19. Figure 5 gives the results of assessment tests in mathematics for pupils at the end of their fifth year (CM1).

**Figure 5 Average fifth-year score in mathematics (out of 100)**



20. As in the second year, Madagascar has a significantly higher score. In the other countries, the results also correlate strongly with those in the second-year tests. This is borne out by Figure 6 which shows there is little variation in the average deviations, particularly in comparison with the corresponding findings for the French-language tests (see Figure 4).

**Figure 6 Average deviation in the second and fifth years in mathematics**



21. As a general rule, countries register very similar average deviations in the second and fifth years, irrespective of subject, with the striking exception of Madagascar in French, which confirms that there is a strong correlation between the results in both years. This highlights the importance of the very first years of primary education.

22. The results illustrate both that the quality of primary education in the countries considered is on average weak and that significant differences exist between countries. It is worth determining whether this applies to other countries.

## 2. FURTHER INVESTIGATION OF THE QUALITY OF PRIMARY EDUCATION

23. It is naturally somewhat inappropriate to assume that the findings for the five countries that we have just studied apply to all countries. This is, first, because we have already noted that the former display quite big differences among themselves which suggest the need for caution and, secondly, because countries such as Ivory Coast and Cameroon, in which the proportion of French language speakers is fairly high, are probably not representative of other countries in French-speaking Africa. We have therefore sought to provide information on the quality of education in other countries by means of other indicators.

### 2.1. Analysis of drop-out rates

24. The drop-out rate in primary education is defined as the percentage of pupils whose score is less than or equal to what they would have obtained by answering questions in their tests haphazardly. It thus relates to children in very considerable difficulty at school who are unable to master elementary knowledge at their own particular level. The concern here is therefore with a 'bottom-up' approach in which, rather than focusing on average performances, the emphasis is firmly on the proportion of pupils who in effect are 'dropping out' at school.

25. This indicator is derived by compiling the findings from PASEC tests I, II, III and IV shown in Table 1.

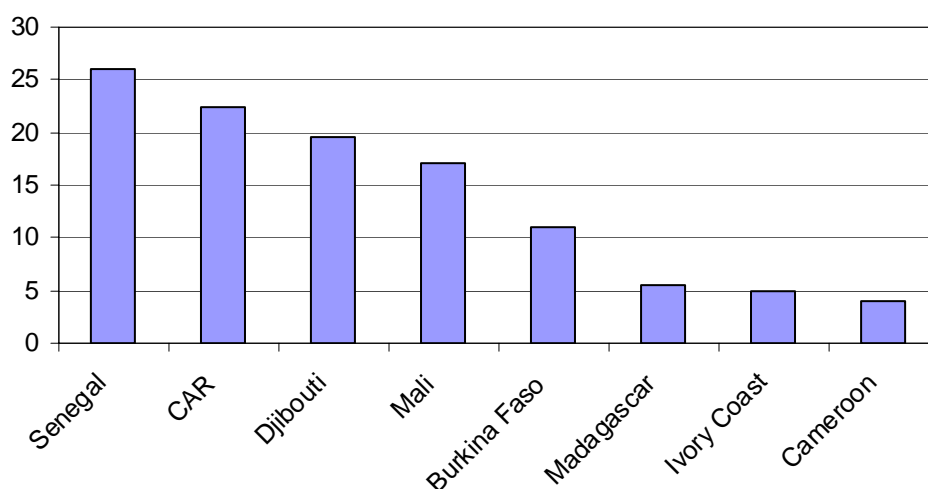
**Table 1 PASEC tests**

Country	Date
Djibouti	1993/1994
Mali	1994/1995
Central African Republic	1994/1995
Senegal	1995 à 1998
Burkina Faso	1995 à 1998
Cameroon	1995/1996
Côte d'Ivoire	1995 à 1998
Madagascar	1997/1998

26. Although dating back several years, we consider that these results are still relevant because education systems change only very slowly. Furthermore, drop-out rates are of interest above all in enabling comparisons between different countries even though the tests they set their pupils may be different. Indeed, this indicator is by definition unrelated to the content of tests.

27. Figure 7 shows the drop-out rate for different countries in French-speaking Africa.

**Figure 7 Drop-out rates, second-year and fifth-year average**



28. If the five countries previously examined are reconsidered, the situation in Senegal is the most disturbing with a 25.9% drop-out rate, followed by Burkina Faso with a 10.8% rate and then the three other countries all close to 5%. This indicator is therefore very highly consistent with the test results even though it is far less precise.

29. Drop-out rates in the Central African Republic, Djibouti and Mali are higher than 15%. These levels are a cause for concern, as they reveal that schools are incapable of providing basic education to a significant proportion of schoolchildren. It is clear that the performance of these countries is below that of four out of the five countries previously examined, indicating that the latter tended to be above average. This can only give credence to the idea that, in terms of quality, the achievements of education systems in French-speaking Africa are very unimpressive and dissimilar.

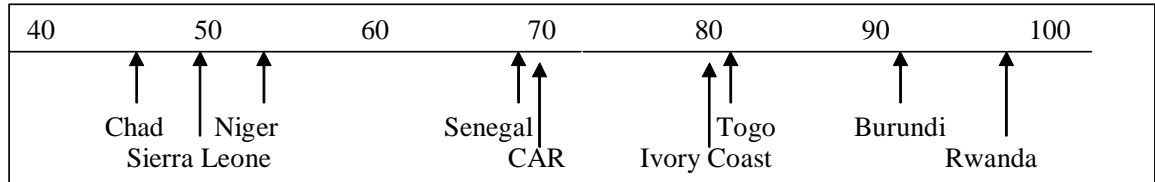
30. In order to confirm our appraisal of the situation, we refer now to another indicator taken from the UNICEF Multiple Indicator Cluster Surveys (MICS) to which attention has been drawn by the World Bank human development team for the heavily indebted poor countries (Africa Region)<sup>5</sup>.

## **2.2. Proportion of adults able to read without difficulty after six years of schooling**

31. School quality may also be considered in terms of whether it can educate people more or less for life. This may be measured by noting the proportion of adults aged between 22 and 44 who can read without difficulty after having spent six years at school.

<sup>5</sup> Primary schools in Chad: Multiple Indicator Cluster Survey), Alain Mingat & Ramahatra Rakotomalala.

**Figure 8 Percentage of adults aged between 22 and 44, who were able to read without difficulty after having spent six years at primary school**



32. It should be borne in mind that this indicator provides information on the quality of primary school between 1970 and 1990, and is therefore concerned with long-term trends.

33. The results obtained are very modest and indeed disturbing in the case of Chad, Sierra Leone and Niger, in all of which barely half of those aged between 22 and 44 who had completed primary school could read without difficulty. In Senegal and the Central African Republic, 69% and 70% respectively of those aged between 22 and 44 who had completed six years of primary school read without difficulty, which remains a modest level of achievement. In Ivory Coast, the proportion rises to 80%. These results are consistent with those of the PASEC tests and are indicative of a quality problem. When between 20% and 30% of adults are unable to read without difficulty after having spent six years at school, the latter must be failing to provide all its pupils with quality education. The same finding also illustrates the inertia of education systems as regards quality aspects of their provision in the last few decades.

34. This first section has enabled us to draw conclusions regarding the mediocre quality of education, that may be enumerated as weak results, situations that vary from one country to the next and the importance of the first years spent at school. These general remarks may conceal the existence of striking differences within individual countries, which may also be instructive.

### 3. DIFFERENCES IN RESULTS WITHIN INDIVIDUAL COUNTRIES

35. We shall first examine the dispersion of results in the PASEC tests so as to measure the scale of differences in level between pupils within each country. We shall then further qualify this measurement by indicating the influence of each of the individual variables and the school context in order to explain the total variance.

#### 3.1. The dispersion of results in the PASEC tests

##### 3.1.1. Second-year tests

36. The standard deviations shown in Table 2 represent the dispersion of pupil scores in the second year in relation to the average scores shown in Figures 1 and 2.

**Table 2 Standard deviations in the fifth year**

Country	Standard deviations	
	French	Mathematics
Burkina Faso	24,6	24,1
Cameroon	23,5	22,1
Ivory Coast	24,3	19,2
Madagascar	21,6	21,5
Senegal	25,1	23,1

37. The high values of these standard deviations reflect marked differences in attainment levels among pupils. The standard deviations obtained are fairly similar to each other, which means that the dispersion of scores is virtually the same in all countries. However, a significantly lower standard deviation for mathematics is apparent in Ivory Coast, reflecting greater uniformity in the performance of its pupils. Taken in conjunction with its weak average score in mathematics, this tends to confirm that the country has a problem with the subject.



### 3.1.2. Fifth-year tests

38. Table 3 shows the standard deviations in fifth-year scores

**Table 3 Standard deviations in the fifth year**

Country	Standard deviations	
	French	Mathematics
Burkina Faso	15,7	15,6
Cameroon	18	16,8
Ivory Coast	15,7	14,1
Madagascar	15,7	16,8
Senegal	16,9	16,8

39. Here, the standard deviations are clearly lower than those apparent in the second year. Differences between pupils are therefore less marked, which may reflect some sort of selection at school between these two years, with some of the weakest pupils leaving school between the second and fifth years. As a result, the attainment levels of fifth-year pupils are more uniform.

40. To ascertain how far selection occurs, it is necessary to study so-called 'survival rates', meaning the number of pupils who reached the sixth year of schooling as a percentage of those who began the first year of primary school.

### 3.1.3. Survival rates

41. The results shown below are taken from the statistical document of the Eighth Conference of Ministers of Education from the African Member States in 2002<sup>6</sup>.

**Table 4 Survival rates**

Country	Survival rate
Burkina Faso	57
Cameroon	49
Ivory Coast	66
Madagascar	33
Senegal	60

42. The first finding is that these rates are modest because an ideal system would have a 100% survival rate. Thus selection occurs on a significant scale during primary education. The tendency we have already noted for results to become more uniform between the second and fifth years may be partly attributable to this.

43. However, it should be noted that Madagascar is unusually weak with a rate of just half that of Ivory Coast, even though its primary education lasts only five years compared to six in the other countries. There is thus very strong selection during the

<sup>6</sup> The UNESCO Regional Office for Education in Africa (BREDA), the World Bank and the UNESCO Institute for Statistics.

primary school stage. This does not explain the poorer fifth-year performances of Madagascar compared to its second- year performance in French.

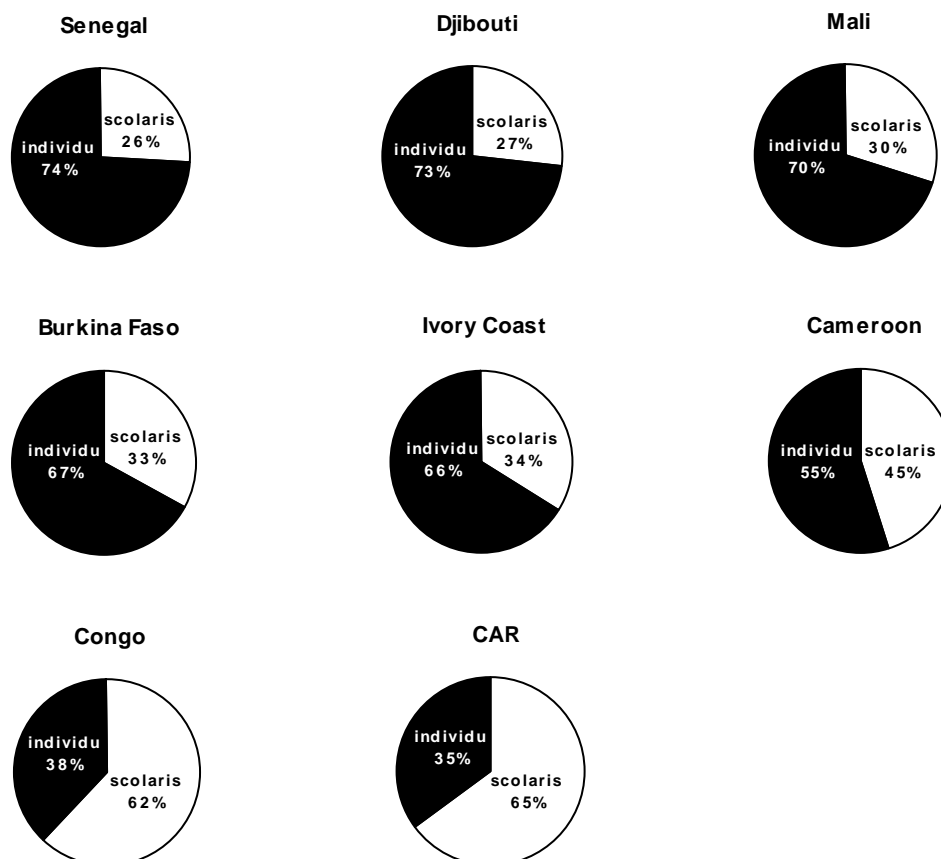
44. We noted a marked difference of attainment levels within each country, and the underlying causes of these striking differences merit consideration. Are they the outcome of markedly mixed abilities among pupils or the existence of unequal conditions of school education?

### 3.2. Measurement of variations in level between classes and within them

45. This indicator shows whether weaker and stronger pupils are grouped separately in different classes, or whether the level of classes is on average similar so that the differences appear within them.

46. In Figure 9, the *scolaris* variable corresponds to the proportion of dispersion in results that is attributable to differences between classes and the *individu* variable to the proportion attributable to differences between pupils.

Figure 9



47. Thus in countries such as Senegal, Djibouti, Mali, Burkina Faso and Ivory Coast, differences in level in the various tests are primarily attributable to the individual characteristics of pupils. In the light of the modest results indicated in the first section, it may be concluded that this reflects the weakness of the education system as a whole. Efforts to improve the quality of the education system in these countries amount to a wholesale undertaking not limited solely to one group of individuals.

48. Conversely, in countries such as the Congo and Central African Republic, the levels reached by pupils are comparable in any given class but vary markedly from one class to the next. Accordingly, these countries should take great care to develop targeted educational policies to prevent the gap between pupils who are educated in separate places from growing wider, so that all of them have fair access to basic quality education.

## **4. WHAT CONCLUSIONS MAY BE DRAWN ABOUT THE QUALITY OF PRIMARY EDUCATION IN FRENCH-SPEAKING AFRICA?**

49. By using statistics derived from evaluations in eight French-speaking African countries in the 1990s, we have attempted to provide some central insights into the situation regarding the quality of primary education in those countries.

50. It is above all clear that the weak results of pupils assessed in mathematics and French at different levels are a reflection of serious problems in the quality of primary education systems in the countries studied. Nevertheless, variations in this respect both between countries and within them mean that any further conclusions to be drawn from this observation can be no more than very tentative. We consider it important to emphasize at least three general points.

51. First of all, the high drop-out rates among a significant proportion of children who attend school indicate that school systems are incapable of providing the basic education that is vital to achieve an acceptable level of literacy. Indeed, our study of the proportion of adults able to read without difficulty after having spent six years at school corroborates this finding, and lends weight to our belief that not just access to primary school, but the completion of sound full-length primary education, are essential for ensuring that people will remain permanently literate.

52. Next, it is especially important that the very first years spent at school should be effective if primary education is to be fully and beneficially completed. The results of the second-year tests in French seem particularly significant since they have a bearing on the scores achieved in mathematics and on future performance. This demonstrates how crucial it is to develop effective strategies for a sound knowledge of French when it is not children's mother tongue.

53. Finally, the differences between and within classes demonstrate how singularly unequal education systems may sometimes be. Any attempt to reform them effectively therefore calls for careful detailed investigation both of the conditions in which school education is provided and of variables unrelated to this provision that have a bearing on how pupils perform. In this area, it is important to avoid any generalization and base all consideration of these problems on a detailed analysis of each of the education systems concerned.

54. In concluding the present account, it is worth stressing the need to carry out further work on these initial findings in order to build up as accurate a picture as possible of the quality of primary education in Africa. It seems helpful also to bear in mind that the quality issue has to be related to those of fairness and efficiency if a contribution is to be made towards securing primary school education for all children.