Student Assessment Workshop: TIMSS 2011: lessons to CHILE

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How did your country make the decision to participate in an international large-scale assessment?
Chile has a long tradition in student assessment. The first time Chile participated in an international large-scale standardized assessment was at IEA “Six Subject Study” in the 1960s.

Among policy makers in Chile there is agreement that:

- Educational outcomes are crucial for economic and social development,
- Better educational results increase the competitiveness of the country in the global economy, and
- That international assessments helps improve education by providing information on where we are and where we should go.
Chile participates in TIMSS because it is an opportunity to:

• Assess Chilean student’s learning in Mathematics and Science, and compare these results with challenging international standards.

• Measure changes in student learning over time, monitoring the educational system in an international context.

• Obtain information about the curriculum, school organization, teacher training and teaching practices in a comparative context.

• Evaluate Chilean public policies in education and suggest new policy guidelines
How is your country managing the good news, and the bad, in the released results?

TEMAS ECONÓMICOS
TIMSS, educación y desarrollo

Los resultados de TIMSS en la última versión del Estudio Internacional de Tendencias en Matemáticas y Ciencias (TIMSS) confirman el atraso en nuestro sistema educacional para el bienestar y por eso necesitamos un cambio. En el sistema educacional, Chile necesita una educación de primera de la nación y por eso por sus conocimientos y capacidades. Ésta será la clave para alcanzar el desarrollo.

En esta versión de la prueba TIMSS —que se realiza cada cuatro años— participan 60 países de los cinco continentes, siendo Chile el único representante de Sudamérica. Nuestra participación anterior data de 2003, luego que en su momento el Gobierno decidió involucrar socialmente no participar de la prueba en 2007. Mas por el contrario, en esta oportunidad Chile agrego las pruebas en dos rúbricas, 4º y 8º básicas. Así, entre el 17 de noviembre y el 9 de diciembre de 2003, más de 11 mil estudiantes en 396 cursos a lo largo del país —200 en 4º y 93 en 8º— responderon las pruebas de matemáticas y ciencias del TIMSS. El desempeño de Chile es preocupante. Los resultados en 4º básico fueron 43 puntos en matemáticas y 34 en ciencias. Nuestra puntuación es algo mejor que el promedio de otros países de la región en matemáticas y 29 en ciencias. Esto es preocupante. Entre los países con productivo por cabeza entre 10 y 20 mil dólares, Chile está entre los de peor desempeño en matemáticas. Sólo faltan, con un índice por cabeza más cercano a 30 mil dólares, la derecha a la derecha. Por otra parte, muchas naciones con ingresos por cabeza inferiores a 30 mil dólares tienen resultados mejores que los nuestros. Algo similar ocurre en ciencias. Otro elemento negativo es la persistente brecha de género en Chile, los hombres superan a las mujeres en cada una de las mediciones. Esto no concuerda con las medidas en el sistema educacional.

Prueba TIMSS detecta mejoras en evaluación de Ciencias, pero brechas entre géneros

La medición internacional ubicó a Chile entre uno de los líderes del grupo de naciones que más aumentaron sus puntajes en el examen.

por Fabiola Melo - 11/12/2012 - 14:38
CHILE’s results in TIMMS 2011

Our country is one of the leaders of the group of nations that improved their scores in 2011
Chile rises 49 points in Science and 29 points in Mathematics

but we are still far from the average...
The scores improved in all types of schools. And the gap between public and private schools is reduced.

This gap shows the inequality of the system, which is one of our main concerns.
Chile gets better results in 4th grade and the student’s performance is better in Science
The bad news are that we are still far from our expectations, regarding *quality and equality*.

This is consistent with evidence from national tests, and several educational policies are being developed and implemented to address specifically these issues (SEP and now Subsidy to Middle Class).
TIMSS results show a significant gender gap on math and science.

According to TIMMS results, in Mathematics the gender gap remained, while internationally there is no difference.

Further research is needed to explain this gap, which is likely associated with cultural traditions reproduced by teachers.
TIMSS 2011 showed important improvements in Math and Science, which are consistent with evidence provided by other international studies (i.e. Pisa) and national tests (SIMCE):

- The good news suggest that educational policies are producing an impact on student’s outcomes
- Confirming that the country is in general on the right track
- We are enhancing those policies that we think have an impact on science and math achievement
- and making changes, like our new curriculum, to increase the relevance of these disciplines in the classroom.
How is your country planning to use the data to provide feedback to, and improve, the education system?
• The dissemination of the results and data among different educational actors while attending their different information needs is one of our important endeavors.

• We are developing National Reports with the description and analysis of the results, as well as specific thematic reports attending particular issues.

• We are promoting the use of the data for secondary analysis among educational researchers within the country, coming from the Ministry, Research Centers, and Universities.
• Books for teachers, in order to show them the quality of the questions used in these tests and how they can be used to assess student’s learning outcomes and their needs.

• Seminars and workshop for academics and students of the Faculties of Education.

• At the Ministry we are analyzing the data of TIMSS and comparing the results with other standardized tests, like PISA and our national assessment test SIMCE, so we can interpret the results more accurately.
How has your country used data from previous international or other large-scale assessments?
Information from international large-scale assessments has been used in Chile as a source for the improvement of the national curriculum.

The development of national achievement standards in Chile has also been informed by our participation in international assessments.

Information is crucial to design public policies and incentives to improve performance of children from different backgrounds. More resources to schools with more vulnerable students.
• To increase the coverage and improve the quality of preschool education

• To design and implement public policies to improve teacher’s education.

• The design of teacher’s Training programs, are also based on these results, by focusing in the areas of math and science.

• To improve the national assessment system, SIMCE, regarding psychometric techniques, item construction and operational procedures
What are the main challenges in your country for effective use of the assessment information?
• To make the international studies data more accessible and informative.

• To use data from different assessments, in order to increase the amount and depth of the information obtained from them.

• The promotion of the use of evidence among different actors of the educational system.

• To make an effort to include the universities in these processes, so that their actual curriculums take into account the deficiencies that these tests show us.
What are the main lessons for other countries?
• The decision to participate in large-scale international assessments is a long term one.

• It is important to build a consensus within the country about their usefulness for an evaluation of the country’s needs and their technical validity. In other words, it implies a commitment to take the results seriously and not disregard them despite any possible political costs.

• It is necessary to have experienced professional teams with knowledge about the design, development, and analysis of assessment studies.

• Resources will be needed for an active dissemination of the results, development of communicational products, secondary analysis and training of researchers and teachers.