États membres de la CONFEMEN - Programme d'Analyse des Systèmes Educatifs de la CONFEMEN

Conférence des Ministres de l'Éducation des États et Gouvernements de la Francophonie
Ministères de l'Éducation

Rapport généré le: 27 avr. 2015

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RÉSUMÉ
Since 1991, the CONFEMEN Programme d'Analyse des Systèmes Educatifs de la CONFEMEN (PASEC) aims at providing information on the performance of its member countries' education systems, in order to inform and guide education policies. In two decades, over twenty countries in the Arab States, Sub Saharan Africa, and Asia and the Pacific have been supported by the PASEC in conducting national assessments.

The PASEC framework and standard test were developed in the 1990s based on the national curricula of Cameroon, Côte d'Ivoire and Senegal. PASEC assesses mathematics skills and reading skills in the language of instruction, which was originally the French language. However, the assessment has been adapted and translated to other languages such as Arabic, English, Kirundi, Malagasy, Vietnamese, Cambodian and Lao.

PASEC formerly targeted grade 2 and grade 5 (ISCED 1) students in public and private schools. Additionally, the methodology required the administration of two tests in the same academic year: the pre-test, administered at the beginning of the school year and the second at the end of the same school year. This allowed for the estimation of "added value" models. Proficiency levels and Item Response Theory (IRT) were introduced to the "added value" model in 2011.

Since 2013, PASEC has moved towards its first competency-based international assessment. This international assessment consists of testing students with standardized procedures and instruments at the beginning of primary school (grade 2) at its end (grade 6), using face-to-face paper-pencil tests.

The PASEC international assessment methodology aims at comparing the performance of member countries' education systems. In this setting, PASEC analyses student proficiency through educational indicators reported at three levels: the socio-economic background of students, the teaching conditions and the policy guidelines. Based on the assessed countries' curricula and the basic skills recognized by the international community, PASEC tests use IRT to accurately determine students' level on a proficiency scale. The procedures for test administration and data analysis of PASEC assessments are standardized to ensure international comparability, over time and across countries.

TYPE DE DONNÉES
Random sample

UNITÉS D'ANALYSE
1991-2010 and 2011-2012:

Data is disaggregated by sex, school and teacher characteristics, and by other variables depending on country-specific priorities.

Results are published in national reports between 1991 and 2012, which are available online.

From 2013 onwards:

Data are disaggregated by content domain and cognitive domains, by sex, school and teacher characteristics, and by other variables depending on country-specific priorities.

Results will be published in national and international reports, which will be available online and in print.

Champ

NOTES
1991-2010 - National Assessment (version 1):

PASEC's former methodology (1991 - 2010) is based on the administration of two tests in the same academic year. The pre-test is held at the beginning of school year, and the post-test one month before the end of school year which allows for the estimation of value-added models. The tests were administered collectively and delivered through paper-pencil tests.

The PASEC assesses students in Mathematics and in Reading and Writing in the country's official language(s) of instruction.

Test items consist of multiple choice questions and open-ended questions requiring short constructed responses. The score obtained by a pupil on a particular test is considered as an indicator of his level of performance on this test. If the answer given by the student to an item is correct, it is assigned the value (1) and if it is incorrect or missing the value zero (0). The total score is therefore the value obtained by adding the values attributed to the answers to the test's items. In other words, it represents the number or percentage of correct answers from the student's test.

However, these tests neither allowed to describe students' skills nor to rank student on a proficiency scale. The items composing the test respond primarily to the need of generating variance in students' achievement in order to allow the analysis stage to identify factors at the student and school level, involved in the progression in academic achievement during one school year.

2011-2012 - National Assessment (version 2):

Competency scales and Item Response Theory were introduced to the "added value" model in Mali, Cambodia, Lao People's Democratic Republic and Vietnam. Student performance is reported by post-ante proficiency levels, created by the PASEC team in collaboration with national teams. Proficiency levels are country-specific and vary by subject and by grade.

The rotated booklets method was chosen by PASEC. Used by the most recognized international programmes of student assessments, the method divides a test into several parts (called blocks of items) in order to administer a subset of the test (in a booklet) to a portion of the sample. The use of Item Response Theory (IRT), allows to report pupils' performances on different tests on a single scale, with the use of anchoring items. This method ensures students are subjected to a different subset of items, or in other words, each student is tested only on some blocks concentrated in a booklet. In order to reconstitute the average degree of students' mastery on all PASEC items, the items are cautiously randomly distributed within the blocks and the blocks randomly distributed among students via several booklets, as well as blocks of anchor items. This method also allows neutralizing the effects related to the learning processes and fatigue. Consequently, if students have not answered all the test items, blocks of anchor items are used to connect all the booklets but also to place all the test items on a same scale and therefore to predict student scores on the items they have not been presented with.

The structure of content and cognitive domains may vary across countries, since the standard test has been nationally adapted. For example in Vietnam (2012), the content domains for grade 2 and 5 in Mathematics are the same: Operation and Numeration, Measurement and Geometry, and the cognitive domains are Knowledge and understanding, Applying and solving a problem. In Mali (2011), the content domains for Language of instruction are Written comprehension and Oral comprehension in both grades, in addition to Essay writing for grade 5.

PASEC international assessment, from 2013 onwards:

In this new setting, PASEC assesses students in Mathematics and in Reading in the country's official language(s) of instruction.

The first international cycle of the PASEC assessment was effectively implemented in 2014 in ten countries: Benin, Burkina-Faso, Burundi, Cameroon, Chad, Congo, Ivory Coast, Niger, Senegal and Togo. The instruments used in the survey (questionnaires and tests) are no longer administered at the beginning and at end of the year, but only at the end of the year of the two grades assessed. Analytical methods include: item response theory for scaling tests and questionnaires, the use of replicate weights to estimate standard errors and the use of hierarchical modelling for linking tests scores to contextual data. The changes in this new setting aim at aligning PASEC practices to assessment techniques used by other international assessment programmes such as the Programme for International Student Assessment (PISA) or the International Association for the Evaluation of Educational Achievement (IEA).

Couverture

COUVERTURE GÉOGRAPHIQUE
Benin - Burkina Faso - Burundi - Cambodia - Cameroon - Central African Republic - Comoros - Congo - Côte d'Ivoire - Democratic Republic of the Congo - Djibouti - Gabon - Guinea - Lao's People Democratic Republic - Lebanon - Madagascar - Mali - Mauritania - Mauritius - Niger - Senegal - Chad - Togo - Viet Nam

UNIVERS

1991-2012:

Students enrolled in grade 2 and grade 5 (ISCED 1) in participating countries.

Exclusions:

- Students enrolled in non-authorised private schools, religious or traditional schools

- Students following curricula that are not under the responsibility of the public institution in charge of national curricula development or of the national education system

- Schools created at the beginning of the school year or located in conflict areas (e.g Casamance in Senegal and Tibesti in Tchad) are not included in the sampling frame

From 2013 onwards:

Students enrolled in grade 2 and grade 6 (ISCED 1) in participating countries.

Producteurs et sponsors

INVESTIGATEUR PRINCIPAL

Nom	Affiliation
Conférence des Ministres de l'Éducation des États et Gouvernements de la Francophonie	
Ministères de l'Éducation	

AUTRE(S) PRODUCTEUR(S)

Nom	Affiliation	Rôle
Conférence des Ministres de l'Éducation des États et Gouvernements de la Francophonie		Test development and administration; data processing and dissemination; financial support
Ministries of Education		Test development and administration; data processing and dissemination; financial contribution through international participation fee
Other national partners (UNICEF, French Agency for Development, ...)		Financial support through grants

Production des métadonnées

MÉTADONNÉES PRODUITES PAR

Nom	Abbréviation	Affiliation	Rôle
Conférence des Ministres de l'Éducation des États et Gouvernements de la Francophonie	CONFEMEN		Data collection
UNESCO Institute for Statistics	UIS	United Nations	Questionnaire design, metadata collection, review and publication

ID DU DOCUMENT DDI

PASEC

Echantillonnage

Méthode d'échantillonnage

1991-2011 and 2011-2012:
A stratified three stage simple random sample design is used as follows:
Stage 1: Selection of schools. Strata are built from the list of schools that have students enrolled at the targeted grade. Regions or districts (this varies from one country to another), type of schools, and geographical location (urban/ rural) are used as stratification variables. In each stratum, schools are sampled using Systematic Probability Proportional to Size (PPS) sample, i.e. the number of students enrolled at grades 2 and 5. Desired sample sizes (to achieve sampling precision) for schools is 180 since 2010. Before 2010, the desired sample size was 150.
Stage 2: Selection of classroom. One classroom at the targeted grade is selected in the sampled schools using simple random sampling.
Stage 3: Selection of students. 15 students are selected at the targeted grade in the sampled classrooms, using simple random sampling. If a classroom has 15 students or less, all of them are selected. However, selected classroom must have at least 8 students, otherwise the classroom is replaced, by another classroom from the same school if there is has another classroom at the targeted grade, or by a classroom selected from the replacement schools.

From 2013 onwards:
A stratified three stage simple random sample design is used as follows:
Stage 1: Selection of schools. Strata are built from the list of schools that have students enrolled at the targeted grades. Regions or districts (this varies from one country to another), type of schools, and geographical location (urban/ rural) are used as stratification variables. In each stratum, schools are sampled using Systematic Probability Proportional to Size (PPS) sample, i.e. the number of students enrolled at grades 2 and 6. The standard sample size is 180 schools in grade 6. But if the countries want to conduct additional analysis on specific issues, the sample size may exceed 180. In grade 2, the sample size is 90 schools, half of the number of schools selected for grade 6.
The replacement school is used when the selected school refuses to participate or is located in inaccessible area. However, the replacement school is not used when a selected school does not have students at the targeted grade (Although the sampling frame should list only schools that have students at the targeted grades, this may happen if the sampling frame is out of date).
Stage 2: Selection of classroom. One classroom at the targeted grade is selected in the sampled schools using simple random sampling.
Stage 3: Selection of students. 20 students in grade 6, and 10 students in grade 2 are selected in the sampled classrooms using simple random sampling. If a classroom has 20 students or less in grade 6 and 10 students or less in grade 2, all of them are selected.

Note: The National Research Coordinator provides the sampling frame.

Taux de réponse

Between 1991 and 2012, a participation rate of 85% was the minimum requirement for schools, including replacement schools, and regardless of students' participation rate.

Since 2013, the participation rates are computed with and without replacement schools, and with and without students' participation rate.

Countries with school response rates below 85% (with replacement schools) and student response rates below 80% are discarded for the international analysis.

Pondération

1991-2010 and 2011-2012:
Unweighted participation rates are computed. Multiple imputations are used to estimate missing data.

From 2013 onwards:

Weighted and unweighted participation rates are computed. A replication methodology is used to estimate the sampling variances of parameter estimates.

Any variable with 30% or more missing values is discarded from the analysis.

Questionnaires

Aperçu

1991-2011 and 2011-2012:
Background questionnaires are filled by the person in charge of test administration to avoid missing or incomplete information.
-The student questionnaire includes personal information about them, their family environment, their previous schooling, personal study conditions and other information.
-The teacher questionnaire comprises information on teacher profiles, classroom characteristics, pedagogical organization, and instructional time at the teacher level and their perceptions.
-The school questionnaire includes the school headmaster's profile, school characteristics, instructional time at school level and perceptions of the school's principal. A background questionnaire with a response rate below 80% is not considered for the analysis.

Monitoring forms for each student assessed during the pre-test (first administration at the beginning of school year) must be completed monthly by their respective teachers in order to collect data on the student's presence, absence or drop-out and the reasons for absence or drop-out during the month. Students' performance during sequential school evaluations are also collected through this form. Monitoring forms for each teacher of a classroom where students have been assessed must also be filled monthly by the school principal, and includes data related to instructional time and effective presence of the teacher.

PASEC 2013 onwards:
Contextual data is collected from students, teachers, principals and education ministries. Linking these components with school results provide benchmarks on efficiency and equity to inform policy dialogue and guide educational reforms.
As part of the PASEC assessment, multilevel contextual data is gathered to allow a statistical analysis adapted to the school environment while taking into account the data's hierarchical structure. Three topics serve as guideline for the study: the family life; the school, the classroom and the local community; and the country, its education system and educational regions. For each of these topics, PASEC seeks to study the inputs (such as educational facilities, students' characteristics, etc.), the transformation process (such as teaching practices) and the outcomes and outputs of the system (such as students' skills levels in reading comprehension).

Collecte des données

Dates de la collecte des données

Début	Fin	Cycle
1991	2014	N/A

Mode de collecte de données

Face-to-face [f2f]

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Traitements des données

Edition des données

Test booklets are scored and verified manually. Data processing is performed by PASEC using STATA software. The data editing process is performed by the national coordination team.

Autres traitements

Data entry is performed with the Epidata software. The data capture operations are performed by the national PASEC team .

Politique d'accès

Autorité pour l'accès

Programme d'Analyse des Systèmes Educatifs de la CONFEMEN (PASEC) , http://www.confemen.org/le-pasec/

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Conditions d'accès

To access the data, please send a request to the Secrétariat Technique Permanent (STP),
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