School Performance and Factors of Public Primary Education in the Socialist Republic of Vietnam

Diagnostic Assesment Report
Socialist Republic of Vietnam 2011/2012

PASEC
CONFEMEN Programme for the Analysis of Education Systems

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Acknowledgements

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List of Acronyms and Abbreviations

CEC - CLC	Community education centre – Community learning centre
CONFEMEN	Conférence des ministres de l'Éducation des États et gouvernements de la Francophonie (Conference of the Ministers of Education of French-Speaking Countries)
EFA	Education for All
GDP	Gross domestic product
ICC	Intraclass correlation coefficient
IIEP	UNESCO International Institute for Educational Planning
IRT	Item response theory
LMTF	Learning Metrics Task Force
MCA	Multiple correspondence analysis
MET	Ministry of Education and Training
NGO	Nongovernmental organisation
PASEC	Programme d'analyse des systèmes éducatifs de la CONFEMEN (CONFEMEN Programme for the Analysis of Education Systems)
PIRLS	Progress in International Reading Literacy Study
PISA	Program for International Student Assessment
SEC	Socioeconomic category
TFR	Total fertility rate
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WFP	World Food Programme

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Summary

Vietnam benefited from a diagnostic assessment by the CONFEMEN Programme for the analysis of education systems (PASEC) during the 2011/2012 school year. The assessment consisted of two data collections (in December 2011 and May 2012) in the second and fifth years of primary education. The data collected concerned the pupils, teachers and head teachers, as well as the in-school and out-of-school learning environment. The language of instruction (Vietnamese) and mathematics were assessed during this study.

To assess the performance of primary school pupils in Vietnam, PASEC designed tests to measure their progression in oral comprehension, written comprehension, written production, operations and numeration, measurement and geometry. These domains of learning call upon levels of proficiency related to the cognitive processes that are indispensable for pupils to process information in the other fields of learning and in everyday life.

This synthesis presents the main conclusions of the assessment.

1.   Pupil progression during the school year

In 2nd grade, the pretest and the post-test proved to be too easy for the pupils. In fact, at least 90% of pupils succeeded in over half of the test items at the beginning of the year (pretest).

The "ceiling effect" in the Vietnamese and mathematics test makes it impossible to assess the added value of education over the school year. Indeed, as the level of sucess was saturated in the pretest, it was not possible to observe progression in pupil performance. This "ceiling effect" also limits the analysis of the skills and difficulties of pupils in 2nd grade.

The test results show that the Vietnamese education system enables 5th grade pupils to progress in mathematics (+29.2 points) compared to their initial level at the start of the year. However, it is important to note that 25% of pupils were capable of passing all of the PASEC test, at both the beginning and the end of the year. The other pupils progressed by 42 points on average over the school year, enabling them to carry out additional tasks. Thus, pupils who could only carry out simple operations, like telling the time and drawing a perpendicular line, developed their skills in mathematics and can now solve a simple problem in everyday life and even a complex problem requiring several operations.

Pupil progression in Vietnamese is limited in 5th grade (+3.6 points). However, pupils ranking in the weakest quartile were seen to progress very significantly, by 52 points. The other pupils showed only modest, or even no, progress, since they were in the highest performance category at the beginning of the school year.

In short, the PASEC tests in mathematics and Vietnamese did not enable the progression of high performers' skills to be measured.

These added values were measured over a period of five months (instead of nine), by means of a pretest towards the beginning and a post-test towards the end of the school year.

PUPILS' KNOWLEDGE AND KNOWHOW

– *Pupils' level of proficiency in Vietnamese and mathematics after two years of primary education*

The Vietnamese test in 2nd grade enables a global appreciation of the level of pupils' proficiency in deciphering and decoding activities, and in written and oral comprehension. As for the mathematics test, it measures the level of pupils' skills in numeration, geometry and measurement.

The analyses show that all Vietnamese 2nd grade pupils, even the weakest, master the low and high level skills measured by the Vietnamese and mathematics tests.

Consequently, the analysis of the pupils' PASEC test results does not enable identification of the share of pupils who are struggling and of the nature of their difficulties at the beginning of primary education.

– *Pupils' level of proficiency in Vietnamese after five years of primary education*

The Vietnamese test in 5th grade enables a global appreciation of the level of pupils' proficiency in written comprehension, oral comprehension and written production.

All Vietnamese 5th grade pupils have acquired level 1 knowhow: they can associate several ideas in a sentence, find specific information in several short sentences, and recognise information and report it in writing.

Almost one ten pupils in 5th grade is not capable of interpreting information in a text or of developing ideas in writing. These pupils are able to read a text and make simple inferences or combine explicit pieces of information (level 2).

90.7 % of 5th grade pupils have acquired the skills measured in the Vietnamese test (level 3). The test administered does not enable identification of the difficulties encountered by these pupils in comprehension and in written production.

- ### *Pupils' level of proficiency in mathematics after five years of primary education*

The mathematics test in 5th grade enables a global appreciation of the level of pupils' skills in solving complex problems involving several operations, decimals, conversion of units of measure or calculations calling on geometrical knowledge.

All Vietnamese 5th grade pupils have acquired level 1 knowhow: they can determine the appropriate unit of measure, carry out a simple operation with whole numbers, apply the mathematical signs and operation rules, identify a basic geometrical figure (square, cube, rectangle) and recognise its properties (area, angle, surface), draw a simple geometrical figure and tell the time.

Almost one in two 5th grade pupils is able to apply the basic principles of mathematics, solve simple problems (a single operation), recognise intermediate mathematical principles such as comparing and completing a table of data and converting a unit of measure (level 2). The same pupils do however have difficulty in reasoning and solving everyday problems.

50.1 % of pupils have acquired all the skills measured in the mathematics test (level 3): they can reason, solve everyday problems and know the intermediate level mathematical principles such as solving a problem with several operations, drawing a complex geometrical figure, etc. The test administered does not enable identification of the difficulties encountered by these pupils in mathematics.

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2. Factors of the quality of education[1]

– *Differences in performance between pupils and between schools*

The analysis of the differences in performance between pupils in a class and between schools shows that average performance is relatively variable from one class to another at the beginning of primary education and very variable at the end of primary education. Moreover, the chances of success are not the same depending on the school attended by the pupil.

– *Pupil gender*

The analysis of this factor shows that girls outperform boys in 2nd and in 5th grades in both subjects. However, the two groups demonstrated the same progression over the school year, especially in 5th grade. The gap in performance between girls and boys widened in Vietnamese between the beginning and the end of primary schooling, whereas it decreased by half in mathematics.

In descriptive terms, the analysis of the scores at the beginning of 2nd grade shows an average score for girls in Vietnamese of 516.7 compared to 494.5 for boys, i.e. a gap of 22.2 points. At the end of the year, the average score for girls is 505.6 compared to 482 for boys, i.e. a gap of 23.6 points. In this subject, the gap between boys' and girls' scores is greater in 5th grade than in 2nd grade: 28.8 points at the beginning of the year and 28.9 points at the end of the year.

In mathematics, the difference between boys' and girls' average score is not statistically relevant. In 2nd grade, there is a difference of 17.8 points at the beginning of the year and 13.2 points at the end of the year, compared to 8.4 points at the beginning of the year and 7.5 points at the end of the year in 5th grade.

– *Socioeconomic status of the pupil's family*

In 2nd and 5th grades, pupils from the most privileged families perform better in the language of instruction and in mathematics than those from the least affluent families in the same class. The education system has not yet managed to do away with the inequalities in achievements related to the pupils' socioeconomic status in primary education.

– *Extra-curricular tasks*

2nd grade pupils who participate in extra-curricular tasks were seen to perform better in Vietnamese.

– *Role of the teacher*

On account of the massive schooling coverage by teachers with qualifications of at least Baccalaureate + 3 (over 80% of pupils in 2nd and 5th grades have a teacher with at least Baccalaureat + 3), it was not possible at this stage to analyse the statistical relationship between pupil performance and the level of training of teachers. However, in descriptive analysis, it was noted that 2nd grade pupils whose teachers have a vocational degree performed better than other pupils.

In both Vietnamese and mathematics, descriptive analysis shows that 2nd and 5th grade pupils with a female teacher perform better than those with a male teacher, except in mathematics at the end of 5th grade.

Training in the skills-based approach is positively associated with the progression of pupils in 2nd and 5th grades, both in Vietnamese and mathematics.

Aside from that, a negative correlation is observed between the seniority of the teacher and the performance of 5th grade pupils in both subjects. No correlation was observed in 2nd grade.

– *Equipment in the classroom*

The study revealed that the level of equipment in the classroom is beneficial to school learning in 5th grade only in mathematics. It did not reveal anything significant in 2nd grade.

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1   The results presented here come from analyses for which the influence of other factors (related in particular to in-school and out-of-school contexts) has been taken into account. The descriptive statistics concerning pupils' scores only enable representation of the factors that have been identified.

– *Teacher management and supervision*

2nd grade pupils whose teachers receive bonuses perform better than their counterparts in mathematics. 5th grade pupils whose teachers receive supervision from the head teacher in their lesson preparation perform better in mathematics than other pupils.

Aside from that, teacher absenteeism is negatively related to the performance of 2nd grade pupils in Vietnamese and to that of 5th grade pupils in mathematics.

– *Individual characteristics of head teachers and their training*

In descriptive analysis, it was noted that in schools where the head teacher has at least "Baccalaureate + 4" vocational qualifications, pupils perform better in Vietnamese compared to other pupils.

Econometric analyses indicate that pupils with female head teachers outperform their counterparts in 2nd grade in Vietnamese and in 5th grade in both subjects. Head teacher seniority is only of benefit to 2nd grade pupils in the language of instruction.

The analysis did not reveal any correlation between the head teacher's complementary training in school management and pupil achievements in the two levels of studies.

– *School equipment*

Pupils attending the best-equipped schools perform better in both subjects, both in 2nd and in 5th grades.

The analysis showed that some facilities, such as a specific staff room for teachers, a computer room and school canteens, are often lacking in primary schools, especially in rural areas.

– *School location*

In descriptive terms, analysis of the scores shows that, in 5th grade, pupils living in urban areas have much higher results in Vietnamese than pupils in rural areas. However, in mathematics in 5th grade and in both subjects in 2nd grade, no significant difference in performance was registered between urban and rural areas.

Besides, in descriptive terms, a significant difference between pupil performance in the different regions was only observed in the 2nd grade Vietnamese pretest. Pupils from the North outperformed those from the Centre and the South in this subject. No significant difference was observed between regions for mathematics in 2nd grade and for both subjects in 5th grade.

The study did not enable a correlation between school location and pupils' achievements in either subject at the two levels of education studied. Town and country planning enables rural areas to assert themselves in terms of school achievements.

– *Partnership dynamics*

The analysis did not reveal any correlation between aid resulting from partnerships for the allocation of didactical materials or for the construction of classrooms and pupil performance, whether in 2nd or 5th grade.

3. Other results from the diagnostic assesment

– Over 5.6 % of pupils attend schools that are not equipped with toilets or latrines.

– Over 17 % of pupils have a head teacher who has no office. This takes on more meaning in the light of the observation that over 85 % of head teachers devote over half their time to administrative tasks.

– Almost 65 % of all pupils attend schools that are not equipped with a specific staff room for teachers.

– Over half the pupils attend schools that are not equipped with a computer room for their use.

– Over 68 % of pupils attend schools with no sports ground.

– 5.3 % of pupils attend schools that have no drinking water access point.

Chapter 1 :

General presentation of the Socialist Republic of Vietnam

1.   Presentation of the Socialist Republic of Vietnam

1.1 Geographical situation

Vietnam is located in the southeast of the Indochinese peninsula. It has a surface area of 331 698 km² including 4 200 km² of inland waterways. It shares its borders with a number of countries of which Thailand (in the south through the gulf of Thailand), the People's Republic of China (in the north), the Lao People's Democratic Republic and the Kingdom of Cambodia (both to the west). On the east, Vietnam is delimited by the Gulf of Tonkin and the South China Sea. The country's coastline is particularly long stretching out over 3 260 km.

Figure 1: Map of Vietnam

Source: http://eur.i1.yimg.com/eur.yimg.com/i/fr/enc/jpeg/cartes/vc059f0.jpeg

1.2 Demographic situation

According to the General Statistics Office, Vietnam's population was estimated at 88.8 million in 2012, which represents an increase of around 1.06 % compared to 2011. The population of urban areas is estimated at 28.8 million, an increase of 3.3 %, while the rural population grew much less (0.02 %).

In 2012, 43.8 % of the population were under the age of 25, 44.1 % were between 25 and 54 and 12.1 % were aged 55 or over. Life expectancy at birth has increased considerably, rising from 71 years of age in 2005 to 75 years of age in 2012. On the other hand, the total fertility rate (TFR) has dropped sharply, from 2.25 children/woman in 2001 to 1.99 children/woman in 2011. The under-5 mortality rate decreased between 2005 and 2011: it was estimated at 27.5 per 1 000 normal births in 2005 whereas, in 2011, it reached 23.3.

Table 1: Crude birth and death rates from 2007 to 2011

Year	National		Urban areas		Rural areas	
	Birth rate per 1 000 inhabitants	Mortality rate per 1 000 inhabitants	Birth rate per 1 000 inhabitants	Mortality rate per 1 000 inhabitants	Birth rate per 1 000 inhabitants	Mortality rate per 1 000 inhabitants
2007	16.9	5.3	15.9	4.7	17.4	5.6
2008	16.7	5.3	15.8	4.8	17.3	5.5
2009	17.6	6.8	17.3	5.5	17.8	7.4
2010	17.1	6.8	16.4	5.5	17.4	7.3
2011	16.6	6.9	15.3	5.8	17.2	7.4

Source: General Statistics Office of Vietnam

1.3 Linguistic diversity

There are 54 ethnic groups in Vietnam (Kinh: 85.7 %, Tay: 1.9 %, Tai: 1.8 %, Muong: 1.5 %, Khmer Krom: 1.5 %, Hmong: 1.2 %, Nùng: 1.1 %, other: 5.3 %)[2]. The Viet ethnic group (also called Kinh), representing around 86 % of the population, lives mainly in the deltas and the coastal plains. The minority ethnic groups, apart from the Chinese, the Chams and the Khmers, are distributed throughout the mountain regions and the plateaus. These ethnic groups account for approximately 1 million inhabitants. The Brâu, Rơ Măm and Ơ Đu ethnic groups are the smallest groups, with only several hundred inhabitants each. Some minority ethnic groups have been present for a very long time, while others immigrated to Vietnam a few hundred years ago, like the Chinese in the South. Amongst the minority ethnic groups, only the populations of Chinese and Ngai decreased over the 1999 to 2009 period.

The ethnic groups of Vietnam have their own language and culture; 24 of them have their own writing system, such as the Tai, Muong, Tày-Nùng, Khmer, Gia Rai, Ê-đê, Hoa and Cham groups. The writing systems of a number of ethnic groups such as Tai, Hoa, Khmer, Cham, Ê-đê, Tày-Nùng, Cơ ho and Lao, are used at school. However, Vietnamese is the common language for all ethnic groups. In the country's education system, from pre-primary to university, Vietnamese is the official language, the language of instruction and the language of communication.

At present, English is increasingly taught and used. Other foreign languages are taught too, such as Russian, French, Chinese, German and Japanese.

Vietnam is both a Francophonie and a CONFEMEN member country.

1.4 Economic context

The gross domestic product (GDP) growth rate increased regularly between 2000 and 2007, rising from 6.8 % to 8.5 %, and then falling back to 6.2 % in 2008 and to 5.3 % in 2009. It stood at 6.7 % in 2010. GDP rose from 31 billion US dollars in 2000 to 101 billion dollars in 2010. GDP per capita followed the same trend over that period: starting out at an initial level of 402 US dollars per capita, it had virtually tripled to reach 1 168 US dollars 10 years later. Education, trade and infrastructure are considered to be the three main contributing factors to that growth[3].

The country's economic context has favoured poverty reduction. The rate of poverty in Vietnam, according to the World Bank, dropped from 58 % in 1993 to around 10 % in 2010[4].

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2   1999 data.

3   World Bank report on the assessment of poverty reduction in Vietnam 2012: *Vietnam poverty assessment - Well begun, not yet done: Vietnam's remarkable progress on poverty reduction and the emerging challenges.*

4   *Ibid.*

Table 2: Gross domestic product from 2000 to 2010

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP (in billions of USD, rounded)	31	32	35	39	45	52	60	70	89	91	101
GDP/capita (in USD)	402	416	441	492	561	642	730	843	1 052	1 064	1 168
Effective GDP growth rate (in % compared to previous year)	6.8	6.9	7.1	7.3	7.8	8.4	8.2	8.5	6.2	5.3	6.7

Source: General Statistics Office of Vietnam

2. Presentation of the Vietnamese education system

The development of education, training and technology has been identified as a national priority, with investment in education considered as the principal factor of development.

The share of the State budget allocated to education rose from 15 % to 18.2 % between 2000 and 2008. Since 2010, the State has maintained the share of its budget for education at 18.7 %[5]. The following figures show how the share of the State budget allocated to education evolved over the period 2000-2008.

Table 3: Situation of the State budget for education and training

Year	State budget for education as a percentage of GDP	Stage budget for education as a percentage of total State budget expenditure	Current expenditure as a percentage of total expenditure on education	Expenditure for national objective programmes as a percentage of total expenditure on education	Expenditure for investments as a percentage of total expenditure on education
2000	3.0	15.0	71.7	4.8	23.5
2001	4.1	15.3	73.7	4.0	22.3
2002	4.2	15.6	71.1	4.0	24.9
2003	4.7	16.4	81.7	4.3	14.0
2004	4.9	17.1	79.0	4.3	16.7
2005	5.1	18.1	79.8	4.3	15.9
2006	5.6	18.4	77.1	5.4	17.5
2007	5.6	18.1	77.7	5.1	17.2
2008	5.9	18.2[6]	73.9	8.9	17.2

Source: Statistical data on education, Department of planning and finance, MET

The analysis of the following table shows that the budget share for education allocated to primary education fell from 32.31 % in 2001 to 28.50 % in 2008. However, in absolute figures, the country invested almost four times more (3.63 times) on primary education (in local currency)[7].

5   http://data.worldbank.org/indicator/SE.XPD.TOTL.GB.ZS
6   It would be 19.7 % if the financial resources from the sale of government shares for the school consolidation programme were included.
7   Over the same period, the Vietnamese dong lost 16% of its value against the USD.

Table 4: Distribution of budget expenditure allocated to education per level of schooling

Cycle, level of training	Year 2001		Year 2002		Year 2004		Year 2006		Year 2007		Year 2008	
	Budget (billions of VND*)	%	Budget (billions of VND*)	%	Budget (billions of VND*)	%	Budget (billions of VND*)	%	Budget (billions of VND*)	%	Budget (billions of VND*)	%
State budget for education	19 747		22 601		34 872		54 798		69 802		81 419	
Pre-school	1 358.6	6.88	1 564.0	6.92	2 549.1	7.31	4 093.4	7.47	5 723.8	8.20	6 920.6	8.50
Primary	**6 380.3**	**32.31**	**7 056.0**	**31.22**	**10 252.4**	**29.40**	**17 102.5**	**31.21**	**20 591.6**	**29.50**	**23 204.4**	**28.50**
Lower secondary	4 204.1	21.29	4 771.1	21.11	7 577.7	21.73	11 830.9	21.59	15 705.5	22.50	19 133.5	23.50
Upper secondary	2 148.5	10.88	2 366.3	10.47	3 609.3	10.35	5 660.6	10.33	7 817.8	11.19	9 118.9	11.20
Vocational training	967.6	4.90	1 240.8	5.49	2 162.1	6.20	3 671.5	6.70	6 631.2	9.50	7 979.1	9.80
Vocational secondary	628.0	3.18	655.4	2.90	753.2	2.16	1 435.7	2.62	2 652.5	3.80	3 093.9	3.80
Colleges and university	1 799.0	9.11	2 025.0	8.96	3 295.4	9.45	4 882.5	8.91	7 224.5	10.35	8 752.5	10.75
Other training	2 261.0	11.45	2 922.3	12.93	4 676.3	13.41	6 115.5	11.16	3 455.2	4.95	3 216.1	3.95

* Vietnamese dong, 1 Euro = 27 442.3 Dongs at 1st January 2012

2.1 The Vietnamese education system

Under the education code amended in 2005, the Vietnamese education system aims at the acquisition of skills to equip individuals throughout the course of their lives and the development of a society of learning in a modern economy. One of its specificities is to offer bridges between the different levels of training.

The Vietnamese education system covers formal education and lifelong learning as follows:

– pre-school education (from the age of 3 months to 5 years): nursery and pre-primary school;

– general education (from the age of 6 to 18), split into three parts, leading to the upper secondary leaving certificate or baccalaureate: primary (lasting 5 years), lower secondary (four years) and upper secondary (three years);

– vocational training: vocational secondary and trades training;

– university and post-graduate training (designated for convenience by the term "university"): baccalaureate + 3 degree (3 years of university education after the baccalaureate), baccalaureate + 4 degree (university), master and doctorate degrees. Higher education is made up of several branches in Vietnam: national (Hanoï, Hô-Chi-Minh-Ville) or regional (Hue, Da Nang) universities, provincial universities and community universities.

The State has authorized the opening of semi-private and private higher education institutions since 1993.

In the Vietnamese education system, formal education and continuing learning are linked. They are complementary and aim to create favourable conditions for citizens of all ages, levels and origins to access lifelong learning. Students must meet the same requirements in terms of knowledge and knowhow in order to obtain a diploma, whether in the framework of formal education or of lifelong learning. The structure of the educational programmes allows for flexibility in the line of study or vocational orientation since if offers bridges between the different levels of training and the different forms of education in the system.

The number of primary schools and pupils rose continually between 2007/2008 and 2011/2012.

Moreover, for the 2013/2014 school year, 7 197 506 pupils were enrolled in primary education, including 3 370 450 girls (47 %) and 1 254 174 pupils from minority ethnic groups.

Table 5: Number of schools and pupils from 2007 to 2012

	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Number of primary schools	14 939	15 051	15 172	15 242	15 337
Number of schools opened	100	112	121	70	95
Number of pupils	6 871 795	6 745 016	6 922 624	7 048 493	7 100 950
Percentage of pupils of official school age	96.06 %	96.95 %	97.45 %	98.03 %	98.16 %

2.2 Management of the education system

The Ministry of Education and Training (MET) is in charge of managing education along with the other ministries and institutions working in the education sector.

The people's committees active at different administrative levels are responsible for management in terms of quality, effectiveness and social justice in educational development.

Each institution delivers its services according to the pedagogical programmes and measures drawn up by the MET.

Vietnam has developed an action plan targeting education for all for the 2003 to 2015 period. This plan was updated in 2012 with a view to achieving a number of objectives before the 2015 deadline (see Appendix 1).

2.3 Primary education: reforms and development strategies

2.3.1 Administrative reforms

In the first decade of the 21st century, Vietnam went from universal primary education (compulsory primary education) to universal lower secondary education (at the end of primary education, all pupils go directly on to lower secondary) in line with the education Law. This universalisation took place in a very difficult context in terms of standardisation of management,

curriculum and textbook renewal and availability of materials.

The percentage of pupils of the official age enrolled in primary education rose from 94.49 % in 2000/2001 to 96.95 % in 2008/2009. In 2011, the percentage stood at 97.9 %.

Table 6: Primary enrolment rate from 2001 to 2009

Designation	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
Primary enrolment rate (ages 6-14)	103.28	104.27	101.48	100.54	101.86	100.99	101.49	100.13	100.37
Official age enrolement rate (ages 6-10)	94.49	93.26	93.37	94.43	94.61	95.28	95.96	96.06	96.95

Source: Strategies for the development of education and training, 2011-2020

From 2008/2009 to 2012/2013, the intake rate in first grade went up from 99 % to 99.4 % and the promotion rate from 96.3 % to 97.9 %. The survival rate in 5th grade followed the same trend, rising from 94.3 % to 96.4 %. Repetition and

dropout rates fell respectively from 2.4 % to 1.3 % and from 1.3 % to 0.9 %. The trends of these indicators were the same for girls.

Table 7: Internal effectiveness of the primary education system in Vietnam

Designation	2008	2009	2010	2011	2012
Intake rate in 1st grade					
Girls and boys (%)	99.0	99.8	99.0	99.2	99.4
Girls only (%)	100.0	100.2	100.2	100.1	100.1
Promotion rate in primary education					
Girls and boys (%)	96.3	96.7	97.1	97.5	97.9
Girls only (%)	97.6	97.8	98.0	98.2	98.4
Repetition rate in primary education					
Girls and boys (%)	2.4	2.1	1.8	1.6	1.3
Girls only (%)	1.5	1.4	1.2	1.1	0.9
Dropout rate in primary education					
Girls and boys (%)	1.3	1.2	1.1	1.0	0.9
Girls only (%)	0.9	0.8	0.8	0.7	0.7
Survival rate in 5th grade					
Girls and boys (%)	94.3	94.8	95.4	95.9	96.4
Girls only (%)	96.8	97.0	97.2	97.3	97.5
Average number of years in primary education					
Girls and boys (%)	5.35	5.31	5.28	5.24	5.21
Girls only (%)	5.24	5.22	5.20	5.18	5.16

Source: 2003-2015 EFA action plan updated in 2012

2.3.2 Training and development of teaching staff and of management executives in primary education

The Ministry of Education and Training has introduced important measures to enable the development of teaching staff and management executives in primary education. These measures consist in:

– Effectively implementing educational emulation movements, such as "Each teacher is a moral example and one of self-learning and creativity", "Teach well, learn well", etc.;

– Predicting staff needs in order to draw up plans for recruitment, employment, initial training and continuing education;

– Renovating continuing education to raise the professional level of teachers and management executives in line with recognised standards and further the professionalisation of teachers and head teachers;

– Implementing policies to the benefit of teachers and managers of basic education.

As a result, the proportion of teachers who have reached Vietnam's standards (graduates from a teacher training institution, i.e. baccalaureate + 2) is increasing every year. It reached 99.8 % in the 2011/2012 school year. Table 8 presents the progression in the percentage of teachers who have reached training standards from 2007/2008 to 2011/2012.

Table 8: Teaching staff patterns and percentage of teachers who have reached training standards

	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Civil servants	344 853	345 505	347 840	359 039	336 045
Contract teachers	2 206	2 410	2 894	2 701	2 943
Teachers who have reached training standards (%)	97.33	98.58	99.09	99.78	99.80
Number of teachers/class	1.29	1.30	1.27	1.39	1.41

Source: Statistical data on education, Department of planning and finance, MET

2.3.3 Reform of primary education curricula

The reform of primary education curricula is an integral part of the general education policy. It has enabled the primary education curriculum to be lightened and improved in such a way that the conception of global multi-faceted education prevails in textbooks: covering knowledge, social skills and life skills. Through the piloting of the pedagogical and evaluative renewal based on decentralisation, the MET has given initiative to the decentralised structures, strengthened the head teacher's role in organising instruction and fostered teacher autonomy. The reduction of the primary school curriculum has made pupils more independent and active in their studies.

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Chapter 2:

Methodology of the assessment

This chapter presents some of the methodological elements of the assessment conducted by PASEC in the Social Republic of Vietnam. More particularly, it will describe the programme's new measurement instruments[8], the method of estimating the pupils' skills and the sampling procedure. More methodological elements, especially concerning econometric modeling, data processing and weighting, can be found in Box 3 of Chapter 5 and in Appendix 2.

PASEC's methodology is based on measuring pupils' learning achievements in the basic subject matters at the beginning and at the end of the school year. This procedure enables analysis of the system's performance and equity and determines the factors of academic achievement according to a "value added" model. PASEC traditionally measures the added value in 2nd and 5th grades in the framework of primary school education based on six years of schooling.

The language of instruction and mathematics tests administered to 2nd and 5th grade pupils were designed in French, based on a skills framework common to PASEC countries, then translated into Vietnamese[9] taking into account international test translation and adaptation procedures. Contextual questionnaires were also administered to the same pupils, their teacher and their school head. The data collected as a whole provide precious information on the pupils' schooling conditions.

This chapter focuses on the specific parameters of the diagnostic assessment conducted in Vietnam in the course of the 2011/2012 school year.

1.   PASEC tests and measuring pupils' skills

The pupils' test results enable an appreciation of their levels in oral comprehension, written comprehension, written production, arithmetic, geometry and measurement. These domains of learning call upon levels of proficiency related to the cognitive processes that are indispensable for pupils to process information in the other fields of learning and in everyday life.

The conceptual framework of the tests covers the majority of school situations and common situations of everyday life. In this respect, the texts provided to assess oral and written comprehension have different formats, either continuous (narrative, descriptive or argumentative texts) or noncontinuous (maps, tables, etc.). As a whole, the test is built on the format of multiple-choice questions but it also uses open-ended questions to which the pupils must reply in writing.

The theoretical concept of the tests is based on measuring pupils' skills in the following domains:

Table 9: Domains assessed in the tests

2nd grade	
Vietnamese	**Mathematics**
Written comprehension Oral comprehension	Operations and numeration Measurement Geometry
5th grade	
Vietnamese	**Mathematics**
Written comprehension Oral comprehension Written production	Operations and numeration Measurement Geometry

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8   PASEC developed the new tests in 2010 and 2011 with the aim of improving existing instruments and developing a proficiency scale.

9   PASEC used a double parallel translation procedure, i.e. a simultaneous translation by two teams independently. The results of the teams' translations were then merged by CAPSTAN who provided the final test to be administered in the field. Please refer to the technical note on *Procédures techniques pour la traduction des instruments PASEC* (pasec@confemen.org).

Table 10: Skills assessed in the different domains

2nd grade	
Vietnamese	**Mathematics**
Deciphering and recognising Extracting information Deducing and interpreting/analysing and appreciating	Knowing and understanding Applying Solving a problem
5th grade	
Vietnamese	**Mathematics**
Extracting information Interpreting and analysing	Knowing and understanding Applying Solving a problem

PASEC has defined a three-level proficiency scale for 2nd grade classes and another one for 5th grade classes. Chapter 3 gives a detailed description of the different skills levels and Appendix 2.2 provides explanations on the choices of methodology.

In the language of instruction, at the end of the second year of primary education, a text is read out collectively to the class (oral comprehension) or read silently by the pupils (written comprehension). The text is of medium level (four sentences), continuous or noncontinuous, and uses average formal vocabulary and average syntax for this level of education (connectors, subject inversion, several clauses, coordinating conjunctions, …).

In the language of instruction, at the end of the second year of primary education, the highest performing pupils are capable of mobilising their knowledge and knowhow in order to extract complex information by linking several pieces of information and using their external knowledge to interpret and distinguish fine subtleties of meaning. The pupils can also copy the information found in the text in order to answer an open question. They are also capable of carrying out several successive tasks related to the segmentation of sounds and syllables in words.

In mathematics, at the end of the second year of primary education, the best performing pupils are capable of mobilising their capacities to carry out a multiplication under ten, determine the correct operation to solve a simple problem and find the multiplication leading to the product of a simple operation under ten. In geometry, these pupils manage to note the common properties of different simple geometrical shapes and correctly name elementary geometrical figures. In measurement, they are able to calculate the time between two periods and distinguish between the different units of measurement.

In the language of instruction, at the end of the 5th year of primary education, the best performers have a good command of writing: these pupils manage to write short syntactically correct and relevant texts. They have a good capacity for written expression and are able to give their opinion in a well-reasoned manner. Their written comprehension is very good: they can make fine deduction and inferences and analyse or criticise documents or long texts using average formal vocabulary. They are capable of understanding texts or documents with an unfamiliar context and of deducing the meaning of complex words. They can compare several parts of long texts or documents to deduce the correct information, while approaching these texts as a whole.

In mathematics, at the end of the 5th year of primary education, pupils are able to solve complex problems using several operations with decimal numbers, conversion of units of measure and calculations requiring geometrical knowledge (area, circumference, etc.). They manipulate fractions and are capable of carrying out complex divisions and multiplications, additions and subtractions with remainders. Finally, they are able to analyse data in double-entry tables.

In order to simplify the interpretation of the pupils' performance, their scores are presented on a proficiency scale divided into several levels based on a statistical model (item response theory – IRT). Thus, the Vietnamese pupils' skills are presented on a same continuum, per subject and per school year being assessed; this enables a global view of the level of pupil learning by determining, in particular, for each level, the share of pupils who have the capacity to mobilise their knowledge and skills in order to give the correct answers in different pedagogical or everyday life situations.

The proficiency scales were drawn up a posteriori by the PASEC team in cooperation with the national team in Vietnam; they correspond to the domains and processes assessed by the PASEC tests.

Test design

The existence of a high number of items (320 items) and the desire to establish some anchorage between the two tests (pretest and post-test) call for rigorous organisation in the distribution of the items within the pupils' exercise books, between the exercise books and between the two tests. To take these specificities into account, the procedure of rotating exercise books was selected in the preparation of the new PASEC tests. This procedure provides for a lot of items, which

facilitates the analysis of the results and avoids pupil saturation (through the effect of fatigue) when taking the tests.

The fact that a large number of items are common to the pretest and to the post-test (sections B and C) is a new test

specificity. The pretest and the post-test comprise two booklets, each containing the two subjects, and each booklet has two sections. Each section contains 15 items in 2nd grade and 25 items in 5th grade. Each pupil is administered only one booklet.

Table 11: Test design for the two levels (2nd and 5th grades)

Subjects	Pretest			Post-test		
	Booklets	Item sections		Booklets	Item sections	
Vietnamese	1	A	B	3	D	C
	2	A	C	4	D	B
Mathematics	1	A	B	3	D	C
		A	C	4	D	B

Test-taking procedure

In 2nd grade, at the beginning and at the end of the year and for each subject tested (language of instruction and mathematics), the tests comprise around 30 items for an assessment time of 90 minutes (2 x 45-minute sessions separated by a 15-minute break). For each test, the language of instruction and mathematics are assessed on two different mornings by a test administrator.

In 5th grade, at the beginning and at the end of the year and for each subject tested (language of instruction and mathematics), the tests comprise around 50 items for an assessment time of 3 hours maximum (2 x 90-minutes sessions separated by a 15-minute break). For each test, the language of instruction and mathematics are assessed on two different mornings, the pupils taking the tests independently except for the items related to oral comprehension.

Psychometric analysis of the tests

In the framework of the classical true score theory[10], it is customary to take into consideration two item characteristics: the average level of difficulty and discrimination, also known as "point biserial correlation".

In the framework of this assessment, we have used a one-parameter item response model, commonly called the "Rasch model".[11] The one-parameter item response model is based on

the postulate that the item's characteristic curve depends on: (i) pupil proficiency (the more proficient the pupil, the higher the probability of success in the item, and vice versa); and (ii) the difficulty of the item (the easier the item, the higher the probability of success in the item). The item response models, particularly the Rasch model, create a continuum on which both the pupils' performance and the difficulty of the item, connected by a probabilistic function, will be located.

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10   Fred M. Lord and Mel R. Novick (1968).

11   Trevor G. Bond and Christine M. Fox (2007); Gerhard H. Fischer and Ivo W. Molenaar (1995).

Figure 2: Characteristic curve of a dichotomic item taken from the PASEC tests
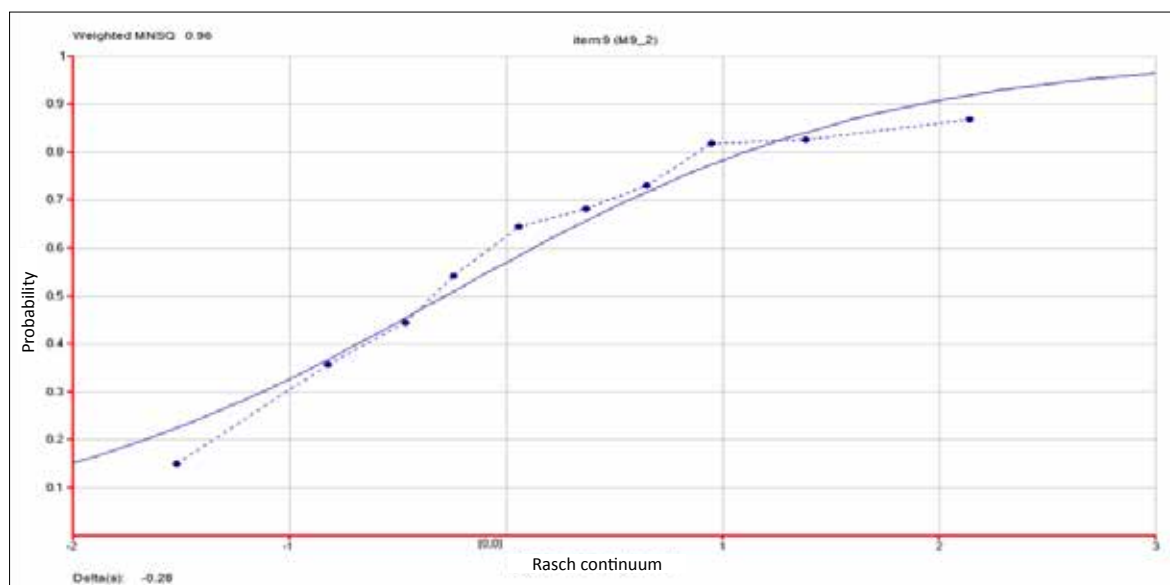
This graph presents the characteristic curve of an item in a PASEC country. This item consists of asking the pupil to arrange decimal numbers in ascending order. The item has a level of difficulty of -0.28 and a post adjustment index of 0.96. The post adjustment value, situated between 0.75 and 1.25, indicates that the item is adjusted to the Rasch model. Indeed, the progression of the two curves shows that there is not a large difference between the theoretical (continuous line) and observed (dotted line) distribution. A pupil who has low skills, with say a proficiency level of -2, has a 0.15 probability of

success in this item. However, a pupil with high skills, estimated at say 2, has a probability of around 0.91 of arranging the decimal numbers correctly.

Test design was taken into account in the estimation of pupils' skills. The analyses were reproduced booklet by booklet in order to detect any possible changes in parameters from one booklet to another.

2.   Assessment sampling

The sampling frame used to produce the sample of schools for this assessment comes from the Ministry of Education and Training for the 2010/2011 school year, i.e. the school year previous to the one surveyed. The sampling method selected by PASEC is a three-level stratified sampling method: firstly, 180 schools are drawn, then a class for each of the two levels (2nd and 5th grades) from each school according to a simple random procedure. Finally, a precise number of 15 pupils is drawn for each class.

The sampling frame was first of all split into strata intended to represent the diversity of the Vietnamese educational context. The number of schools selected within each of these strata is proportional to the total number of grade 2 and grade 5 pupils in them. Two stratification variables were included in the sampling plan, that is the geographical location (north, centre and south) and the school environment (urban or rural). Cross tabulation of these two variables enables definition of six strata. The number of 2nd and 5th grade pupils was used to calculate the weight of the schools and the strata.

Photo © Global Partnership for Education

Table 12: Sampling plan – PASEC assessment in Vietnam

Area number	Name of the area	Number of schools in the area	Number of 2nd and 5th grade pupils	Weight of the area (%)	Number of schools scheduled for the survey	Number of 2nd and 5th grade classes scheduled for the survey
1	Urban north	789	162 815	6	11	22
2	Rural north	5 099	734 325	28	50	100
3	Urban centre	673	141 338	5	10	20
4	Rural centre	3 763	588 910	22	40	80
5	Urban south	1 325	349 120	13	24	48
6	Rural south	4 097	650 725	25	45	90
Total		**15 746**	**2 627 233**	**100 %**	**180**	**360**

Response rate at school level

In accordance with the sampling plan, 180 schools participated in the survey, leading to a 100 % coverage of the initial sample. All the classes selected in the 180 schools for the second and fifth years of primary education were effectively surveyed, corresponding to a response rate of 100 %. The head teachers of the 180 schools selected for the survey answered the questionnaire they were administered.

At the beginning of the year, 2 689 2nd grade pupils and 2 700 5th grade pupils participated in the survey while at the end of the year, this was the case for 2 658 2nd grade pupils and 2 682 5th grade pupils. The response rate between the two tests was therefore 98.8 % in 2nd grade and 99.3 % in 5th grade. The questionnaires returned after test-taking registered a non-response rate of approximately 1 % at pupil, teacher and head teacher levels.

All the response rates are excellent with regard to the standards set by PASEC. To summarise, the data collected is presented hereunder:

Table 13: Data collected – PASEC assessment in Vietnam

	Pretest 2nd grade	Post-test 2nd grade	Pretest 5th grade	Post-test 5th grade
At class/school level				
Number of classes scheduled	180	180	180	180
Number of classes surveyed	180	180	180	180
Number of schools scheduled	180			
Number of schools surveyed	180			
School/class response rate	**100 %**	**100 %**	**100 %**	**100 %**
At pupil level				
Response rate in the post-test compared to the pretest	**98.8 %**		**99.3 %**	

Chapter 3:

Primary school pupils' skills in Vietnam

This chapter explores pupils' overall scores as well as their knowledge and knowhow, whether mastered or not, at the beginning and at the end of primary school education in Vietnam.

The tests administered to the 2nd and 5th grade pupils were designed in order to appreciate the proficiency of young Vietnamese pupils in basic skills at the beginning and at the end of primary school on the one hand and to determine their principal difficulties in oral comprehension, decoding and written comprehension, and in the principal mathematical domains (numeration, operations, geometry and measurement).

The competencies measured by the PASEC tests refer to the standards expected at the beginning and at the end of primary education in order to ensure quality schooling. They are based on international reference frameworks[12], and not exclusively on the Vietnamese curricula. However, some items have been adapted from the French source version, in order to target the specific difficulties linked to the structure of the Vietnamese language. Indeed, from a linguistic point of view, the difficulties encountered in learning Vietnamese reside primarily in the pronunciation and in the tonal modalities of the syllables: each syllable can change in meaning depending on the accent or the tone attributed to it. A set of items was thus developed in 2nd grade to take this specificity into account and to replace the items designed intially to assess the difficulties encountered in learning French.

1. Pupils' scores and progression in the PASEC tests

The pupils' scores in the PASEC tests were standardised (average of 500 points and standard deviation of 100 points)[13].

In 2nd grade, the pretest and the post-test proved to be too easy for the pupils. In fact, at least 90 % of pupils succeeded the test items[14] at the beginning of the year (pretest).

This "ceiling effect" in the Vietnamese and mathematics test makes it impossible to assess the added value of education over the school year. In fact, as the level of success was saturated in the pretest, it is not possible to observe the progression of pupil performance over the school year. This "ceiling effect" also limits the analysis of the competencies and difficulties of 2nd grade pupils.

These "unusual" results could be explained by the following factors:

– Vietnamese is widely spoken by the pupils (86 %[15]), the vast majority of families thus contributing to the acquisition of language skills, especially the spoken language, from the time of birth. Teaching mathematics in the mother tongue also promotes learning;

– a significant share of pupils have attended preschool (93 %[16]) for three years before entering primary school and, as such, have acquired the prerequisites for deciphering the language and for written comprehension;

– families are used to providing their children with good supervision outside of the school context by having them participate in holiday courses, supervising their homework or organising private lessons at home with teachers;

– the pretest took place four months (December) after the start of the school year (September). The pupils have therefore acquired skills between the actual beginning of the school year and the test for the beginning of the school year (pretest);

– The PASEC assessment is usually administered to pupils after two years of schooling in the case of countries where primary education lasts six years (to compensate for the low access rate to preschool and to foster the learning of a new language). In the Vietnamese context, the full course of primary education is made up of five years of education. As such, administering in the second year a test designed to assess initial learning (first year in a system of five years) seems hardly adapted to the case of the Vietnamese education system;

– the test was designed to identify the difficulties in learning the French language (syllabic breakdown, oral comprehension, …) and was not designed specifically to assess the Vietnamese language. Nevertheless, some items were adapted in Vietnamese;

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12   LMTF (Learning Metrics Task Force) (2013). *Toward Universal Learning: Recommendations from the Learning Metrics Task Force*. Montreal and Washington, D. C.: UNESCO Institute for Statistics and Center for Universal Education at the Brookings Institution.

13   Note: the average score of pupils in Vietnam (mean of 500) in the PASEC tests cannot be compared with the score in other countries assessed with the same PASEC tests, or with the scores of countries participating in PISA or PIRLS, even though these evaluation programmes do show their results on a scale with an average of 500 and a standard deviation of 100.

14   The pretest items are the items contained in sections A, B and C (see Chapter 2 for test design).

15   According to the data collected from the pupils during this study.

16   According to the data collected from the pupils during this study.

- the added values were measured over a relatively short period (i.e. five months) in the context of a school year and do not enable a clear indication of progression.

The test results show that the Vietnamese education system enables 5th grade pupils to progress in mathematics (+29.2 points) compared to their initial level at the start of the year[17]. However, it is important to note that 25% of pupils were capable of succeeding in all of the PASEC test, at both the beginning and the end of the year. The other pupils progressed by 42 points on average over the school year, enabling them to carry out additional tasks[18]. Thus, pupils who could only carry out simple operations, like telling the time and drawing a perpendicular line, developed their skills in mathematics and can now solve a simple problem in everyday life and even a complex problem requiring several operations.

Pupils' progression in Vietnamese is limited in 5th grade (+3.6 points)[19]. However, pupils ranking in the weakest quartile were seen to progress very significantly, with an added value of 52 points. The other pupils showed only modest, or even no, progress, being in the highest performance category at the start of the school year[20].

In short, the PASEC tests in mathematics and Vietnamese did not enable the progression of high performers' skills to be measured.

Table 14: Average performance and progression of Vietnamese primary pupils[21]

	2nd grade		5th grade	
	Pretest	**Post-test**	**Pretest**	**Post-test**
Pupil performance in Vietnamese	**505.6**	**495.1**	**498.1**	**50.8**
Added value	---		+3.6	
Pupil performance in mathematics	**505.3**	**495.3**	**485.5**	**514.7**
Added value	---		+29.2	

Table 15: Average performance and progression of Vietnamese pupils in 5th grade per quartile

Pupil quartiles	Average score in mathematics			Average score in Vietnamese		
	Pretest	Post-test	Added value	Pretest	Post-test	Added value
Quartile 1	366.85	407.47	40.62	367.41	419.44	52.03
Quartile 2	447.66	496.39	48.73	456.51	483.73	27.23
Quartile 3	511.04	549.44	38.40	523.79	532.83	9.04
Quartile 4	605.06	598.48	---*	638.23	566.79	---*

* The scores of pupils in quartile 4 were saturated in the pretest, making it impossible to measure their progression.

2. Analytical method of construction of the proficiency scales

For each class and subject assessed, the pupils are distributed on a scale of proficiency. Each level of skill is described according to the nature of the tasks to be carried out, the type of situations (school life, everyday life, …) and the characteristics of the documents (nature of the text, type of question, level of vocabulary...).

For each scale, level 1 represents the lowest level and corresponds to the easiest items. The scale rises gradually according to the degree of difficulty of the items and the skills required in order to perform the tasks set in the exercises correctly.

The proficiency scales constructed by PASEC are based on a psychometric analysis of the tests, whereby pupils' scores can be linked to the degree of difficulty of the items. With this configuration, a pupil's level characterised by his/her score in the test and the degree of difficulty of the items, corresponds to the level of proficiency mastered by the pupil with a given probability of success.

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17   See Table 14.
18   See Table 15.
19   See Table 14.
20   See Table 15.
21   In 2nd grade, the added value is not given due to a ceiling effect between the pretest and the post-test. All the added values are statistically significant at the threshold of 1 %.

The IRT analysis enables the probabilities of success for each item to be determined for each pupil or group of pupils. Pupils situated at a given level are theoretically apt to answer most questions at that level correctly, which is the equivalent of a 50 % chance or more of answering those items.

However, within a given level, all pupils do not have the same probability of success in the different items. Indeed, all the items in that level, even if they look similar and call upon similar skills, do not represent the same degree of difficulty because the vocabulary used, for example, is less familiar to the pupils. Thus, pupils who are at the lower or higher limits

of each level will have a probability of under or over 0.50 of correctly answering the items at that same level. Pupils at the higher limit have generally a good probability of answering the easiest items of the next level correctly (in general, of around 30 %). The boundary between two levels of proficiency is permeable, and some pupils straddle two levels.

In this respect, the proficiency scales are accompanied by the pupils' probabilities of success in a selection of items representative of the different degrees of difficulty of the test[22] in order to specify, for each group of pupils, the probability of answering different types of items correctly.

3. Description of pupils' level of proficiency in Vietnamese and mathematics after two years of primary education

A "ceiling effect" is observed in the Vietnamese and mathematics tests in 2nd grade: all pupils master the basic skills measured in the tests with a probability of sucess equal to or over 0.5.

The "ceiling effect" in the language and mathematics tests reduces the perspectives of analysis and interpretation of pupils' skills at the beginning of schooling since all the pupils succeeded in the PASEC test items for 2nd grade, even the most difficult ones.

Consequently, the analysis of the pupils' results in the PASEC tests does not enable identification of the share of pupils who are struggling and of the nature of their difficulties at the beginning of primary education.

Nevertheless, in spite of these results, the skills mastered by 2nd grade pupils in the language of instruction and in mathematics are presented below.

Box 1: Key to reading Tables 16 to 19

Each level of proficiency presented on the PASEC scales is constructed as follows:

- Items are grouped together when they call upon similar knowledge and knowhow and have similar degrees of difficulty after analysis of the results;

- Pupils are distributed in each level of the proficiency scale according to their probability of answering the items of a same level correctly. On average, pupils grouped together in a level must have a probability of around 0.50 of answering all the items of that level correctly.

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22   See Appendix 3.

– **In Vietnamese in 2ⁿᵈ grade:**

The table below presents the language skills mastered by Vietnamese pupils in 2ⁿᵈ grade. A sample of items ranked according to the required level of proficiency is presented in Appendix 3.1 and provides a glimpse of the tasks set for pupils in the language test.

All Vietnamese pupils, even the weakest, master the high level skills measured in the test (level 3 in the table) with a probability of success equal to or over 0.5. As such, the same

pupils also master the low level skills tested (levels 1 and 2 in the table) with a very high probability of success (over 0.8).

Consequently, the analysis of the pupils' results in the PASEC tests does not enable identification of the share of pupils who are struggling and of the nature of their difficulties at the beginning of primary education.

Table 16: Scale of proficiency in Vietnamese at the end of 2ⁿᵈ grade

Level	Overall skills	Examples of tasks	Text characteristics
1	**Read a text or listen to a message in order to recognise explicit information**	• Associate a word or a sentence with a picture • Find the meaning of a word or of a sentence • Perform a concrete action	• 1 to 2 sentences • Familiar common vocabulary • Low syntactic level • School or family situation • Multiple choice questions
2	**Read a text or listen to a message in order to extract explicit information**	• Associate several ideas in a sentence • Find specific information in several short sentences • Extract a piece of information and give a very short written answer	• 2-3 line narrative text • Common vocabulary • Low syntactic level • School or everyday life situation • Multiple choice and open questions
3	**Read a text or listen to a message to combine explicit pieces of information and carry out complex phonemic and syllabic segmentation tasks**	• Associate several ideas and give a very short written response • Associate and combine several pieces of information with external knowledge • Recognise several common syllables in a sentence	• 3-10 line narrative, informative text • Common vocabulary and new words • Medium level of syntax • School or everyday life situation • Multiple choice and open questions

– **In mathematics in 2nd grade:**

The table below presents the skills in mathematics mastered by Vietnamese pupils in 2nd grade. A sample of items ranked according to the required level of proficiency is presented in Appendix 3.2 and provides a glimpse of the tasks set for pupils in the mathematics test.

All Vietnamese pupils, even the weakest, master the high level skills measured in the test (level 3 in the table) with a probability of success equal to or over 0.5. As such, the same pupils also master the low level skills tested (levels 1 and 2 in the table) with a very high probability of success (over 0.8).

Consequently, the analysis of the 2nd grade pupils' results in the PASEC tests does not enable identification of the share of pupils who are struggling and of the nature of their difficulties at the beginning of primary education.

Table 17: Scale of proficiency in mathematics at the end of 2nd grade

Level	Overall skills	Examples of tasks
1	**Know the basic mathematical concepts in numeration, geometry and measurement: number, count, compare, identify shapes, appreciate sizes**	• Number and compare quantities of objects under 20 • Carry out an addition under ten • Carry out a subtraction under ten • Identify a simple geometric shape (square, circle) • Appreciate a measurement in order to compare the size of objects
2	**Know the intermediate mathematical concepts and apply them: calculate, identify shapes, measure sizes**	• Compare numbers under a hundred • Use the operation signs • Carry out an operation (subtraction and addition) under a hundred • Complete a simple logical sequence • Identify and draw simple geometrical figures (square, rectangle) • Recognise and compare lengths of objects on a common measurement scale • Tell the time on a clock face
3	**Know the intermediate mathematical concepts, apply them and reason**	• Carry out a complex operation (multiplication under ten) • Convert an addition into a multiplication • Determine the right operation to solve a simple problem (addition or subtraction, numbers under 20) • Reformulate a problem as an operation • Solve a problem with several levels of operation (numbers over 20) • Recognise the properties of simple geometrical shapes (square, triangle) • Measure a period of time

4. Description of pupils' level of proficiency in Vietnamese after five years of primary education

The table below presents the skills mastered (probability of success in the items equal to 0.5 on average at each level) by Vietnamese pupils in oral and written comprehension and in written production. A sample of items ranked according to the required level of proficiency is presented in Appendix 3.3 and provides a glimps of the tasks set for pupils in the language test.

Table 18: Scale of proficiency in Vietnamese at the end of 5th grade

Level	% of pupils	Overall skills	Domains	Examples of tasks	Text characteristics
1	0 %[23]	**Read a text or listen to a message in order to extract a specific piece of information**	• Oral comprehension • Written comprehension	• Associate several ideas in a phrase • Find a specific piece of information in several short sentences • Recognise a piece of information and report it in writing	• 5-10 line narrative or informative text • Very familiar vocabulary • Syntax: one piece of information per sentence • School or everyday life situation
2	9.3 %	**Read a text and make simple inferences or combine specific pieces of information**	• Written comprehension	• Recognise a piece of information and report it in writing • Associate and combine several pieces of information from one or several texts • Identify the characters in a story	• 10-20 line narrative or informative text • Common vocabulary and new words • Syntax: several pieces of information per sentence, connectors, punctuation • School or everyday life situation
3	90.7 %	**Read a text to interpret information, analyse and develop ideas in writing**	• Written comprehension • Written production	• Associate and combine several pieces of information with external knowledge • Compare information from several texts • Write several sentences to explain an opinion or a point of view and reason	• 10-30 line narrative or informative text • Common vocabulary and new words • Syntax: several pieces of information per sentence, connectors, punctuation

- All Vietnamese 5th grade pupils have acquired level 1 knowhow.

- Almost one in ten pupils in 5th grade is not capable of interpreting information in a text or of developing ideas in writing. These pupils are capable of reading a text and of making simple inferences or of combining explicit pieces of information (level 2).

- 90.7 % of 5th grade pupils have acquired all the skills measured in the Vietnamese test (levels 1 to 3). The test administered does not enable identification of the difficulties encountered by these pupils in written production and comprehension.

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23   0 % of Vietnamese pupils have an average probability of 0.5 of succeeding in level 1 items since all pupils succeed in all level 1 items with a probability of over 0.8.

The probabilities of correct answers for each item selected (items 1 to 8) are presented in Appendix 3.4 in order to inform the reader of the probabilities of the different groups of pupils succeeding in these items. **The skill is considered as mastered when the probability of success is equal to or over 0.5.**

To complete the skills analysis, the graph below presents the distribution of pupils on a same scale according to their score and associating the degree of difficulty of the different items selected.

Figure 3: Distribution of pupils at the end of 5th grade according to their Vietnamese test score
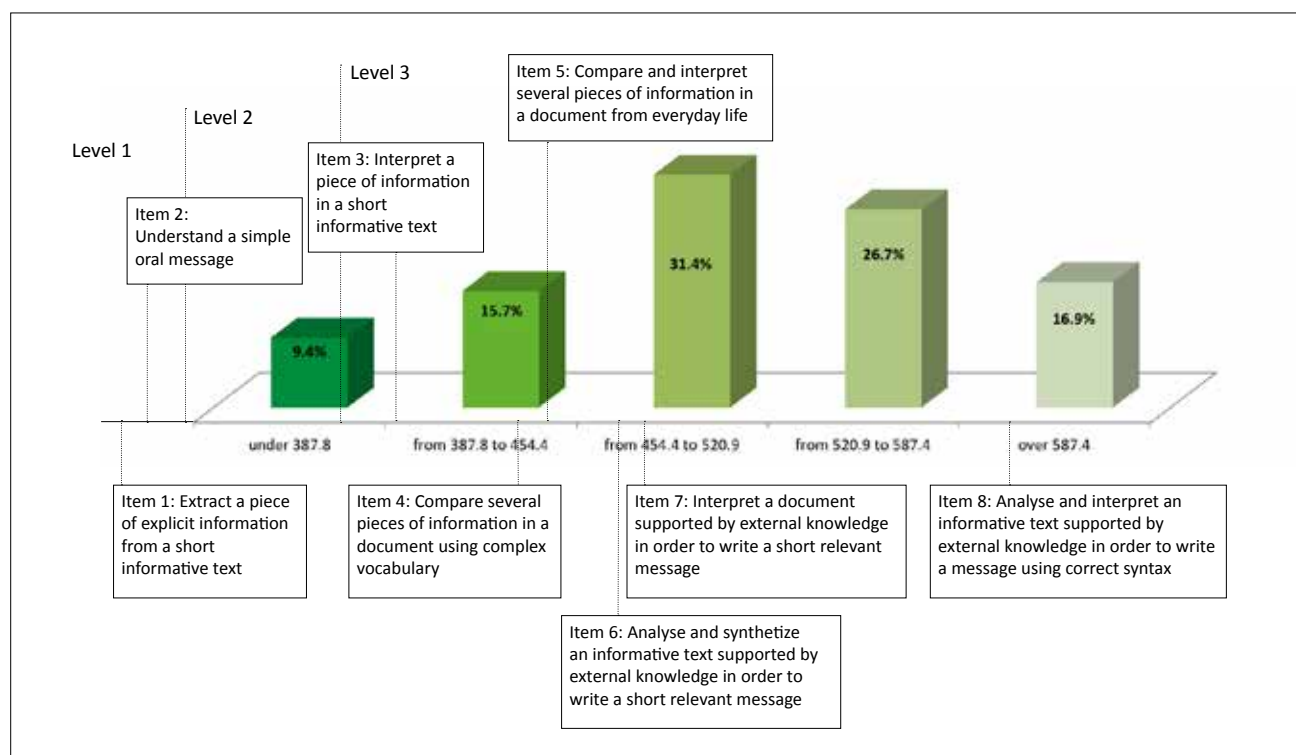
5. Description of pupils' level of proficiency in mathematics after five years of primary education

The table below presents the skills mastered (probability of success in the items equal to 0.5 on average in each level) by Vietnamese pupils in mathematics in the following domains of learning: numeration, measurement and geometry. A sample of items ranked according to the required level of proficiency is presented in Appendix 3.5 and provides a glimpse of the tasks that the pupils have to carry out in the mathematics test.

Table 19: Scale of proficiency in mathematics at the end of 5th grade

Level	% of pupils	Overall skills	Examples of tasks
1	0 %[24]	**Know and apply basic mathematical principles**	• Determine the appropriate unit of measurement • Carry out a simple operation with whole numbers • Apply the operations signs • Apply the operations rules • Identify a basic geometrical figure (square, cube, rectangle) • Recognise the properties (area, angle, surface...) of a simple geometrical figure • Draw a simple geometrical figure • Tell the time
2	49.9 %	**Apply basic mathematical principles, solve simple problems and know the intermediate mathematical principles**	• Compare and complete a table of data • Convert a unit of measurement • Solve a problem with a single operation (multiplication, division) • Carry out several operations with complex numbers • Calculate the area and the surface of a simple geometrical figure • Know the properties (area, angle, surface...) of a complex geometrical figure • Appreciate the size of objects used in daily life
3	50.1 %	**Reason and solve everyday problems and apply intermediate mathematical principles**	• Reason and solve a problem with several operations • Draw a complex geometrical figure • Appreciate the size of a strange object

–   All Vietnamese 5th grade pupils have acquired level 1 knowhow.

–   Almost one in two 5th grade pupils is capable of applying basic mathematical principles, of solving simple problems and recognising intermediate mathematical principles. The same pupils do however have difficulty reasoning and solving daily problems.

–   50.1 % of pupils have acquired all the skills measured in the mathematics test (levels 1 to 3). The test administered does not therefore enable identification of the difficulties encountered by these pupils in mathematics.

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24   0 % of Vietnamese pupils have an average probability of 0.5 of succeeding in the items in level 1 since all pupils succeed in all level 1 items with a probability of over 0.8.

The probabilities of correct answers for each of the items selected (items 1 to 7) are presented in Appendix 3.6 in order to inform the reader of the probabilities of the different groups of pupils succeeding in these items. **The skill is considered as mastered when the probability of success is equal to or over 0.5.**

To complete the skills analysis, the graph below presents the distribution of pupils on a same scale according to their score while associating this with the degree of difficulty of the different items selected.

Figure 4: Distribution of pupils at the end of 5th grade according to their mathematics test score
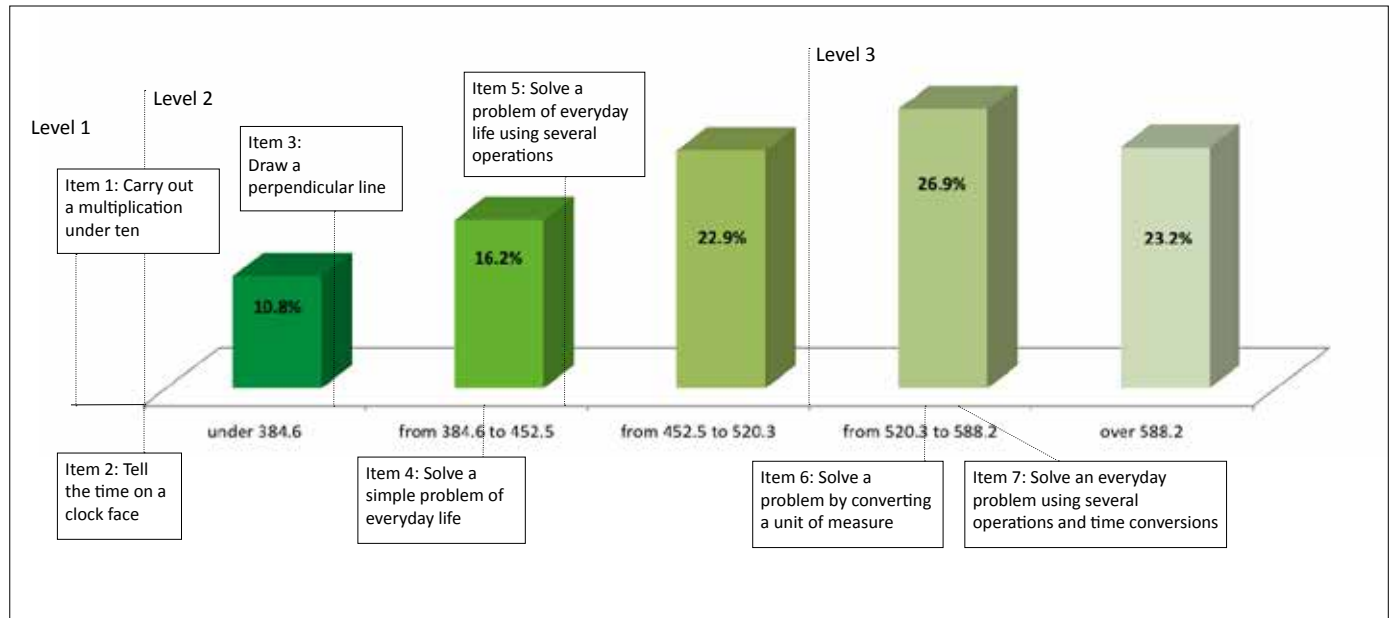
Chapter 4:

Analysis of the disparities in pupil performance in Vietnam

The purpose of this chapter is to highlight the principal disparities in school performance observed during the diagnostic assessment of the Vietnamese education system.

The scores for the Vietnam assessment have been standardised separately for the 2nd grade cohort and for the 5th grade cohort. The average score, per level of study and per subject, has been standardised at national level with a mean of 500 and a standard deviation of 100.

1.   Disparities related to pupil gender

The sample included 51.2 % of girls in 2nd grade and 51.7 % in 5th grade.

The comparison of averages, in the language of instruction tests, indicates that girls outperform boys[25], whatever the level of study.

In mathematics, while the same trends are observed, the performance gaps between girls and boys are smaller in 5th grade. The differences in performance in mathematics are significant (at 0.01 and 0.05 respectively) for the 2nd grade pretest and post-test, whereas this is not the case for the 5th grade pretest and post-test.

These observations support the results of several international studies demonstrating that, in primary school, the performance of girls in mathematics is at least equal to that of boys, even though they are under-represented in scientific branches. In language, girls outperform boys, calling into question the pedagogical practices in this subject[26].

The table on the following page shows pupil performance according to gender and the year of study:

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25   This result is significant at 1 %.

26   Francesca Borgonovi and Maciej Kakubowski (2011). "What can we learn about the gender gap from PISA?", IIEP-UNESCO Policy forum on gender equality in education.

Table 20: Average pupil performance according to gender

Pupil gender	Pupils' scores			
	2nd grade		5th grade	
	Pretest	Post-test	Pretest	Post-test
Vietnamese				
Girls	516.7	505.6	512.2	515.7
Boys	494.5	482.0	483.4	486.8
Gap in favour of girls	**+22.2***	**+23.6***	**+28.8***	**+28.9***
Mathematics				
Girls	514.3	500.7	489.5	518.3
Boys	496.5	487.5	481.1	510.8
Gap in favour of girls	**+17.8***	**+13.2****	**+8.4**	**+7.5**

* The gaps are significant at 1 %; ** The gaps are significant at 5 %.

2.   Pupil performance according to school location

Economic activity is concentrated in urban areas. The analyses carried out by PASEC over more than twenty years have shown that pupils from urban areas generally perform better than those from rural areas. The same situation is observed in Vietnam.

In the language of instruction, in 5th grade, pupils living in urban areas clearly perform better than pupils in rural areas. Indeed, the gap of 41.4 points in favour of pupils living in urban areas is significant at the threshold of 0.01. On the other hand, in mathematics in 5th grade and in both subjects in 2nd grade, performance was not found to be statistically different between urban and rural areas.

Figure 5: Average pupil performance in Vietnamese according to school location
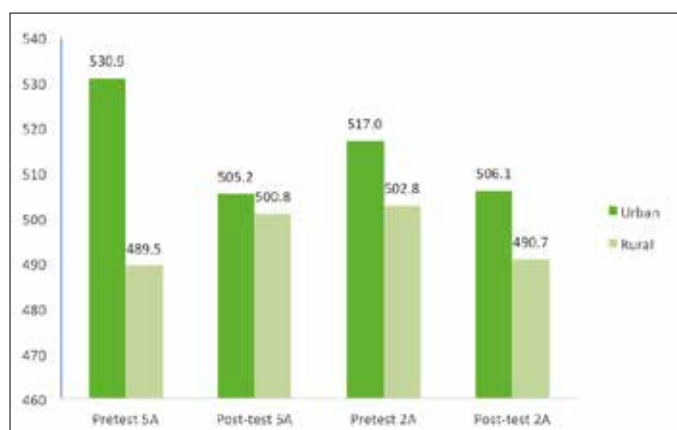
Figure 6: Average pupil performance in mathematics according to school location
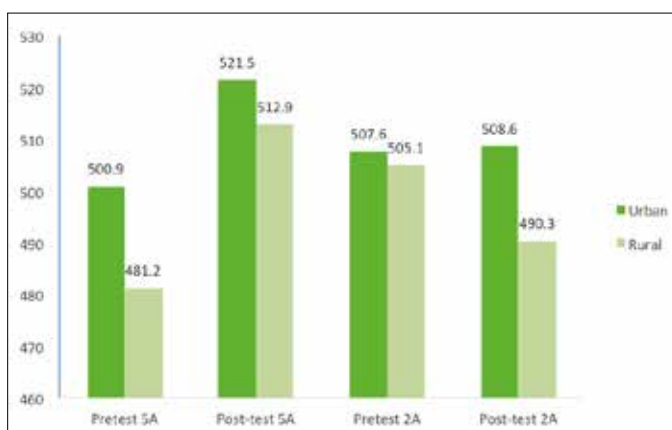
3.   Regional disparities

The diagnostic assessment of the Vietnamese education system was carried out on the basis of a six-strata sample. The strata are groups of geographical areas: urban North (6 % of the sample) and rural North (28 %), urban Centre (5 %) and rural Centre (22 %), urban South (13 %) and rural South (25 %).

For the purposes of comparing school achievements, no distinction was made between urban and rural areas when considering the three areas (North, Centre and South). The comparative analyses were made by taking the North as a "reference", i.e. the other two areas were compared to this reference.

In Vietnamese, a significant difference[27] between the performance of pupils from the different geographical areas was only observed in the 2nd grade pretest. Indeed, for this test, pupils from the North (525.3 points) performed much better than pupils from the Centre (491.3 points) and the South (493.3 points). For the 2nd grade post-test in Vietnamese, while the score in the North appeared higher than in the Centre and the South, the difference was not statistically significant. As for the 5th grade tests in Vietnamese, the Centre seemed to show the highest scores, but again the difference with the scores in the other two areas was not significant.

The same trends were observed in school performance in mathematics according to the geographical areas.

Table 21: Average pupil performance according to school location

Geographical area	Pupils' scores			
	2nd grade		5th grade	
	Pretest	Post-test	Pretest	Post-test
Vietnamese				
North (reference area)	525.3	503.3	497.1	494.6
Centre	491.3	480.6	511.2	509.3
South	493.3	493.7	488.7	504.7
Mathematics				
North (reference area)	509.4	500.8	493.6	508.1
Centre	498.3	480.6	493.3	527.9
South	507.0	497.5	468.0	511.9

4.   Pupil performance according to household socioeconomic status

The socioeconomic status of the household where the pupils surveyed live was determined by a multiple correspondence analysis (MCA)[28], carried out on variables representing household possessions. This is the movable and immovable property described in Chapter 5.

MCA singles out a standard of living indicator with its lowest values for the least affluent households and its highest values for the wealthiest families in the sample. The indicator does not state that a household is rich or poor in absolute value; it constitutes a relative indicator making it possible to organise the standard of living of the pupils surveyed. Following the calculation of this indicator, the pupils were separated into four groups using the hierarchical linear method of classification. The groups were built in such a way as to have low internal variance and high variance between groups.

Figures 7 and 8 demonstrate that in 5th grade and in both subjects, pupil performance improves along with family socioeconomic status. The level of performance of pupils from privileged (SEC 3), middle (SEC 2) and less privileged (SEC 1) socioeconomic categories is distinctly below that of pupils from the most privileged (SEC 4) families. These gaps are all significant at the threshold of 0.01.

In 2nd grade, the same trends are observed, whatever the subject. Figures 9 and 10 show that pupils from the most privileged families perform much better than those from the least affluent families.

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27   At the threshold of 0.05.

28   Multiple correspondence analysis is a statistical procedure enabling a set of variables to be summarised in one or several dimensions. In the framework of this analysis, the first factor was selected as the synthetic indicator of the household's socioeconomic status. The indicator calculated here was obtained by a linear combination of possessions whose weight was determined by the method.

Figure 7: Average 5th grade pupil performance in Vietnamese according to socioeconomic category
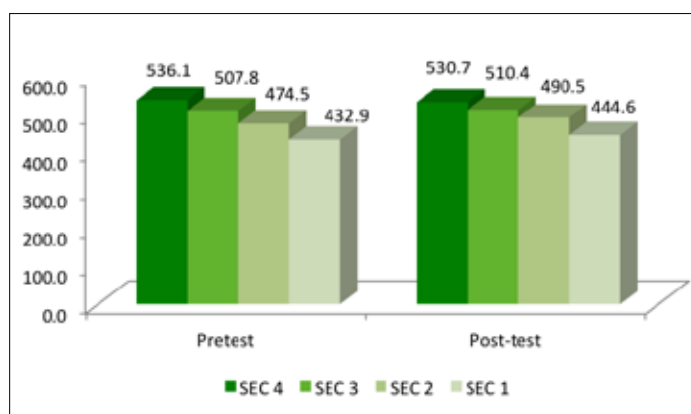
Figure 8: Average 5th grade pupil performance in mathematics according to socioeconomic cateogory
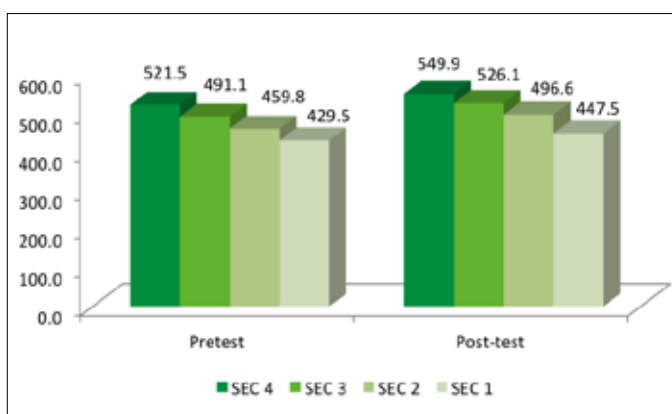
Figure 9: Average 2nd grade pupil performance in Vietnamese according to socioeconomic category
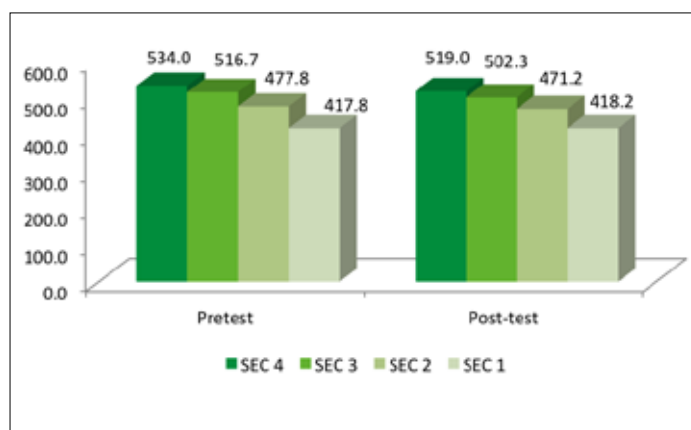
Figure 10: Average 2nd grade pupil performance in mathematics according to socioeconomic category
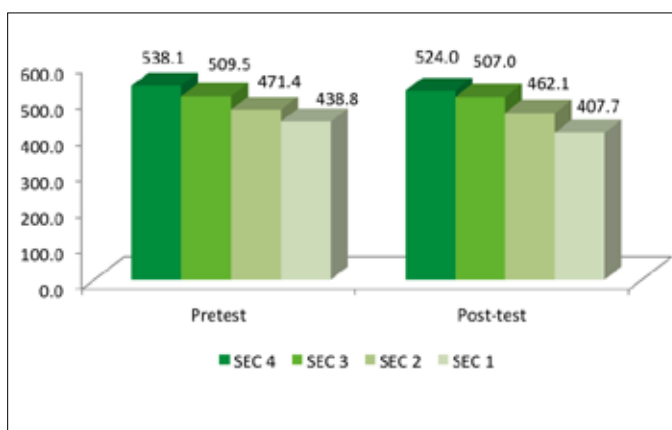
5.   Pupil performance according to teacher and head teacher gender

Based on the data collected during the diagnostic assessment, 74.8 % of 5th grade pupils have a female teacher. In 2nd grade, there is a vast majority of female teachers, since 92.2 % of pupils have a female teacher. The comparative analysis of school performance indicates that pupils in classes with female teachers may perform better than those with male teachers. The performance gaps observed, whatever the subject and the level of study, are statistically significant with the exception of the one in the 5th grade post-test in mathematics.

Table 22: Average pupil performance according to teacher and head teacher gender

Gender of teacher and of head teacher	Pupils' scores			
	2nd grade		5th grade	
	Pretest	Post-test	Pretest	Post-test
Vietnamese				
Teacher is a woman	512.0	498.1	506.9	508.7
Teacher is a man	432.9	447.2	472.7	481.3
Head teacher is a woman	531.1	506.3	513.7	516.9
Head teacher is a man	475.3	479.2	481.2	485.1
Mathematics				
Teacher is a woman	510.0	497.4	493.3	519.4
Teacher is a man	453.4	458.2	461.9	500.6
Head teacher is a woman	520.6	498.5	502.9	531.6
Head teacher is a man	487.5	489.2	466.0	496.0

The results also indicate that pupils attending schools managed by women achieve better results than those in schools with a male head teacher. This result is valid for both subjects and for all levels of study, with the exception of the 2nd grade post-test in mathematics, where the gap (9.3 points) is not significant.

6. Pupil performance according to the teacher's and the head teacher's training

In 2nd and 5th grades, around 48 % of pupils have teachers with a baccalaureate + 3 degree completed by degree-level vocational training (baccalaureate + 4).

As for school management, 79 % of the school heads declared having at least a master's degree (2 % a doctorate).

In 5th grade, no statistically significant (linear) relationship was identified between the teachers' level of training and pupil performance. However, in 2nd grade, pupils with teachers holding a vocational degree (the highest vocational diploma) performed better[29] in the language of instruction (post-test) than those with teachers holding a vocational diploma below degree level.

The results also show that when the head teacher has at least a master's degree (academic education), this is positively associated with high 2nd grade pupil performance in the language of instruction[30]. Moreover, pupils attending a school where the head teacher has the highest vocational diploma (degree) have much better results[31] in the language of instruction than those attending a school whose head teacher holds a diploma below vocational degree level.

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29   Significant at 0.10.
30   Significant at 0.05.
31   Significant at 0.10 for 5th grade pupils and at 0.05 for 2nd grade pupils.

Table 23: Average pupil performance according to teacher's training

Teacher's training		Pupils' scores			
		2nd grade		5th grade	
		Pretest	Post-test	Pretest	Post-test
Vietnamese					
Holds a degree	Yes	520.6	504.0	505.6	504.8
	No	492.8	485.3	491.4	499.0
Holds a vocational degree*	Yes	521.2	504.6	503.3	508.1
	No	492.0	484.6	493.2	495.5
Mathematics					
Holds a degree	Yes	513.4	499.2	488.7	519.0
	No	498.8	489.9	482.4	510.7
Holds a vocational degree*	Yes	513.8	500.0	488.4	523.4
	No	498.3	489.1	482.5	506.1

* The vocational degree is the equivalent of baccalaureate + 4.

Table 24: Average pupil performance according to head teacher's training

Head teacher's training		Pupils' scores			
		2nd grade		5th grade	
		Pretest	Post-test	Pretest	Post-test
Vietnamese					
Holds at least a master's degree	Yes	511.4	500.2	511.8	508.8
	No	483.2	469.1	453.5	478.6
Holds a vocational degree*	Yes	510.9	500.2	512.7	509.4
	No	486.1	470.4	453.0	478.0
Mathematics					
Holds at least a master's degree	Yes	509.3	499.2	495.9	522.8
	No	490.4	474.0	450.6	488.0
Holds a vocational degree*	Yes	509.6	499.3	496.3	523.5
	No	490.4	474.9	451.2	487.2

* The vocational degree is the equivalent of baccalaureate + 4.

Chapter 5:

Factors of the quality of primary education in Vietnam

The previous chapters defined the overall parameters of the assessment, the sampling procedures, the conditions of data collection and the method of analysis used by PASEC for the diagnostic assessment in Vietnam. Pupils' results according to different characteristics (gender and pupil's environment, household socioeconomic status, etc.) have also been presented. This chapter aims at providing some descriptive elements of learning conditions placing the accent on factors related to pupil performance.

PASEC's approach to diagnostic assessments is essentially inspired by the work of Lockheed and Verspoor (1990)[32] on the one hand and by that of Mingat and Jarousse (1993)[33] on the other. Their work demonstrated that schooling conditions and school environment characteristics are connected to school results. The selected approach thus relates the variety of organisational and material conditions of schooling to pupil achievements.

Several reports resulting from the programme for international student assessment (PISA) demonstrate that pupils from privileged backgrounds tend to perform better than those from less well-off backgrounds.

Throughout this chapter, two major families of variables are taken into consideration: in-school variables and out-of-school variables. In-school variables characterise the pupil's environment at school. They include equipment available in the classroom (school desks/chairs, board, cupboard, desk and chair for the teacher, etc.), the level of academic and vocational training of the teacher, school management, etc. Out-of-school variables are related to some of the pupil's individual or family characteristics. They can, for example, include the level of equipment in the family, the pupil's participation in out-of-school duties and parent literacy.

PASEC used a multilevel sample for the assessment in Vietnam (the schools were drawn first, then the classes and finally the pupils). When analysing data resulting from this type of sampling, it is customary to use multilevel models in order to overcome the inadequacies of the classical linear regression models (non-independence of errors leading to the under-estimation of coefficient standard errors). However, as PASEC only surveys pupils in a single class for a given level of education, the effects imputable to the "class" factor cannot be differentiated from those imputable to the "school" factor. The modeling in this chapter will therefore only consider two levels: the overall "school/class" level and the "pupil" level.

This chapter is in four parts as follows: (i) Differences in performance between pupils and between schools; (ii) Household socioeconomic status and school performance; (iii) Factors of educational quality and school performance; (iv) Some descriptive statistics related to partnerships.

32   Lockheed, M. E. and Verspoor, A. M. (1990). *Improving Primary Education in Developing Countries: A Review of Policy Options*, Washington D.C., World Bank.

33   Jarousse, J. P. and Mingat, A. (1993). *Les disparités d'acquisitions scolaires en CE2: caractéristiques individuelles, contexte scolaire et social de scolarisation, effets d'école et de circonscription.* Report to the Evaluation and long-term planning department, Ministry of National Education, France.

1. Differences in performance between pupils and between schools

The analysis of variance enables the variability in average performance to be split according to the levels envisaged by the analysis. It therefore enables determination of the percentage of variance observed between schools and between classes, and within classes. This breakdown of the variance can be made through multilevel models.

The assessment of school achievements in Vietnamese primary education indicates that 47.5%[34] of total skills variance in Vietnamese in 2nd grade is observed between schools or classes, compared to 52.5 % between pupils within classes. In mathematics, these proportions are estimated at 39.9 % for variance at "school/class" level and 60.1 % at "pupil" level.

In 5th grade, the opposite trend was observed with 62.5 % of total skills variance in Vietnamese between schools or classes and 37.5 % between pupils, whilst in mathematics, these proportions were respectively 70.7 % and 29.3 %.

These figures indicate that average performance is relatively variable from one class to another at the beginning of primary education and very variable at the end. A pupil's chances of sucess are therefore not the same depending on the school attended.

The high proportion of total variance explained by the variance at "school/class" level led to the implementation of hierarchical econometric modeling techniques[35] in order to connect these contextual variables to pupil performance.

The breakdown of the variance in scores is presented in the following table:

Table 25: Breakdown of variance in scores

Level	Subject		Variance in scores between pupils
2nd grade	Vietnamese	52.5 %	47.5 %
	Mathematics	60.1 %	39.9 %
5th grade	Vietnamese	37.5 %	62.5 %
	Mathematics	29.3 %	70.7 %

2. Household socioeconomic status and pupil performance

Boudon (1973) and Bisseret (1974) maintain that the degree of economic power influences the learner's attitudes towards school. They claim that the pupil's position in the economic system grants, or does not grant, him/her possession of "having" or "knowing". This possession authorises the pupil to make distant projects with precise plans for carrying them out, whereas the absence of possession limits the pupil to short term projects and uncertain achievement of same. This concept explains that learners from disadvantaged socioeconomic backgrounds do not succeed as well as those from well-to-do backgrounds who can more easily think forward into the future.

PASEC apprehended the pupils' socioeconomic status through an index of household possessions[36]. These are distributed in five categories: housing conditions (type of housing and comfort), equipment (airconditioning, refrigerator, cooker, etc.), means of communication and information and communication technology (telephone, television, radio, computer), means of transport (car, moped, pirogue) and educational and cultural belongings (books).

Looking at the proportions of households with belongings that are included in the standard of living indicator, over 94 % of pupils are seen to have electricity and television at home, over 91 % are from families who have a telephone, over 87 % have books, over 87 % have a moped and over 72 % are connected to a water supply and have a cooker.

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34   This figure corresponds to the intraclass correlation coefficient, which indicates to what extent the performance of pupils in a same class is similar. If the coefficient is very high, it is preferable to survey more schools in the sample rather than pupils in the classes for a given sample size. If, on the contrary, the coefficient is very low, it is preferable to survey more pupils in the classes while keeping a reasonable number of schools, which constitute the initial units in the draw.

35   See Chapter 2 for the presentation of the hierarchical linear models.

36   Multiple correspondence analysis was used to combine all these factors in a synthetic socioeconomic indicator with a Cronbach's alpha of 0.73 in 2nd grade and 0.75 in 5th grade.

Table 26: Some elements of comfort and belongings of the pupils' households

Variables	2nd grade		5th grade	
	Proportion	Standard error	Proportion	Standard error
The home is a permanent structure	76.0 %	0.8	76.1 %	0.8
There is a well at home	69.5 %	0.9	65.9 %	0.9
There is access to running water at home	73.5 %	0.9	74.9 %	0.8
There is a toilet with running water in the home	61.8 %	0.9	64.5 %	0.9
There is a pit toilet in the home	55.5 %	1.0	57.5 %	1.0
The home has electricity	94.7 %	0.4	97.0 %	0.3
The home has a gas lamp	0.7 %	0.2	1.4 %	0.2
There is a radio in the home	21.9 %	0.8	23.7 %	0.8
There is a television in the home	94.3 %	0.4	95.3 %	0.4
The home has a telephone	91.8 %	0.5	93.1 %	0.5
There is a refrigerator in the home	47.9 %	1.0	50.2 %	1.0
There is a sewing machine in the home	15.8 %	0.7	16.7 %	0.7
There is a cooker or a gas stove in the home	72.8 %	0.9	74.8 %	0.8
There is a video player in the home	58.6 %	0.9	67.4 %	0.9
There is a computer in the home	23.6 %	0.8	26.0 %	0.8
There are books in the home	87.7 %	0.6	92.0 %	0.5
The household has a bicycle	73.4 %	0.9	82.5 %	0.7
The household has a moped / a motorcycle	87.9 %	0.6	87.3 %	0.6
The household has a car	6.1 %	0.5	6.4 %	0.5

According to the results of the econometric models, **pupils from the most privileged families perform better than those from the least privileged families within a given school, and the difference is statistically significant whatever the level of study and the subject.** The results are looked at in detail in the table below and the graphs that follow present the relationship between socioeconomic status and pupils' school performance for a number of schools in the sample[37].

Table 27: Relationship between socioeconomic status and pupils' school performance

	Regression coefficients	
	2nd grade	5th grade
Vietnamese		
Pupil's socioeconomic index	19.91* (2.74)	14.38* (2.24)
Constant (of the model)	491.49* (4.90)	502.68* (6.15)
Mathematics		
Pupil's socioeconomic index	18.06* (2.93)	13.92* (2.00)
Constant (of the model)	489.80* (6.02)	513.47* (7.55)

* Indicates that the coefficient significance is 0.1.

37   These schools are designated randomly by the software (HLM6).

Box 2: Key to reading Figures 11 and 12

The graphs below represent the relationship between pupils' socioeconomic indexes and their school performance for some schools.

In each graph:

- – Pupil performance is represented on the y-axis.
- – Pupils' socioeconomic indicators are represented on the x-axis.
- – Each straight line on the graph represents the linear regression of pupil performance on the socioeconomic index of pupils attending a given school. Each straight line thus represents a school from the sample.

The steeper the slope of the regression line, the stronger the relationship between socioeconomic indexes and the performance of pupils in the school that is represented. The school is in that case inequitable from the socioeconomic point of view.

Figure 11: Relationship between socioeconomic status and pupil performance in 2nd grade for some schools
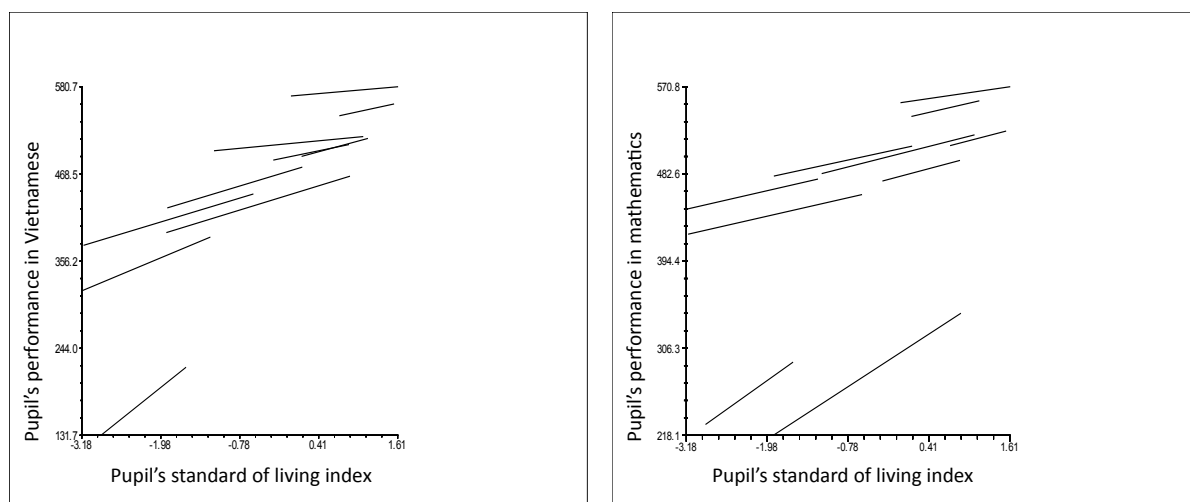
Figure 12: Relationship between socioeconomic status and pupil performance in 5th grade for some schools
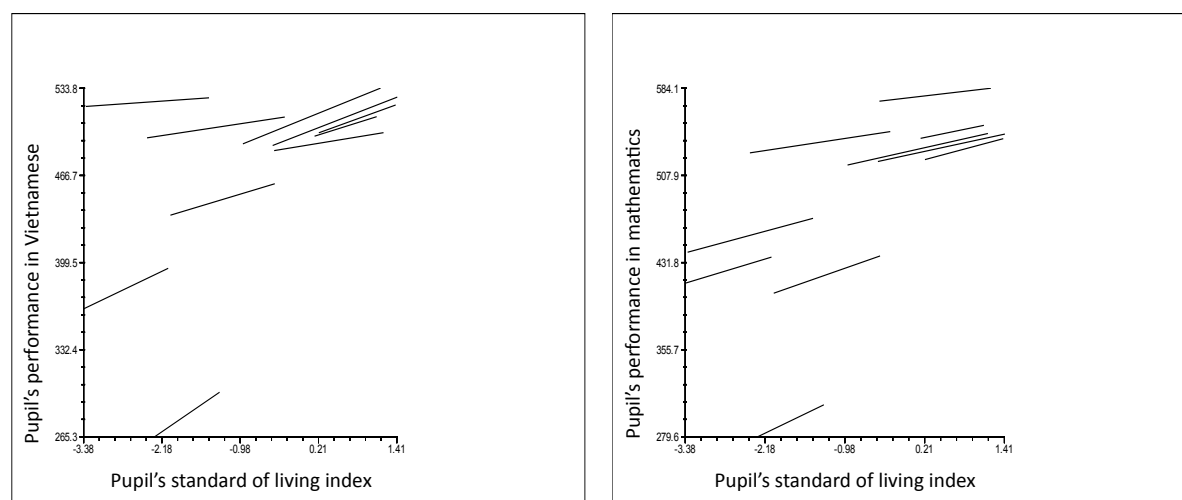
These graphs show that the relationship between the socioeconomic levels of pupils and their school performance varies more or less from one school to another. They confirm the trends observed in hierarchical linear modeling. In 2nd grade, the slopes of the linear regression lines of pupil performance are steeper than those of the regression lines for 5th grade pupils.

In addition, the most effective schools also tend to be the most equitable. Indeed, a negative correlation (-0.630 in Vietnamese and -0.542 in mathematics in 2nd grade; -0.517 in Vietnamese and -0.724 in mathematics in 5th grade) is noted between the average performance for the schools and the effect of the standard of living on performance, which indicates a correlation between performance and equity within the school.

3.   Factors of educational quality and pupil performance

The following models have been constructed progressively, by the addition of blocks of variables[38]:

–   Model 1: the first group of variables measures the pupil's individual characteristics and the characteristics of his/her family;

–   Model 2: the second group of variables looks at the individual characteristics of the teacher as well as the characteristics of the class;

–   Model 3: the third group of variables evaluates the individual data of the school head as well as the characteristics of the school;

–   Model 4: the fourth block of variables is represented by the pupil's score at the beginning of the year as measured by PASEC.

Due to the fact that the analysis conducted according to the item response theory (see Chapter 2) showed a negative added value between the 2nd grade pretests and post-tests in Vietnamese and in mathematics, model 4 was only built for 5th grade.

The different modeling results are presented in the following tables and in sections 3.1 to 3.4.

Box 3: Key to reading Tables 28 to 31

In the tables of modeling results showing the regression coefficients of the variables with the measured pupil's skill (score), the coefficient related to a given variable represents the expected increase in the pupil's score, associated with the increase by one unit or with the change in the condition of this variable.

In addition, a level of significance is associated with each coefficient. A non-significant coefficient will not be mentioned in the results but will rather be replaced by the indication "ns". For significant coefficients, asterisks are used on the following principle: * for 0.10, ** for 0.05 and *** for 0.01.

Standard errors associated with coefficient estimations are given in brackets for each coefficient.

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38   Model 1 corresponds to the first block, model 2 to blocks 1 and 2, model 3 to blocks 1, 2 and 3 and model 4 to blocks 1, 2, 3 and 4.

Table 28: Regression model of pupils' score in Vietnamese in 2nd grade

	Pupil factor	Pupil & teacher factor	Pupil, teacher & head teacher factor
Pupil is a girl	21.56*** (3.71)	21.44*** (3.74)	21.37*** (3.74)
Pupil has help from parents for homework	ns	ns	ns
Standard of living of pupil's household	21.48*** (2.87)	19.32*** (2.87)	18.15*** (2.88)
Pupil participates in at least one extra-curricular task (home, fields, small-scale trade)	7.37* (4.52)	7.50* (4.54)	7.61* (4.63)
Teacher only speaks Vietnamese in everyday life		23.04** (10.44)	21.21** (10.59)
Teacher has been trained in the skills-based approach		21.87** (9.73)	20.70** (9.91)
Teacher receives regular bonuses		ns	ns
Teacher receives advice from the school head for preparation of a model lesson or for work organisation		ns	ns
Class is half-time		-16.58* (9.36)	ns
Number of days teacher is absent		-0.82* (0.48)	-0.76* (0.40)
Teacher would like to change schools		-40.95*** (11.60)	-26.82*** (10.81)
Head teacher is a woman			17.98** (8.85)
Seniority of head teacher in the job			0.90** (0.44)
Head teacher has been assessed by an inspector or a pedagogical advisor			ns
Some parents help the school on a material level			ns
School is located in a rural area			ns
Head teacher is part of a social or village association or organisation			ns
Head teacher would like to change schools			ns
Level of school equipment			21.36*** (4.33)
Constant	469.69*** (6.82)	449.59*** (17.91)	414.47*** (22.48)

Table 29: Regression model of pupils' score in mathematics in 2nd grade

	Pupil factor	Pupil & teacher factor	Pupil, teacher & head teacher factor
Pupil is a girl	16.28*** (3.99)	16.28*** (3.99)	16.14*** (3.99)
Pupil has help from parents for homework	ns	ns	ns
Standard of living of pupil's household	18.89*** (2.99)	16.80*** (3.14)	14.81*** (3.13)
Pupil participates in at least one extra-curricular task (home, fields, small-scale trade)	ns	ns	ns
Teacher has a vocational diploma higher than baccalaureate + 3		ns	ns
Teacher only speaks Vietnamese in everyday life		22.88** (10.76)	23.47*** (9.45)
Teacher has been trained in the skills-based approach		30.44*** (10.67)	32.23*** (8.88)
Teacher receives regular bonuses		35.60*** (12.64)	30.88*** (11.03)
Teacher receives advice from the school head for preparation of a model lesson or for work organisation		ns	-14.91* (8.84)
Number of days teacher is absent		ns	ns
Head teacher is a woman			ns
Head teacher has a vocational diploma higher than baccalaureate + 3			ns
Head teacher has been assessed by an inspector or a pedagogical advisor			ns
Some parents help the school on a material level			-35.41*** (12.82)
School is located in a rural area			ns
Head teacher is part of a social or village association or organisation			20.04** (9.79)
Level of school equipment			21.83*** (4.59)
Constant	473.45*** (6.19)	419.14*** (15.50)	425.33*** (18.62)

Table 30: Regression model of pupils' score in Vietnamese in 5th grade

	Pupil factor	Pupil & teacher factor	Pupil, teacher & head teacher factor	All factors + score at beginning of year
Pupil is a girl	29.73*** (2.80)	28.96*** (2.71)	28.93*** (2.71)	15.59*** (2.19)
Pupil has help from parents for homework	ns	ns	ns	ns
Standard of living of pupil's household	14.03*** (2.32)	15.76*** (2.19)	15.39*** (2.20)	7.16*** (1.74)
Pupil participates in at least one extra-curricular task (home, fields, small-scale trade)	ns	ns	ns	ns
Teacher is a woman		ns	ns	ns
Seniority of teacher		ns	-1.15* (0.66)	-1.18* (0.67)
Teacher only speaks Vietnamese in everyday life		37.64*** (10.68)	39.47*** (10.38)	42.11*** (10.45)
Teacher has been trained in the skills-based approach		18.36* (11.07)	20.81** (10.48)	21.07** (10.59)
Teacher does not always use the Vietnamese reading and mathematics guide or textbook		28.59*** (10.03)	25.63*** (9.52)	25.56*** (9.67)
Teacher receives advice from the school head for preparation of a model lesson or for work organisation		ns	ns	ns
Class size		ns	ns	ns
Class is half time		-19.69** (9.51)	ns	ns
Level of classroom equipment		ns	ns	ns
Number of days teacher is absent		ns	ns	ns
Head teacher is a woman			17.08* (9.69)	17.90* (9.85)
Seniority of head teacher on the job			ns	ns
School has benefited from equipment allocation or construction of classrooms in the framework of partnerships			ns	ns
School is located in a rural area			19.43* (10.96)	ns
Level of school equipment			14.525*** (4.94)	15.64*** (4.61)
Score in Vietnamese at the beginning of the year				0.47*** (0.02)
Constant	491.01*** (8.03)	435.45*** (27.50)	392.84*** (32.09)	389.88*** (32.32)

Table 31: Regression model of pupils' score in mathematics in 5th grade

	Pupil factor	Pupil & teacher factor	Pupil, teacher & head teacher factor	All factors + score at beginning of year
Pupil is a girl	9.72*** (2.70)	6.96*** (2.61)	6.93*** (2.61)	3.84* (2.17)
Pupil has help from parents for homework	ns	ns	ns	ns
Standard of living of pupil's household	13.48*** (2.00)	14.89*** (2.05)	14.48*** (2.08)	7.24*** (1.67)
Pupil participates in at least one extra-curricular task (home, fields, small-scale trade)	ns	ns	ns	ns
Teacher is a woman		ns	ns	ns
Seniority of teacher		ns	-1.33* (0.74)	-1.33* (0.75)
Teacher only speaks Vietnamese in everyday life		46.01*** (12.55)	47.49*** (12.12)	50.00*** (12.24)
Teacher has been trained in the skills-based approach		ns	20.05* (11.10)	20.82* (11.23)
Teacher does not always use the Vietnamese reading and mathematics guide or textbook		19.55* (10.94)	ns	ns
Teacher receives advice from the school head for preparation of a model lesson or for work organisation		29.75** (12.08)	31.44*** (11.82)	30.71** (11.99)
Class is half time		-22.11* (11.31)	ns	ns
Level of classroom equipment		15.46*** (5.60)	12.28** (4.93)	13.24*** (5.09)
Number of days teacher is absent		-0.89** (0.44)	-0.93* (0.48)	-0.99** (0.49)
Head teacher is a woman			22.27* (11.56)	23.41** (11.72)
Seniority of head teacher on the job			ns	ns
School has benefited from equipment allocation or construction of classrooms in the framework of partnerships			ns	ns
School is in a rural area			ns	ns
Level of school equipment			14.65*** (5.62)	17.64*** (5.70)
Score in mathematics at the beginning of the year				0.53*** (0.03)
Constant	510.89*** (8.94)	460.57*** (21.72)	411.91*** (25.75)	413.56*** (25.80)

3.1 Individual pupil characteristics

Pupil gender

Girls represent 51 % of the sample in 2nd grade and 52 % in 5th grade. In 2010, the primary school enrolment rate was 91 % for girls and 96 % for boys.

Analysis of this factor shows that girls outperform boys in 2nd and 5th grades in both subjects. However, the two groups demonstrated the same progression in the course of the school year, particularly in 5th grade. The performance gap between girls and boys widened in Vietnamese between the beginning and the end of primary education, whereas it decreased by half in mathematics.

Pupil age

On average, sample pupils were 7 years old in 2nd grade and 10 years old in 5th grade. This is in accordance with the official entrance age for each class.

The table hereunder gives the percentage of girls and the average age of pupils in 2nd and 5th grades.

Table 32: Statistics on different variables related to pupil's individual characteristics

	2nd grade		5th grade	
	Average/proportion	Standard error	Average/proportion	Standard error
Pupil is a girl	51.2 %	1.0	52.0 %	1.0
Pupil age	7.125	0.009	10.193	0.011

Socioeconomic status of pupil's family

The analysis of the pupils' socioeconomic status from the different models presented above is carried out under the control of other factors (in-school and out-of-school variables) in order to observe its effect on pupil performance in the presence of these variables.

In 2nd and 5th grades, and under the control of other factors, pupils from the most privileged families perform better in the language of instruction and in mathematics within a class than those from the least well-off families.

The education system does not yet manage to do away with inequalities in achievement connected to the pupils' socioeconomic status in the course of primary education.

3.2 Pupil's out-of-school environment

Extra-curricular tasks

The extra-curricular tasks taken into account in this assessment are housework, work in the fields and small-scale trade.

According to the PASEC study, the percentage of pupils participating in extra-curricular tasks rises as they move up the primary education system. Around 6 % of pupils are involved in small-scale trade and 13 % participate in housework in 2nd grade, while these percentages rise to 9 % and 22 % respectively in 5th grade. Pupils work more in the fields in 5th grade (76 %) than in 2nd grade (58 %). Boys are called upon for work in the fields and small-scale trade more than girls, whereas more of the latter participate in housework.

2nd grade pupils who have extra-curricular duties proved to perform better in Vietnamese. The study shows no correlation between extra-curricular tasks and pupil performance in mathematics in 2nd grade. Similarly, it shows no correlation between extra-curricular duties and pupil performance in the two subjects in 5th grade.

Help with homework

91 % of 2nd grade pupils in the sample and 79 % of 5th grade pupils receive help with their homework at home. Most of the time, help is provided by parents (70 % in 2nd grade and 50 % in 5th grade) and by brothers and sisters (33 % in 2nd grade and 34 % in 5th grade).

No correlation was found between help with homework and pupils' results in Vietnamese and in mathematics, whether in 2nd or 5th grade.

Table 33: Statistics on different variables related to pupil's out-of-school environment

	2nd grade		5th grade	
	Average/proportion	Standard error	Average/proportion	Standard error
Pupil works in the fields	58.4 %	1.0	76.2 %	0.8
Pupil does housework	13.2 %	0.7	21.6 %	0.8
Pupil works in small-scale trade	6.0 %	0.5	9.0 %	0.6
Pupil has help from parents with homework	69.5 %	0.9	50.4 %	1.0
Pupil has help from brothers and sisters with homework	32.6 %	0.9	33.9 %	0.9
Pupil has help from teacher with homework	2.5 %	0.3	4.1 %	0.4
Pupil has help from tutor with homework	0.5 %	0.1	1.8 %	0.3
Pupil has help from someone else with homework	2.8 %	0.3	2.8 %	0.3

3.3 Characteristics of the teacher and of the class

Individual characteristics of the teacher

Over 80 % of 2nd and 5th grade pupils have teachers with a vocational diploma equivalent to a baccalaureate + 3, almost half have teachers with a diploma higher than a degree[39] and 65 % have teachers who have been trained in the skills-based approach.

Table 34: Percentage of teachers holding at least a vocational diploma requiring 3 years of training after the baccalaureate (bac + 3) according to school location

	2nd grade	5th grade
Rural area	81 %	79 %
Urban area	89 %	96 %

The best-trained teachers are allocated first and foremost to urban areas.

A majority of pupils have female teachers in both 2nd and 5th grades (92 % and 75 % respectively). In both levels of education, teachers are aged around 40 on average and have an average experience of 18 years. 66 % of 2nd and 5th grade pupils have teachers who always speak Vietnamese in everyday life[40].

On account of the massive coverage by teachers with at least bac + 3, it was not possible at this stage to make a statistical analysis of the relationship between pupil performance and the level of training of the teachers.

Moreover, it was not possible to identify a correlation between the teachers' professional diploma (bac + 4) and pupil learning in 2nd and 5th grades, and under control[41] of the other factors such as socioeconomic status, help with homework, teacher trained in the skills-based approach, school location, etc. However, the analyses carried out in Chapter 4 (gross effects)

showed a positive correlation between the "bac + 4" diploma and school performance in Vietnamese in 2nd grade. So, it might be asked if other factors, mentioned previously, could have diminished the effect of teacher training. It would be important to make more in-depth analyses taking into account sufficient factors related to teacher training (content of training, teacher motivation, …)[42] in order to understand the possible relationships with pupil learning.

Training in the skills-based approach is positively associated with 2nd and 5th grade pupil progression both in Vietnamese and in mathematics.

In addition, a negative correlation is observed between teacher seniority and pupil performance in 5th grade in both subjects. No correlation is observed in 2nd grade.

Finally, the study revealed no correlation between teacher gender and pupil performance in 5th grade[43].

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39   "Bac + 3" academic diploma in Vietnam.

40   This does not reflect the country's demographic makeup since the Viet ethnic group represents 86 % of the population.

41   All other things being equal.

42   This information was not collected in the framework of this study.

43   In 2nd grade, the teacher gender factor was not taken into consideration in modeling due to the fact that women represent 92 % of staff.

Table 35: Statistics on teacher's individual characteristics and training

	2nd grade		5th grade	
	Average/proportion	Standard error	Average/proportion	Standard error
Teacher is a woman	92.2 %	0.5	74.8 %	0.8
Age of teacher	40.2	0.1	39.8	0.1
Seniority of teacher	17.5	0.2	18.3	0.1
Teacher always speaks Vietnamese in everyday life	66.4 %	0.9	66.1 %	0.9
Teacher has trained beyond a degree	48.8 %	1.0	48.0 %	1.0
Teachear has a vocational diploma higher than bac + 3	50.2 %	1.0	49.8 %	1.0
Teacher has been trained in the skills-based approach	66.1 %	0.9	64.6 %	0.9

Equipment in the classroom and teaching practices

Over 99 % of 2nd and 5th grade pupils in the survey study in classrooms built of permanent or solid materials. Only 52 % of 2nd grade pupils, but 90 % of 5th grade pupils, attend classes equipped with basic didactical material[44].

Moreover, 39 % of 2nd grade pupils and 31 % of 5th grade pupils have teachers who always use the Vietnamese guide. 38 % of 2nd grade pupils and 32 % of 5th grade pupils have teachers who always use the mathematics guide.

The study revealed that the level of classroom equipment benefits learning in 5th grade and only in mathematics. It did not reveal anything significant for 2nd grade.

Table 36: Statistics on classroom equipment and teaching practices

	2nd grade		5th grade	
	Proportion	Standard error	Proportion	Standard error
Classroom is a permanent structure	99.3 %	0.2	99.1 %	0.2
Classroom has electricity	98.3 %	0.3	98.4 %	0.2
There is a desk for the teacher in the classroom	100.0 %	0.0	100.0 %	0.0
There is a chair for the teacher in the classroom	100.0 %	0.0	100.0 %	0.0
There is a cupboard in the classroom	81.1 %	0.8	81.1 %	0.8
There is a board in the classroom	98.9 %	0.2	100.0 %	0.0
There is chalk in the classroom	100.0 %	0.0	100.0 %	0.0
There is a ruler in the classroom	98.1 %	0.3	95.9 %	0.4
There is a setsquare in the classroom	64.8 %	0.9	90.7 %	0.6
There is a compass in the classroom	52.7 %	1.0	91.1 %	0.5
There is a dictionary in the classroom	34.1 %	0.9	43.2 %	1.0
There is a map in the classroom	40.2 %	0.9	80.8 %	0.8
Teacher always uses the Vietnamese textbook for teaching	56.7 %	1.0	49.9 %	1.0
Teacher always uses the Vietnamese guide for teaching	38.7 %	0.9	31.0%	0.9
Teacher always uses the mathematics textbook for teaching	55.5 %	1.0	48.7%	1.0
Teacher always uses the mathematics guide for teaching	38.0 %	0.9	31.6%	0.9

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44   Board, chalk, ruler, setsquare, compass, dictionary and wall map.

Teacher management and supervision

Over 73 % of 2nd and 5th grade pupils in the survey have teachers who receive incentive bonuses (elite teacher, emulation combatant, …). However, only 50 % of pupils have teachers who are supervised by the head teacher in lesson preparation, in model lessons or in the organisation of their work.

The majority of 2nd and 5th grade teachers in Vietnam feel good in their school and in their profession. Less than 23 % of pupils have teachers who wish to change schools and under 6 % have teachers who would prefer to change to another profession if they had to choose again.

2nd grade pupils with teachers who receive bonuses perform better in mathematics than their counterparts. 5th grade pupils whose teachers benefit from the supervision of the head teacher for lesson preparation perform better in mathematics than their counterparts.

Aside from that, teacher absenteeism is negatively linked to the performance of 2nd grade pupils in Vietnamese and of 5th grade pupils in mathematics.

Table 37: Statistics on teacher supervision

	2nd grade		5th grade	
	Average/proportion	Standard error	Average/proportion	Standard error
Teacher regularly receives a bonus	74.3 %	0.8	73.3 %	0.9
Number of days teacher absent	19.4	0.2	19.4	0.2
Teacher would like to change schools	20.4 %	0.8	22.5 %	0.8
Teacher would like to change professions	3.4 %	0.4	5.9 %	0.5
Head teacher advises the teacher and is involved in lesson preparation	37.8 %	0.9	38.0 %	0.9
Head teacher advises the teacher and is involved in preparing the model lesson	38.5 %	0.9	38.6 %	0.9
Head teacher advises the teacher and is involved in organising teacher's work	48.3 %	1.0	50.5 %	1.0
Teacher has been assessed by the inspector or by the pedagogical advisor	74.2 %	0.8	74.0 %	0.8

3.4 Characteristics of the head teacher and of the school

Individual characteristics and training of the head teacher

In the sample, 86 % of pupils have civil servant head teachers and 46 % have female head teachers. On average, head teachers are aged 48 and have been in the position of responsibility for 11 years. They have a high level of education: over 79 % of 2nd grade pupils and 75 % of 5th grade pupils have head teachers who have qualifications higher than an academic degree (bac + 3) and a professional diploma requiring at least four years of study after the baccalaureate (bac + 4). Around 68 % of pupils, in both 2nd and 5th grades, have a head teacher who has benefited from additional training in school management.

Around 74 % of pupils at each level attend schools that have received at least one visit from the pedagogical inspector.

The econometric models show that pupils who have female head teachers perform better than their counterparts in 2nd grade in Vietnamese and in 5th grade in both subjects. Moreover, head teacher seniority only benefits 2nd grade pupils in the language of instruction.

The analysis revealed no correlation between the director's additional training in school management and pupils' achievements in 2nd and 5th grades.

Table 38: Statistics on head teacher's individual characteristics and training

	2nd grade		5th grade	
	Average/proportion	Standard error	Average/proportion	Standard error
Head teacher is a woman	46.0 %	1.0	48.0 %	1.0
Head teacher's age	47;6	0.1	47.7	0.1
Head teacher always speaks Vietnamese in everyday life	62.7 %	0.9	61.0 %	0.9
Head teacher is a civil servant	85.6 %	0.7	86.2 %	0.7
Seniority of head teacher	10.7	0.2	10.7	0.2
Head teacher has more than a degree	80.0 %	1.0	76.7 %	1.0
Head teacher has a vocational diploma higher than bac + 3	79.0 %	1.0	75.8 %	1.0
Head teacher has had additional training in school management	68.7 %	0.9	68.0 %	0.9
Head teacher has been assessed at least once in the school year	75.4 %	0.8	74.2 %	0.8

School equipment

Although as a general rule schools have electricity and access to drinking water and also, to some extent, a library and a pharmacy, a number of important facilities such as a specific staffroom for teachers and a sports ground are still rare. Finally, over 5 % of schools do not provide toilets or latrines for their pupils.

The school equipment indicator constructed by means of a multiple correspondence analysis demonstrates that pupils attending the best equipped schools have better results in both subjects, in both 2nd and 5th grades.

The analysis indicated that primary schools are still insufficiently endowed with a number of facilities, such as a specific staffroom for teachers, a computer room and school canteens, especially in rural areas.

Table 39: Statistics on school equipment

	2nd grade		5th grade	
	Proportion	Standard error	Proportion	Standard error
School has an office for the head teacher	83.0 %	0.7	82.9 %	0.7
School has a storeroom for material	70.9 %	0.9	70.6 %	0.9
School has an equipped and functional library	86.8 %	0.7	86.2 %	0.7
School has a specific staffroom for teachers	35.7 %	0.9	35.6 %	0.9
School has a computer room	49.3 %	1.0	48.9 %	1.0
School has a pharmacy	83.9 %	0.7	84.0 %	0.7
School has housing	10.7 %	0.6	9.9 %	0.6
School has toilets or latrines for pupils	93.9 %	0.5	94.4 %	0.4
School has a free canteen	1.5 %	0.2	1.8 %	0.3
School has a paying canteen	26.7 %	0.9	25.6 %	0.8
School has a sports ground	31.1 %	0.9	30.5 %	0.9
School is fenced off	84.2 %	0.7	83.6 %	0.7
School has an electricity supply	98.6 %	0.2	98.6 %	0.2
School has a drinking water access point	94.7 %	0.4	94.7 %	0.4

School location area and motivation of head teacher

Most primary pupils in Vietnam attend schools located in rural areas, i.e. 74 % of 2nd grade and 75 % of 5th grade pupils in the sample.

Over 8 in 10 pupils (82 %), in each of the two levels of education surveyed, have a head teacher who would choose the same profession if he/she had the possibility to do so whilst 31 % of pupils have head teachers who would like to change schools. In addition, 97 % of pupils attend a school whose head teacher belongs to a union organisation, 43 % whose head teacher is part of a village (or local) organisation and 39 %, of a social organisation.

The study did not reveal a correlation between school location and pupil performance for either subject or level of education. Territorial planning enables rural areas to assert themselves positively in terms of school results.

Table 40: Statistics on school location and head teacher's motivation

	2nd grade		5th grade	
	Proportion	Standard error	Proportion	Standard error
School is located in a rural area	74.1 %	0.8	74.9 %	0.8
Head teacher is part of a pedagogical association	33.4 %	0.9	33.3 %	0.9
Head teacher is part of a union association	96.6 %	0.3	96.1 %	0.4
Head teacher is part of a local or village association	43.0 %	1.0	42.9 %	1.0
Head teacher is part of a social association	38.7 %	0.9	38.8 %	0.9
Head teacher is part of a religious association	1.3 %	0.2	1.2 %	0.2
Head teacher would like to change schools	31.0 %	0.9	32.0 %	0.9
Head teacher would still choose the same profession	81.9 %	0.7	82.5 %	0.7

4. Some descriptive statistics related to partnerships

Partnership dynamics

The partnership dynamics of schools are still relatively limited. According to the assessment data, 11 % of pupils in the two levels considered attend a school receiving aid from the United Nations' children's programme (UNICEF). Some pupils attend a school working with the World Food Programme (1 %) or with a non-governmental organisation (4 %) or else a school that is twinned with a school abroad (3 %).

Aside from that, around 27 % of pupils in both 2nd and 5th grades benefited, in the framework of a partnership, from training for the teachers and head teachers and 33 % of them from equipment allocation and the construction of classrooms.

On the other hand, parents' associations are involved in school management. 98 % of pupils in both levels attend schools with active or very active parents' associations. However, only 7 % of them attend schools with an active management committee and 18 %, schools with an active cooperative. Almost three in four pupils have a parent who is involved in managing the school and over 31 % of them study in schools receiving material aid from some parents.

The analysis revealed no correlation between the aid received in the framework of partnerships for the allocation of didactical material to the school or for the construction of classrooms and pupil performance, whether in 2nd or in 5th grade.

Photo © Global Partnership for Education

Table 41: Statistics on partnership dynamics

	2nd grade		5th grade	
	Average/proportion	Standard error	Average/proportion	Standard error
School has a partnership with WFP	1.1 %	0.2	1.0 %	0.2
School has a partnership with an NGO	4.2 %	0.4	4.3 %	0.4
School is twinned with a school abroad	3.1 %	0.3	2.4 %	0.3
School has a partnership with UNICEF	11.4 %	0.6	11.9 %	0.6
Number of meetings organised by the head teacher	3.0	0.0	3.0	0.0
Number of meetings organised by the parents' association	0.9	0.0	0.9	0.0
Pupils' parents are often or fairly often involved in school activities	72.9 %	0.9	72.9 %	0.9
There is an active or very active parents' association	97.8 %	0.3	97.9 %	0.3
There is an active or very active school cooperative	17.8 %	0.7	17.6 %	0.7
There is an active or very active management committee	7.2 %	0.5	7.4 %	0.5
School benefited from teacher training in a partnership framework	26.5 %	0.9	29.5 %	0.9
School benefited from management training for the head teacher in a partnership framework	26.8 %	0.9	26.1 %	0.8
School benefited from equipment allocation in a partnership framework	36.3 %	0.9	34.5 %	0.9
School benefited from construction of classrooms in a partnership framework	32.9 %	0.9	33.0 %	0.9
Some parents help the school in material terms	32.7 %	0.9	30.5 %	0.9

Chapter 6:

Summary of results and recommendations from the PASEC assessment

The assessment conducted has enabled a more in-depth understanding of the Vietnamese education system. The latter performs quite well but some improvement is needed in order to rectify the disparities related to pupil gender and social origin on the one hand and to provide support to pupils in difficulty on the other. The management of the education system must also allow for an equitable distribution of educational resources, which are positively associated with pupil performance.

This chapter gives a summary of the results of the PASEC assessment and suggests some recommendations or avenues for consideration.

Finding no 1: The education system performs quite well but a number of pupils still show some weaknesses in the language of instruction and in mathematics at the end of primary education

Distributing pupils on a multi-level proficiency scale (low level to high level) led to the observation that, at the end of primary education, almost one pupil in ten struggles in interpreting information from a text or in analysing and developing ideas in writing and almost half (49.9 %) experience difficulties in completing exercises calling upon reasoning and in solving problems from everyday life.

The objective of quality education for all implies that all pupils, irrespective of their in-school and out-of-school environments, be in possession of minimum knowledge. Pupils in difficulty need more schooling support.

Recommendations :

– Support should be provided to teachers to improve their capacity for developing assessment instruments to detect pupils in difficulty. These pupils will benefit from support adapted to their respective situations.

– The weaknesses detected during the different education system assessments should be taken into account in school curriculum design.

Finding no 2: Girls perform better than boys

School performance varies according to pupil gender. Girls outperform boys in Vietnamese and in mathematics, whether at the beginning or at the end of primary education. The girl/boy performance gap widened in Vietnamese between the beginning and the end of primary education whereas it narrowed by half in mathematics.

Recommendation :

– Set up policies to support boys in school while ensuring that the performance level of girls is maintained.

Finding no 3 : The social origin of pupils affects their chances of success in the education system

How well pupils succeed in the different tests varies according to their social origin. Pupils from the most privileged families perform better in the language of instruction and in mathematics than those from the least affluent families. The education system has not yet managed to do away with inequalities in achievements connected to pupils' socioeconomic status in the course of primary education.

This is characteristic of education systems that have a deficit in equity. Educational policies aimed at reducing inequalities in performance connected to social origin will only have a minimal effect if they are not pursued over time. Indeed, the level of this variable (wealth indicator) is dependent on the country's development and social policies.

Recommendation :

– Implement financial support policies, which have an effect on school performance as acknowledged in the international literature[45] (conditional assistance to disadvantaged pupils' families). The Ministry of Education and Training could also introduce school canteens in disadvantaged areas in order to alleviate the effect of poverty on school performance.

Finding no 4 : Unequal equipment allocation and learning environments in the schools

The schools that perform best are those that are best provided for in terms of equipment and school facilities. There is still insufficient allocation of a number of facilities, such as the specific staffroom for teachers, the computer room and school canteens in some schools, especially in rural areas.

With a view to equity, the same conditions of learning must be offered to all pupils in the education system. However, schools located in rural areas clearly have lower allocations than those in urban areas. For example, only 30 % of pupils in rural areas attend a school that has a staffroom, while the same characteristic is estimated at 53 % in urban areas. Similarly, around 41 % and 24 % of pupils in rural areas attend a school that has respectively a computer room and a school canteen, compared to 72 % and 40 % in urban areas. An inequitable distribution of teachers according to qualifications is also observed: around 80 % of those working in rural areas have at least a vocational diploma requiring three years of study after the baccalaureate (bac + 3) whereas over 90 % of teachers are in this case in urban areas.

Recommendations :

– Implement measures aimed at improving the allocation of didactical material and school equipment, especially for schools in rural areas.

– Implement incentive measures that will enable qualified teachers to work in good conditions in remote areas.

Synthesis

Despite good overall performance, some inequalities are still observed in the Vietnamese education system. The government should make further efforts in order to reduce these inequalities and offer all pupils a chance of success truly independent of the standard of living of the learners' households.

The distribution of educational resources throughout the territory still represents a substantial challenge. Schooling support for pupils in difficulty must also be taken into account in the management of this issue.

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45   Dubois, P., de Janvry, A. and Sadoulet, E. (2012). "Effects on School Enrollment and Performance of a Conditional Cash Transfer Program in Mexico", *Journal of Labor Economics,* vol. 30, no 3, p. 555-589.

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Appendices

Appendix 1 : Objectives of the 2003-2015 Education for all action plan

The objectives of the 2003-2015 Education for all action plan updated in 2012 are summarised in the following table (the asterisks indicate the new parameters included at the time of the update in 2012):

Preschool	• Public preschools will increase their enrolment rate for 3 to 5 year olds by 40 % in 2015 compared to the current increase (2003-2012) of 37 % (2003 target: 25 %), while those in the private sector will raise their enrolment rate by 40 % compared to the current increase (2003-2012) of 32 %. The total percentage of 3 to 5 year old enrolments will be 80 %; • 99 % of 5 year old children will attend preschool by 2015, including 70 % in public preschools (2003 target: 35 %); • Enrolments in public nurseries for 0-2 year olds will rise from 5 % to 12 % (2003 target: 9 %), while private nurseries will increase their enrolment rate by 10 % compared to the current rate of 9 %. The total percentage of 0 to 2 year old children registered will reach 22 %; • In preschool, 80 % of 0 to 2 year old children as well as 80 % of 3 to 5 year olds (maintaining the current level) will participate in a full day of curriculum; • There will be a nursery group size of 15 children; • There will be a preschool class size of 25 children.
Primary	• The gross intake rate in grade 1 will be 99.9 %; • The repetition rate for grade 1 pupils will be 0.5 % (2003 target: 1 %); • The dropout rate for levels 1 to 5 will be 0.5 % (2003 target: 1 %); • 60-70 % of pupils will be enrolled full time (2003 target: 100%); • All teachers will be qualified to standard; • All pupils will receive a complete set of textbooks free of charge; • All teachers will receive pedagogical guides every year; • Double-shift classes will be done away with; • There will be a class size of 30 pupils and a teacher ratio per class of 1.4.
Lower secondary	• The enrolment rate in level 6 (percentage of primary graduates entering lower secondary school) will be 99 %; • The repetition rate for 6th year pupils will be 0.7 % (2003 target: 2 %); • There will be a class size of 45 pupils and a teacher ratio per class of 2.1; • 100 % of pupils will be enrolled full-time.
Continuing education	• The adult (15-34 years old) literacy rate will reach 99 %, with the literacy and post-literacy programmes to maintain current enrolment rates; • Adult enrolments in literacy programmes will increase by 0.5 % per annum. Special attention will be given to marginalized populations (for example, girls, ethnic minorities and people living in remote areas)*; • 95 % of school dropouts will receive flexible alternative education (equivalency programme) for primary education (2003 target: 75 %); • 90 % of school dropouts will receive flexible alternative education (equivalency programme) for lower secondary education (2003 target: 75 %); • Enrolments on skills development courses will increase by 1 % per annum to address the growing needs for lifelong learning*; • All districts will have Community learning centres (CLC); • Community education centres (CEC) will be expanded to address the growing needs.
Infrastructure	• 3 % of existing infrastructure (for example: classrooms, reception rooms, staffrooms) will be refurbished every year (2003 target: 5 %).
Transversal issues	• All handicapped children, children from ethnic minorities and poor children will have access to formal education (primary and lower secondary education); • A supplementary budget of 12 USD (estimated by the targeted budget support for the Education for all team) is added to the unit cost in order to address the special needs of these children and ensure inclusive education. This estimation includes the cost of trained support teachers, pedagogical assistants, bilingual education programmes and the production of guides*; • The budget for curriculum reform, textbook revision and examinations will increase by 10 % every year in order to fund interventions designed to improve the access to, and the quality of, education. This also includes the cost of introducing innovative technologies and pedagogy (for example: distance learning and the Escuela Nueva approach)*; • The budget for emerging issues (for example: climate change and HIV/AIDS) will increase by 5 % per annum*.
Governance and management	• The budget for central and local management (for example: Ministry of Education and Training, Departments of education and training and Bureau of education and training) will increase by 5 % per annum. This includes an increase in the budget for management training (for example: the medium term expenditure framework and civil servant training for decentralisation)*; • The budget for the planning, monitoring and evaluation of the budget will increase by 10 % per annum*; • The quality of disaggregated data will be improved for more precise targeting (for example: handicapped children and learning difficulties, children whose parents have HIV/AIDS or are unemployed, street children, children who have dropped out of school, children from migrant families); • The analysis of specific data will be implemented and there will be periodical monitoring of the EFA goals.

Appendix 2 : Procedure and methodology of the PASEC assessment

Appendix 2.1 : Main stages of the PASEC assessment

There were five major stages to the assessment of the Vietnamese education system:

1. Preparation and testing of survey instruments;
2. Survey sampling;
3. Survey at the beginning of the year (pretest);
4. Survey at year end (post-test);
5. Input, processing and analysis of data, drafting the report and presentation of results.

1. Preparation and testing of survey instruments

The following activities were carried out in the framework of the preparation and testing of the survey instruments:

– Adapting the survey questionnaires and tests to the Vietnamese context in accordance with CONFEMEN's technical requirements;

– Translating the collection instruments by the national team at CONFEMEN's request;

– Validating the instruments translated by CAPSTAN, a company recruited by CONFEMEN;

– Training the administrators and supervisors for the test trials;

– Printing the collection instruments;

– Trying out the tests in the schools on 27, 28, 29 and 30 September 2011;

– Organising training in coding the trial tests;

– Coding the trial tests;

– Entering, processing and analysing data (by the national team and CONFEMEN);

– Drafting the report of the trial (by CONFEMEN);

– Improving test instruments further to the results of the trial with a view to the main collection.

Survey instruments:

For 2nd grade:
– Two test booklets for the beginning of 2nd grade intended for the two groups of schools (group 1 and group 2), each booklet in three parts: Vietnamese, mathematics and the questionnaire;

– Two test booklets for the end of 2nd grade intended for the two gorups of schools (group 1 and group 2), each booklet in two parts: Vietnamese and mathematics.

For 5th grade:
– Two test booklets for the beginning of 5th grade intended for the two groups of schools (group 1 and group 2), each booklet in three parts: Vietnamese, mathematics and the questionnaire;

– Two test booklets for the end of 5th grade intended for the two groups of schools (group 1 and group 2), each booklet in two parts: Vietnamese and mathematics.

For the 2nd and 5th grade teachers:
– questionnaire for the beginning of year survey;

– questionnaire for the end of year survey.

For the head teacher:
– questionnaire for the end of year survey.

2. Survey sample

A three-level sampling plan was selected. Firstly, 180 schools were drawn according to a probability proportional to their number of enrolments. Then, one 2nd grade class and one 5th grade class were selected within the 180 schools according to a simple random procedure. Finally, the pupils were designated by a simple random draw within their class (15 pupils for each of the two levels surveyed per school).

As such, the populations scheduled for the survey are broken down as follows:

–   Number of 2nd grade pupils: 180 schools x 15 pupils = 2 700 pupils;

–   Number of 5th grade pupils: 180 schools x 15 pupils = 2 700 pupils;

–   Number of 2nd grade teachers: 180;

–   Number of 5th grade teachers: 180;

–   Number of head teachers: 180.

3. Survey at the beginning of the year (pretest)

3.1 Principal activities related to data collection:

The following activities were carried out in the framework of data collection at the beginning of the year:

–   Selecting the sample for the national-level test (by CONFEMEN);

–   Printing the collection instruments and administration handbooks;

–   Training the test supervisors and administrators;

–   Collecting beginning of year data in the 2nd and 5th grade classes;

–   Correcting and entering the data collected;

–   Drafting the beginning of year survey report.

3.2 Test administrator training periods:

To ensure good data collection, the MET organised technical training for the executives of the appropriate provincial Departments, the head teachers of the selected schools and the test administrators. In view of the large number of schools surveyed, three two-day training sessions were organised in the country's three regions (North, Centre and South):

–   North: 26 and 27 November 2011;

–   Centre: 28 and 29 November 2011;

–   South: 30 November and 1 December 2011.

3.3 Populations surveyed at the beginning of the year:

–   2nd and 5th grade sample pupils;

–   2nd and 5th grade sample teachers.

3.4 Survey procedure:

The beginning of year survey took place in a secure manner from 6 to 10 December 2011 in the sample schools in line with the quality requirements and technical process defined by CONFEMEN.

–   There were three schools with less than 15 pupils participating in the test (these schools are located in mountainous and remote regions);

–   The collection instruments sent into the field were received by the national technical Group 15 days after the survey period at the latest;

–   The technical Group filed and checked the survey documents and certified that the instruments had been properly sealed.

3.5 Coding and correction process:

To ensure that data coding was conducted in line with PASEC procedures, the national technical Group, with technical support from CONFEMEN, organised training on questionnaire coding for the staff of the Centre for evaluation of the quality of education. Some pupil questionnaires with answers that were deemed questionable were corrected by the technical Group in conjunction with the provincial education Departments and the test administrators concerned.

The corrections were made in the premises of the Centre for evaluation of the quality of education, in accordance with the technical requirements of CONFEMEN.

The head of the technical Group, the mathematics expert and the Vietnamese expert provided training in test correction for the 2nd and 5th grade teachers recruited for that purpose. These teachers were guided in the correction of a set of tests and the actual correction only began once the correction instructions had been mastered.

After correction, the head of the technical Group and the mathematics and Vietnamese experts checked a number of corrected booklets chosen randomly and observed that the correction had been made correctly.

4. End of year survey (post-test)

4.1 Principal activities related to post-test data collection:

The following activities were carried out in the framework of data collection at the end of the year:

– Printing the collection instruments and administration handbooks;

– Training the test supervisors and administrators;

– Collecting end of year data in the 2nd and 5th grade classes;

– Correcting and entering the data collected;

– Drafting the end of year survey report.

4.2 Test administrator training periods:

As for the collection at the beginning of the year, the executives of the appropriate provincial Departments, the head teachers of the selected schools and the administrators were trained. Three one-day training sessions were organised in the country's three regions (North, Centre and South):

– North: 7 May 2012;

– Centre: 8 May 2012;

– South: 9 May 2012.

4.3 Populations surveyed at the end of the year:

– 2nd and 5th grade pupils surveyed at the beginning of the year;

– 2nd and 5th grade teachers surveyed at the beginning of the year;

– Head teachers of the sample schools.

4.4 Survey procedure:

The Ministry of Education and Training asked the provincial Departments of education and training to ensure compliance with the technical requirements of the survey set by CONFEMEN by sending an executive who had participated in the test administrator training to the selected schools.

Tests were administered to 5 340 pupils for both levels (2nd and 5th grade) compared to 5 389 at the beginning of the year.

4.5 Coding and correction process:

After data collection, the selected teachers proceeded with coding the questionnaires and correcting the test booklets under the supervision of the national technical Group.

As for the survey at the beginning of the year, test correction was carried out in the premises of the Centre for evaluation of the quality of education, in line with the technical requirements set by CONFEMEN.

5. Entering, processing and analysing the data, drafting the report and presenting the results

After coding, the data collected in the two surveys (pretest and post-test) were entered at national level. CONFEMEN and the technical team then cleaned up and analysed the data before drafting the final report. The presentation of results took place in February 2014 in Vietnam.

Appendix 2.2 : Elements of PASEC's methodology

This part presents PASEC's procedures in terms of score processing, ponderation and modeling, as implemented in the framework of the diagnostic assessment of the education system of the Socialist Republic of Vietnam.

– **Data processing**

Data processing took place in two phases: on the one hand, validation of the double entry of data and, on the other hand, statistical processing of the information collected.

Double entry validation consisted of comparing the two data entries and making a note of differences registered for a same pupil, teacher or head teacher in the two databases. These differences were then communicated to the national team for correction. This was carried out for the data for the two levels of education.

Statistical processing of the data took place in several stages:

– comparison of pupils' user identity between the pretest and the post-test to ensure that the same pupil had the same user identity for both data collections (processing of data collected from pupils: language of instruction and mathematics tests, contextual questionnaire);

– processing the data collected from teachers: a questionnaire administered in the pretest and another, more comprehensive, administered in the post-test;

– processing data collected from head teachers.

For each target, data processing consisted of:

– making a note of non-response and inconsistencies;

– correcting, wherever possible, non-response and inconsistencies, or changing these into missing values for imputation;

– imputing missing values.

Quantitative variables were imputed by mean average and qualitative variables by mode when the percentage of missing values was fairly low (under 2 %). Missing values with a higher percentage were processed using the multiple imputation method.

– **Weighting of data**

The diagnostic assessment was conducted on a representative sample of schools from the Vietnamese education system. In order to generalize the results to the reference population, a weighting system was set up. In this system, each sample unit represents a larger number of pupils from the education system for the level surveyed. The sample selection process consisted firstly in a selection of schools based on size (total number of pupils tested from the two levels), then in a draw of the class to be surveyed according to the number of classed in the given level in each school and, finally, in a draw of 15 pupils within the class. For classes with less than 15 pupils, but more than 8, all pupils were included in the sample. The weighting system also takes into account non-response by schools and by pupils who were not able to participate in the final assessment, by means of an adjustment.

The probability of a pupil being selected in the pretest depends therefore on the combined probability of the school, the class and the pupil in his/her class being drawn. In the post-test, the probability of selection is multiplied by the coefficient correcting non-response.

– **Econometric analyses**

The econometric analyses were preceded by bivariate analyses connecting the performance of pupils to their individual characteristics or to characteristics of their family and school environment. These initial analyses suggested variables to be used in the multivariate econometric models.

The models presented were built using multilevel regression methods. These models differ from those used initially by PASEC (ordinary least square models) insofar as they take into account the "hierarchical" structure of the data. Firstly, the schools are drawn according to their probability of belonging to the sample, then the classes are drawn according to the number of classes of a given level in the school and, finally, the pupils are drawn according to the size of the class in which they study. It is therefore a three-tier draw model. However, the fact that PASEC only surveys pupils from a single and same class does not enable possible differences between performance and other variables across classes in a same school to be taken into account. Thus, PASEC has only taken two levels into consideration for the econometric models: the "school" level and the "pupil" level.

Many researchers justify the use of multilevel models by the proportion of variance attributable to level 2 units (schools in this case). However, conceptually, the relationship between pupil performance and contextual variables can be considered as being a function of the school. In this respect, Nezlek (2008)[46] suggests that, if the correlation coefficient is close to 0 and in the presence of hierarchical data, a multilevel model should be envisaged. High intraclass correlation coefficient values would then appear as an additional motivation to analyse pupils' results while taking into account the hierarchical structure of the data.

The utilisation of multilevel models has many advantages:

–   from the methodological point of view, the models can enable obtention of estimations that are more accurate (in terms of precision) than those provided by the least squares methods;

–   from the education policy stand, the models enable, for example, an analysis of the classes' average scores according to variables considered as important, but also the study of the way in which variables measured at "pupil" level interact with variables at "class" or "school" level to combine with performance. It is also possible to analyse the variation of a relationship between a factor (at "pupil" level) and performance across the schools' population.

The models are developed according to the principle of parsimony: simple models are to be built, which nevertheless provide information on many different elements of the system.

It is important to specify that the models constructed express only a measure of correlation between the variables studied. In this respect, the diagnostic assessment conducted is not intended to make causal inference, which is in any case not the purpose of this assessment. Assessments that enable rigorous "cause and effect" relationships require another construction approach[47]. Thus, the term "effect" used in the report does not refer to an impact on pupil performance resulting from a change in contextual variables, whether in-school or out-of-school variables.

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46   Nezlek, J. B. (2008). "An introduction to multilevel modeling for social and personality psychology", *Social and Personality Psychology Compass*, vol. 2, 842-860.

47   For a better understanding of impact assessments, consult: http://www.crest.fr/ckfinder/userfiles/files/Pageperso/fougere/fougere_fichiers/ARTI-CLEFOUGERE_RFAS_1-22010.pdf

Appendix 3 : Samples of PASEC test items and probabilities of success according to level of proficiency

Appendix 3.1 : Examples of PASEC test items in 2nd grade in the language of instruction

LEVEL 1 ITEM

Thi

Look at the picture and read the three sentences.
What is Thi doing?

Tick the sentence that fits the picture:

a. ☐ Thi is preparing a meal

b. ☐ Thi is dancing

c. ☐ Thi is throwing rubbish in the dustbin

The vaccination

Read the text then answer the questions:

Today a nurse came to school. She vaccinated us against yellow fever. She gave me a sharp prick in the arm like a mosquito bite.

Who came to school today?

Tick the correct answer:

a. ☐ A teacher

b. ☐ A merchant

c. ☐ A nurse

LEVEL 2 ITEM

The blacksmith of La Gi

Read the text then answer questions:

Tao is a blacksmith and he lives in La Gi. He works in a forge. A forge is the place where metal is worked. Thuan makes metal tools, axes, hoes, pick-axes. He uses charcoal to light the fire. The blacksmith of La Gi works very hard.

What does the blacksmith light his fire with?
Find the information in the text.

LEVEL 3 ITEM

Write the full answer:

....

....

Appendix 3.2 : Examples of PASEC test items in 2nd grade in mathematics

Hand game

LEVEL 1 ITEM
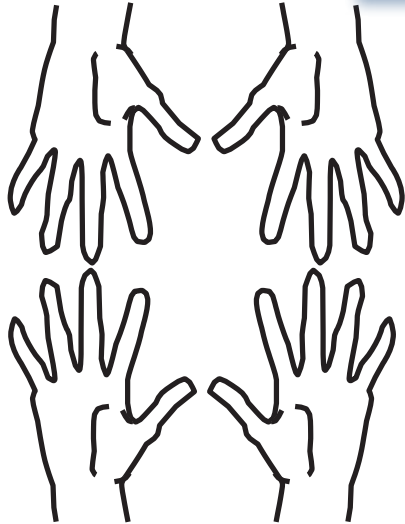
How many fingers are there in the picture?

Tick the correct answer:

a. [ ] 20

b. [ ] 24

c. [ ] 25

LEVEL 2 ITEM

(+) (–) or (×) ?

Write the correct sign in place of the dot in order to find the result.

Example
18
.
15
= 3

20

.

12

= 32

Hang's catch

Hang caught 6 fish in the morning and 18 fish in the afternoon.

How many fish did Hang catch in all?

Tick the correct answer:

LEVEL 3 ITEM

a. [ ] 20

b. [ ] 24

c. [ ] 25

Appendix 3.3 : Examples of PASEC test items in 5ᵗʰ grade in the language of instruction

Malaria

Read the extract below and answer the questions.

Malaria is an infectious disease transmitted to humans by a mosquito from the Anopheles family. The female mosquitos transmit the disease. The Anopheles mosquito rests in the daytime. It is active at dusk and at night. People must protect themselves from mosquitos in the evening and at night.

Those most affected by malaria are children and pregnant women. Here are some of the symptoms of the disease:
-      fever;
-      shivering;
-      vomiting;
-      loss of appetite;
-      severe fatigue;
-      dizziness.

At what time of day is the Anopheles mosquito the most active? Tick the correct answer:

| ITEM 1 |

a. [ ] Morning

b. [ ] Midday

c. [ ] At dusk and at night

d. [ ] The text does not say

According to the text, which people are at the greatest risk of catching malaria?

| ITEM 3 |

Write your answer:

| ITEM 2 |

The postman

- *"Is there anyone at home?" shouts the postman in the middle of the yard.*
- *"Of course there is!" replies mother Thuy from the kitchen.*
- *"I have a letter for you. It is a notification to pick up a parcel from the Post Office."*

"Who are the persons speaking?"
I am going to read out the 4 answers that are in your exercise book.
"Answer a: People in the house"
"Answer b: People in the kitchen"
"Answer c: The postman and Mother Thuy"
"Answer d: I do not know."

a. [ ] People in the house

b. [ ] People in the kitchen

c. [ ] The postman and Mother Thuy

d. [ ] I do not know

Tool boxes

Read the extract below then answer the questions that follow.

The carpenter's and the shoemaker's toolboxes

A carpenter works with wood	The shoemaker works with leather
The carpenter's toolbox	The shoemaker's toolbox
Saw Workbench Bench plane Nails Jointer plane Hammer Measuring tape Mallet Compass Glue Set square Pliers	Pliers Wooden lasts Nails A hammer Hemp thread Glue Pitch Pincers A pair of scissors

Write the name of the two tools that are used by both the carpenter and the shoemaker:

. . . .

The identity card

You find an identity card in the schoolyard.
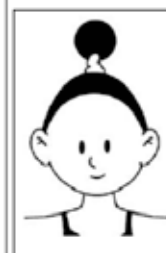
Pupil identity card

Nhan

Age 10

Pupil in Hanoi _

Write two sentences saying what you are going to do with the card.

Solidarity

During the rainy season, a house in your neighborhood was flooded. You want to show your solidarity to the people who live there.

Write three sentences explaining what you will do to be of help to them.

Air traffic

Read the extract below then answer the questions that follow.

AIR TRAFFIC

FRIDAY OCTOBER 13

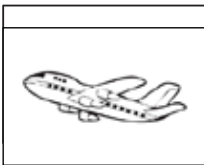| Airlines	ARRIVALS	Coming from...
Air Mauritus	16:00, 17:20	Reunion Island
Inter Island	and 18:20	
Austral Air	17:40	Reunion Island
Air Mauritus	22:30	Rodrigues
Air Mauritus	20:54	Johannesburg
Airlines	DEPARTURES	Flying to...
Air Mauritus	14:10, 15:30	Reunion Island

Which company other than Air Mauritius flies to Reunion Island? Write your answer:

. . . .
. . . .

Rural exodus

Many young people go to look for work in the towns. This rural exodus has had serious consequences for the villages: a shortage of labour and an ageing population.

Write two sentences explaining why young people leave for town:

. . . .
. . . .

Appendix 3.4 : Probabilities of success in a sample of items according to the level of proficiency of four fictional pupils in Vietnamese at the end of 5th grade

Vietnamese items in 5th grade	Item level	Score equal to 387.8	Score equal to 454.4	Score equal to 520.9	Score equal to 587.4
Item 1	243.1	0.82	0.92	0.97	0.99
Item 2	287.3	0.90	0.96	0.98	0.99
Item 3	406.5	0.27	0.51	0.74	0.88
Item 4	452.4	0.43	0.67	0.85	0.94
Item 5	455.5	0.23	0.44	0.68	0.85
Item 6	469.3	0.27	0.50	0.73	0.88
Item 7	469.4	0.16	0.35	0.59	0.80
Item 8	612.2	0.03	0.09	0.20	0.41

The reference scores presented in the table above correspond to the score on the Rasch scale standardised on 500. The score of 387.8 corresponds to a Rasch score of 0, the score of 454.4 corresponds to a Rasch score of 1, the score of 520.9 corresponds to a Rasch score of 2 and the score of 587.4 corresponds to a Rasch score of 3.

Appendix 3.5 : Examples of PASEC test items in 5ᵗʰ grade in mathematics

ITEM 1

Multiplication

Carry out the following operation

$$2 \times 8 = \ldots$$

ITEM 2

Telling the time

Write what time it is on the clock face:

....

ITEM 3

Properties of straight lines

This drawing represents a straight line.
Using your ruler, draw a line parallel to this straight line:

ITEM 4

The odometer

Last year, the odometer on Kim's car showed 54 321 km.
He drove 7 405 km more this year.

How many kilometers does the odometer show now?

Set out the operation and write the answer:

The game of marbles

Hai played two games of marbles. In the first game, he won 11 marbles. At the end of the two games, Hai saw that he had won 7 marbles in all. What happened during the second game?

Tick the correct answer.

A. ☐ In the second game, Hai won 4 marbles.

B. ☐ In the second game, Hai lost 4 marbles.

C. ☐ In the second game, Hai won 18 marbles.

ITEM 6

Making a shirt

To make a shirt for his uncle, Nguy needs 265 cm of material. The shopkeeper cuts 265 cm of material in a 3.50 m piece of material.

What length of material is left?

Set out the operation and write the result:

ITEM 7

Sport

Wong does sports every week.

Calculate the duration for each sport.

- He plays basketball on Mondays from 4.30 to 6.10   Duration: ....

- He goes swimming on Wednesdays from 1.00 to 2.15   Duration: ....

- He plays tennis on Fridays from 4.15 to 5.05   Duration: ....

Appendix 3.6 : Probabilities of success in a sample of items according to the level of proficiency of four fictional pupils in mathematics at the end of 5ᵗʰ grade

Mathematics items in 5ᵗʰ grade	Item level	Score equal to 384.6	Score equal to 452.5	Score equal to 520.3	Score equal to 588.2
Item 1	272.0	0.84	0.93	0.97	0.99
Item 2	309.6	0.75	0.89	0.96	0.98
Item 3	364.8	0.57	0.78	0.91	0.96
Item 4	415.3	0.39	0.63	0.82	0.93
Item 5	439.7	0.31	0.55	0.77	0.90
Item 6	554.8	0.08	0.18	0.38	0.62
Item 7	566.6	0.06	0.16	0.34	0.58

The reference scores presented in the table above correspond to the score on the Rasch scale standardised on 500. The score of 384.6 corresponds to a Rasch score of 0, the score of 452.5 corresponds to a Rasch score of 1, the score of 520.3 corresponds to a Rasch score of 2 and the score of 588.2 corresponds to a Rasch score of 3.

PASEC Publications

Vietnam (2014) – *School Performance and Factors of Public Primary Education in the Socialist Republic of Vietnam.* Academic year 2011/2012.

Cambodia (2014) – *School Performance and Public Primary Education Quality Factors in Cambodia.* Academic year 2011/2012.

Lao People's Democratic Republic (2014) – *Performances scolaires et facteurs de la qualité de l'éducation en République démocratique populaire lao.* Academic year 2011/2012.

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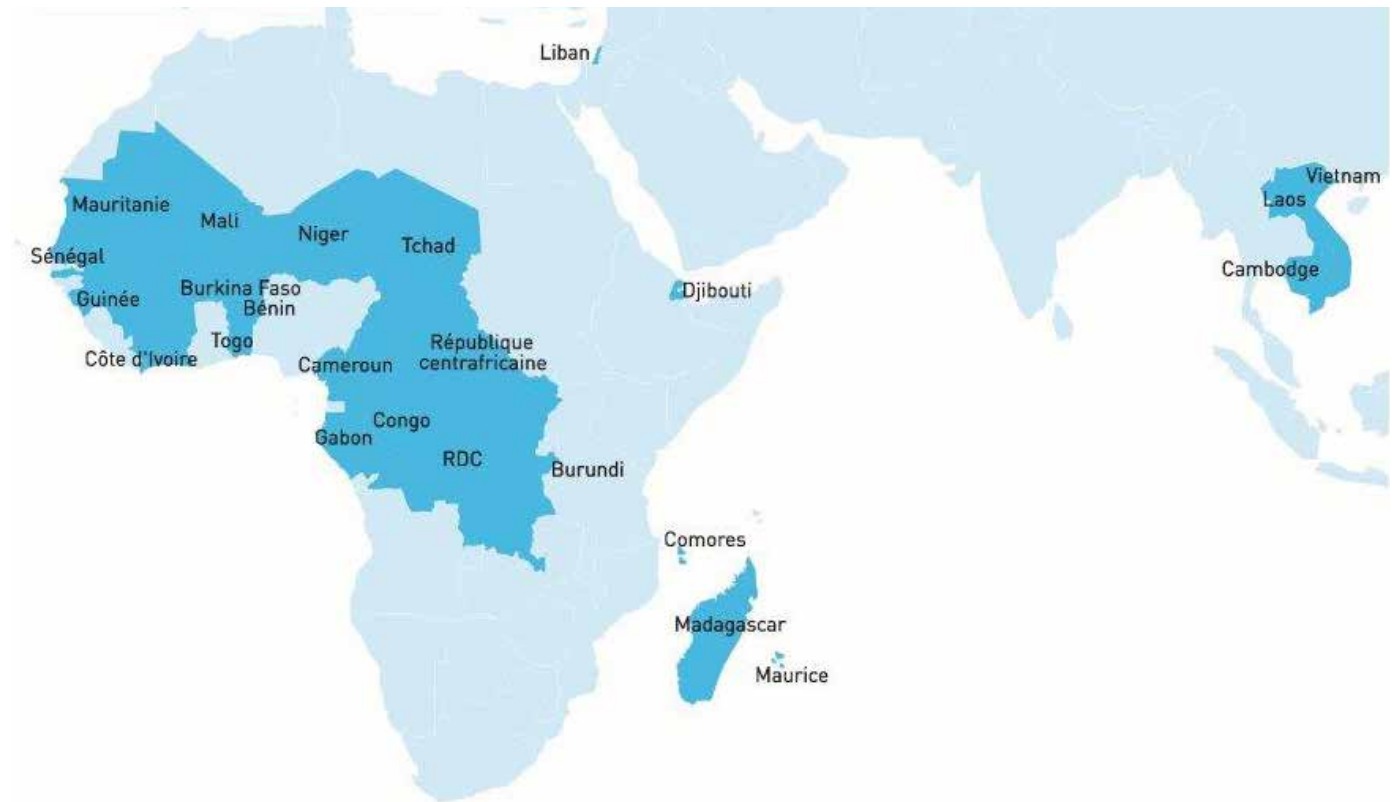
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Academic Year 2011/2012

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Since its creation in 1960, the Conférence des ministres de l'Éducation des États et gouvernements de la Francophonie (CONFEMEN) has worked for the promotion of education. Today it has 44 member states and governments.

CONFEMEN has three basic missions:

- Inform its members on the evolution of education systems and ongoing reforms;
- Contribute to reflections on topics of common interest; and
- Facilitate consultations between ministers and experts to support regional and international education policies.

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Created in 1991, the CONFEMEN Programme for the Analysis of Education Systems (PASEC) aims to document the evolution of education systems in order to support the elaboration and monitoring of education policies. Over two decades, it has carried out 35 national assessments in over twenty countries in Africa and Asia. Since 2012, PASEC has developed comparable international assessments to better respond to countries' needs.

PASEC is a supporting tool for monitoring the education systems of CONFEMEN member States and governments for an improved quality of education.

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