

LLECE up-to-date

Newsletter for the Latin American Laboratory for Assessment of the Quality of Education

November 2011

Editorial

In this edition we will tell you about an interesting collaboration: the Laboratory has been granted permission to use the IEA's software (WIN DEM and WIN 3s), for its Third Study. This represents a high standard tool. The permission is based on the support policy for developing countries of IEA. The Executive Director of IEA will talk about this collaboration in this issue. Also in this edition we will address in some detail the sampling design for the TERCE, a process that is crucial to ensure its validity. Finally, we will introduce Marco Pereira, the National Coordinator of Brazil. As always, we hope you'll enjoy reading of this issue of *LLECE up-to-date*.



Software for the TERCE. Thank you IEA!

Interview with Hans WAGEMAKER, Executive Director of the International Association for the Evaluation of Educational Achievement (IEA)¹

Preparations for the pilot of the Third Study are in full swing. We have been working to reach a good-will agreement with the IEA to use of their software (WIN3S, WINDEM) for TERCE, which will allows us to ensure high quality standards for the sampling design and data management. In this sense, the support IEA offered is fundamental and much appreciated by all working in the Laboratory.

¹ More information of IEA can be found on: <http://www.iea.nl/home.html>

Can you briefly tell us about IEA, its objectives and activities, such as TIMSS?

IEA is an independent, international cooperative of national research institutions and governmental research agencies. It conducts large-scale comparative studies of educational achievement and other aspects of education, with the aim of reaching an in-depth understanding of the effects of policies and practices within and across educational systems .

Since its founding in 1958, the IEA has conducted more than 30 research studies of cross-national achievement. IEA studies focus on subjects of particular interest to its members. These include mathematics, science, reading, civic and citizenship education, computer and information literacy, and teacher education, among others.

With international study centers located on four continents, representatives from almost 70 member country institutions, and more than 100 countries participating in its projects, IEA has, over the past 50 years, built a strong global network of scholars, researchers, policy analysts and technical experts in the field of large-scale educational research. Every two or three years, IEA organizes a conference of researchers working with IEA data to foster the exchange of information on critical educational issues. IEA also offers two annual awards to recognize high-quality empirical research that makes use of our data.

In your experience, what are the advantages of international cooperation in the field of educational assessment?

The goal for IEA is not to conduct assessments per se, but rather it is committed to contributing in the efforts to improve and reform educational systems worldwide. Our collaboration with other organizations shows our commitment in the search for quality, excellence and equity and in that way contributes to the challenges of poverty reduction through the improvement educational quality which is common to many of the countries that we work with. Collaborating with other organizations is also about sharing expertise and learning from countries and regions. Collaboration at all levels is at the heart of the successful completion of international scale assessments and reflects our belief that after more than 50 years of work in this field we still have a contribution to make.

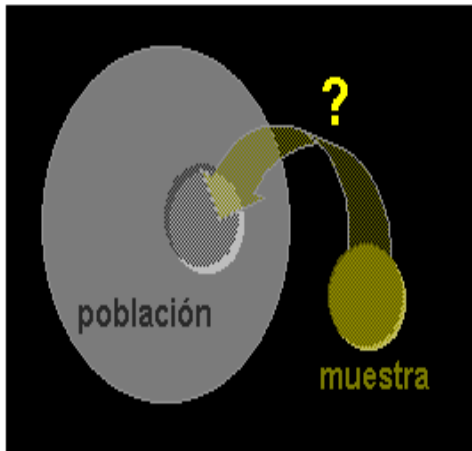
Can you tell us more about IEA's contribution to the development of LLECE's Third Study?

IEA has previously been involved with LLECE projects. I was on the advisory committee for the SERCE study and we have previously made our manuals available to assist with the development of the earlier cycles. Our current involvement with LLECE extends primarily to providing software which can be used for the most critical aspects of the quality control, which include the sampling of schools, classes and students and the management, organization, cleaning and preliminary reporting of data. Our data management systems, including WinDem and Win W3S, provide a powerful system for ensuring data quality. It can also be linked to our analysis software which provides users with ways to analyse complex data sets using the proper procedures and sampling weights. We hope that this contribution will help ensure the successful completion of the current LLECE project.

From your point of view, what will be the contribution of the Third Study to the body of international evidence on large-scale comparative studies?

TERCE represents an important regional initiative with the potential to inform policy makers of participating countries on the performance of the target grade students in key subject matter areas, compared to a common achievement framework. The nature of

activities like TERCE will hopefully also contribute to local capacity building and the development of a critical mass of people and institutions that have the knowledge, skills and experience to maximise the return on the investments that countries make in these activities. Successive participation in studies like TERCE and other international investigations should provide countries with an overview of their systems' capacity to produce students who are capable of competing and participating fully in an increasingly globalized world.



Sampling design: the key to understanding the whole

The objective of the Third Study (TERCE) is to evaluate learning achievement of Latin American learners in 3rd and 6th grade, and for this purpose it applies standardised tests in mathematics, language (reading and writing) and science which, among other things, allows for the testing of research hypothesis. Given that it is very expensive in terms of time and resources to measure achievement of all students in third and sixth grade, we'll sample each grade in order to be able to infer results for the entire population. To do that, we need a sample design which is the result of a selecting strategy of limited number of students that are representative of the total population.

A very important aspect of sampling design, to assure the validity of the results from the sample to the whole population, is *how we select the sample*. This aspect of the methodology is crucial, as the representativeness of the sample depends on it. The sample is obtained from the sample frame, which is a tool that includes all the units from the objective population than can be selected for the sample. In the case of TERCE the sample frame of each country is composed by all the schools with third and sixth grade in that country.

To select schools from the sample frame there exist different selection strategies, but a common feature in all of them is the concept of 'randomisation'. This concept refers to the fact that a sample selected at random and, thier the number of elements is large enough, depending on some parameters, the characteristics of the sample are statistically similar to those of the population. If we increase the number of elements selected at random the sample parameters tend to be equal to the population's parameters.

In the next edition we will continue exploring this issue of crucial importance for the success of the Third Study.



Four questions for the National Coordinator of Brasil, Marco Pereira

Marco, can you tell what are your tasks in the Institute of Education Research of Brazil?

I work for the Commission of Education Assessment of Primary Education (DAEB), where we evaluate the students nationally. Every two years, DAEB applies two major tests – the *Sistema de Evaluación de la Educación Básica* (SAEB) and *Prueba Brasil* (PB) – and each year, the national exam for secondary education, which, since 2009, are the selection test for tertiary education and the certification for completed secondary education. We also apply the national test for the certification of young adults who didn't complete school at the usual age. We also implement *Provinha Brasil*, which evaluates the level of literacy in children of second grade of primary school. Specifically, I work in the development of test items, on the pedagogical revision of mathematics test and on the technical revision of graphs. To work in DAEB was a big change for me, because I didn't know anything about large scale evaluations, and as a math teacher I was only worried about the achievement of my own students.

Could you explain the focus of the educational assessment policy of Brazil? What are your challenges and objectives?

The Brazilian evaluation policy tries to diagnose the situation of primary education in the country. Each level of education has its own particularities. For students at the beginning of the cycle of literacy, we have *Provinha Brasil*, which allows teachers to diagnose the level of children's literacy. This test is for students in second grade and is applied at the beginning of the year and again at the end. For primary education, we have *Prueba Brasil*, which is applied to students in fifth and ninth grades and only for rural and urban schools with more than 20 students. For secondary students, we have ENEM, a certification test for completed secondary education and an admission selection test for tertiary education.

Regarding its challenges, Brazil is a country of continental dimensions, and therefore every assessment is a major undertaking. For example, *Prueba Brasil*, which evaluates every student in fifth and ninth grades of public schools of the country, addresses close to 4.5 millions students. Other challenges relate to the improvement of the theoretical basis of technical evaluations and the development of a common national curriculum, which can help in the development of a blueprint for the tests. Also, we have different legal frameworks at the federal level, states and municipalities, which are not always harmonised. Another important issue is the cultural diversity we have in Brazil, which is a challenge to take into account in the development of items for the test.

In the end, the focus of the educational assessment system in Brazil is to see the process of learning as an effort takes place not only in schools, but also at the family and community level. The main objective of education is to develop citizens which can participate in all spheres of social life.

What is your view of the contribution of LLECE for evaluation policies in Brazil?

Brazil's participation in international studies of education quality is one of the fundamental lines of work of INEP. On one side, this participation helps improve the technical capacities of technicians within the institution, while, on the other hand, the results of the tests increase the knowledge needed for the development of public policies intended to improve the quality of education in primary.

In addition, the studies of associated factors generate important information that confirm the importance of schools in the learning achievements of students, and also in relation to how other factors are affecting said results.

In your opinion, what will be the primary contribution of the Third Regional Comparative and Explicative Study (TERCE)? How do you think it will impact on the improvement of education assessment in Brazil?

TERCE will assess students in primary education in mathematics, language and science, but it will also gather information on students' backgrounds, families, teachers, and principals, to better understand the factors that are behind the test results.

We expect that the knowledge this study generates can provide useful information for Brazilian public policies in education, and contribute to the decision-making processes and practices to improve and strengthen the quality of education and its equitable distribution. Furthermore, the knowledge generated in the production process of the instruments to test the students, and the associated factors, will help improve the technical capacities of all those involved in this huge project.

Two more points about the third study: 1) we will compare the results of Brazil with countries with similar cultural background to ours, an advantage that does not occur in other international assessments such as PISA; 2) it encourages the exchange of experiences among member countries regarding research that may point to good practices and successful experiences in education in different countries.

Activities this month:

- Work on the development of associated factors (continued)
- Integration of correction of items
- Development of plan for the pilot
- Definition of the sample framework
- Meeting with Oliver Neuschmidt, senior advisor of IEA for the software

This newsletter is a monthly publication of the Technical Coordination of LLECE, which is coordinated by the Regional Bureau of Education for Latin America and the Caribbean (OREALC) / UNESCO Santiago.

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