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It is only recently that Brazil developed an evaluation system. Until approximately a decade ago, various educational policies were formulated and implemented without any systematic evaluation. It was impossible to know whether or not these policies were successful.

It is only in the 90's that Brazil began to develop a culture of evaluation. The development of evaluation and assessment plans are part of the strategy put into place by the federal government in order to bring about the following necessary educational reforms:

- The promotion of universal access to primary schooling;
- The reduction of regional differences in the quality of education;
- The decentralization of educational activity to the municipal level, particularly pre-school programs and the first four years of compulsory schooling;
- The fair and transparent distribution of resources among the different levels of government: federal, state and municipal;
- An increase in the quality of primary and secondary education;
- And last, an increased offer of higher education without lowering the quality of instruction.

The implementation of a national evaluation system was a fairly complex task, which required taking three characteristics of the Brazilian education system into account:

1. The extremely decentralized nature of primary and secondary education, with pre-school (kindergarten), compulsory schooling (1st to 8th grades) and secondary (9th to 11th grades) under the responsibility of the states and the municipalities.

2. The heterogeneity of the various educational structures and systems managed by the states and municipalities, which reflects regional and intra-regional socio-economic inequalities, as well as the large degree of autonomy granted them by law in the organization of their respective education systems.

3. The role of the central government in primary and secondary education is mainly redistributive and supplementary. The federal government provides financial and technical assistance to the states and municipalities so as to guarantee equality of educational opportunities and minimum quality standards.

These characteristics of the Brazilian education system are directly related to the country's political and administrative structure. The 1988 Constitution guarantees autonomy to the states and municipalities to carry out their educational responsibilities. Brazil is composed of 26 states, the Federal District which includes the capital, as well as 5,561 municipalities. Currently, there are almost as many different education systems as there are states and cities!

In this context, the implementation of a national system of educational evaluation and information is essential, so as to:

- produce sound diagnoses of the Brazilian educational reality;
- Guide the formulation of national policies toward equity and the improvement of quality.

The implementation of this system has significantly changed the focus of the educational debate in our country. Today, we are discussing matters related to:

- Equity in the distribution of public resources and conditions of instruction;
- Quality of instruction at the various levels and in the various school systems;
- Teacher training, both initial and in-service;
- School autonomy; and
- Management models, among other issues.

The progress made so far in the realm of evaluation has been due to four favourable factors:

1. The determination of the federal government to create mechanisms for evaluating education systems within a context of a high degree of decentralization and inequality among the regions;
2. The leadership of the Ministry of Education in this initiative and its continuous effort of cooperation with the state and municipal departments of education;
3. An intense level of international cooperation, in order to acquire knowledge, share experiences and compare Brazil to other countries;
4. The support of public opinion in the systematic assessment of schools, in other words the development of an evaluation culture.

With the aim of creating a national educational evaluation system, the Brazilian government established a special agency linked to the Ministry of Education and specialized in education statistics and assessment. The 'Instituto Nacional de Estudos e Pesquisas Educacionais' or INEP (National Institute for Educational Studies and Research) of which I have the honor of being President, is responsible for educational statistics and evaluation at a

national level, supporting the formulation and monitoring of the Ministry of Education's policies.

Once a year, INEP carries out two censuses: The primary and secondary education census (School Census) and the higher education one. They collect the necessary data for planning and implementing education policies by every level of government.

The School Census requires not just the participation of INEP, but also of the 250,000 public and private schools, as well as the secretaries of education in each of the states. In return, each school receives back a set of education indicators resulting from the census database. Those indicators comprise the percentage of teachers having a graduate degree, the average number of students per class, the average number of daily class hours, promotion, repetition and drop-out rates, as well as the age-grade gap figures. This information allows each school to compare its performance to the state and the national means, thus providing planning tools.

The results of the school census form the base from which education indicators are calculated and which allow the Ministry of education, the state and municipal departments of education to predict the challenges and demands they probably will have to face. The school census provides information which allow education authorities to plan and implement policies with greater assurance as well as to monitor and evaluate their results.

Also, the census results have permitted the redistribution of approximately 10 billion dollars among all the public schools in the different education systems, thus benefiting 30 million pupils throughout the country.

Updated and reliable information is essential to developing educational policy and implementing reforms. The school census plays a central role in the strategic plan for educational reform in Brazil.

INEP is also responsible for major educational assessments at a national level. Among them, I will mention three which seem the most meaningful for our topic today: The National Basic Education Assessment System – SAEB (Sistema Nacional de Avaliação da Educação Básica); the National Secondary Education Examination – ENEM (Exame Nacional do Ensino Médio) and the National Course Examination – Provão (Exame Nacional de Cursos).

SAEB was created and used experimentally in the early 90's. Its purpose is to assess the quality of instruction in Brazilian schools by measuring the achievement and performance of students at different points in their studies. Since 1995, SAEB has been administered every two years throughout the country.

SAEB assesses a sample of students in the last year of each of the cycles of study of the Brazilian educational system. The sample includes:

- pupils in 4th grade of primary education, that is to say the last year of study with a single classroom teacher
- Students in 8th grade, the last year of compulsory education;
- Students in the third year of high school, or 11th grade, the last year of secondary education in Brazil.

The sample selection of SAEB is random, using the best available statistical tools. The sample represents the population of students from state and municipal public and private schools in each of the 26 states and the Federal District. The subjects tested include Mathematics and Portuguese, and either History, Geography and the Sciences- or Physics, Chemistry and Biology for the students in the last year of high school.

According to the results of the test, the students from the various state systems as well as those within each state are distributed on a proficiency scale that permits identification of what they know and are capable of doing, and what they do not but should know at that stage of instruction.

These data are of central importance for teachers and educational authorities in order to take whatever measures are necessary to improve the level of student performance.

Beyond assessing levels of student achievement, SAEB gathers information concerning factors associated with performance through student, teacher and principal's questionnaires. This information includes socio-economic data, information on students' study habits, teacher training and practice, as well as school administration.

Studies relating this information to student achievement allow for the identification of non-academic factors which have the strongest positive or negative influence on students' academic performance.

For example, SAEB has shown that the greater the age-grade gap, the poorer the student's academic performance. So to improve the general student performance it is necessary to reduce the age-grade gap. Accelerated learning programs have therefore been created for students who are at least two grades behind. Put into place in various regions of Brazil, these programs have already evened enrollments and should equally produce positive effects on student performance in the future.

Another example: SAEB uncovered that students whose teachers had a graduate degree perform better in the test. For this reason, the

Ministry of Education has created programs encouraging the training and certification of teachers.

These two examples, among numerous others that I could cite, demonstrate how an assessment program like SAEB provides educational authorities with vital information for planning actions, programs and policies in order to improve the quality of education and student performance.

Besides administering SAEB every two years, INEP provides technical assistance and acts to motivate the states and municipalities to create their own assessment programs, always in relation with SAEB.

Currently, a dozen Brazilian states and some municipalities have evaluation programs for their own education systems in place. INEP offers states and municipalities training programs for teams of test designers. We also provide them items to be used in their own tests in order to assure comparability between their results and the national ones.

The development of local or regional assessment programs linked to the national assessment system has several advantages:

First of all, it permits a deeper understanding of the local and regional realities, which would be impossible within the framework of SAEB alone.

Secondly, it allows knowing the results obtained by each school, which would not be possible in a national evaluation system such as the Brazilian SAEB, where the complexity of the process and the cost would be prohibitive.

Third, it facilitates the collection of information of special interest to the managers of each system, which would not be possible at the national level.

Parallel to SAEB, INEP has developed another instrument designed to evaluate secondary education: The National Secondary Education Examination – ENEM (Exame Nacional do Ensino Médio)(). Unlike SAEB, which was developed to compare different education systems, ENEM was created to assess individuals. It evaluates the competencies and skills necessary to the students at the end of the secondary school cycle in order to enter the university or the job market. ENEM was created in 1998 as an alternative and a complement to higher education entrance examinations. ENEM is not compulsory. Universities are not required either to use the results in their selection processes. Even though it is voluntary, ENEM is generally well accepted in Brazilian society. Last year, over 1.2 million people took the test and approximately 300 higher education institutions used the results in their selection processes.

The high degree of acceptance of ENEM by Brazilian society can be explained by its quality as an assessment tool. Students really want to know their competencies and skills and find out if they are ready for university or the labor market. As for higher education institutions, they also recognize ENEM as a valuable tool for evaluation and selection of candidates. That is the reason why certain higher education institutions use ENEM as their only criterion for selection.

Besides the utility of ENEM for students and institutions, it is also an instrument for fostering the reform of upper secondary education (*ensino médio*) in Brazil.

The objective of this reform is to better prepare the young to act fully as citizens, and not only to achieve entrance into the system of higher education, as has been the case until now. And in order to achieve this goal, a series of changes need to take place in high schools.

First of all, learning cannot be only directed to making sure students remember the content of what they have learned. The educational objective should also be to develop among students the skills and competencies necessary in their lives as citizens.

Among these competencies, are the following :

- The mastery of different languages – mathematical, artistic and scientific – not to mention the correct use of the native tongue;
- The ability to use concepts belonging to different fields of knowledge in order to understand natural, historical and geographical processes, as well as cultural and artistic manifestations;
- The ability to select and organize information for problem-solving;
- The ability to construct a coherent and logical argument and create proposals for intervention in society.

To develop the skills and abilities stemming from this, course content needs to be transmitted in an interdisciplinary and contextualized form. This implies a significant change from the rigid organization of content that has reigned until now.

Aside from this, new themes, such as environmental protection, ethics and sexuality, among others, have arisen in our contemporary world. They need to be studied but have never been seen as the objects

of disciplines. These new themes need to be treated transversely; in other words, they need to be treated by the different disciplines in their own contexts.

This new conception of the organization of high school teaching is foreseen by ENEM. This examination treats these themes transversely, and requires students to resort to knowledge from several disciplines in order to solve problems or elaborate propositions and projects. It forces students to think and reason by combining practical and theoretical knowledge with contextual information of their own surroundings.

The adoption of the results of ENEM in the selection process of Brazilian universities will thus force the implementation of the reform of secondary education. In order to prepare their students to take ENEM, teachers will have to put the principles of interdisciplinary study and contextualization into practice; they will have to approach themes transversely and develop the skills required by the reform and ENEM.

One could say that ENEM is a true success, both in terms of its power as an assessment tool and as a catalyst in the reform of secondary education.

The third assessment tool that INEP has created and that merits mention here is the National Course Examination – Provão (Exame Nacional de Cursos). Provão was created in 1996 in order to evaluate the quality of undergraduate courses in institutions of higher education throughout Brazil.

Each year, students in certain fields who are about to receive a graduate degree need to sit for an examination that tests the knowledge they have acquired throughout the duration of their tertiary

studies. The course evaluation is based on the mean grade obtained by its students.

All the courses belonging to the same area of knowledge are ranked according to the grade they have obtained, which allows for a distinction among the best and the not so good. In fact, the courses receive a grade: A and B for the best, C for those that fall in the middle, D and E for the least good.

The academic community and specialists in each area of knowledge evaluated actively participate in the elaboration of Provão. First of all, a commission of specialists defines the content that is necessary in order to take Provão. Then, another commission designs the examination.

Unlike the voluntary ENEM, Provão is compulsory. Although the individual grades do not count toward the degree, students must sit the exam for receiving their diploma.

Provão was created in 1996. In its first stages only three areas of knowledge were evaluated: business studies, law and civil engineering. The number of fields evaluated expands every year. In 2001, 20 areas of study covering 70% of the candidates for a graduate degree were evaluated. This year, 24 areas will be tested, including 80% of all students in their last undergraduate year.

Provão was the first tool in a vast system of evaluation of higher education under construction in Brazil. There is as well an evaluation of the teaching conditions in the different institutions. A peer commission appointed by INEP evaluates *in loco* factors that have a decisive effect on the quality of courses: libraries, laboratories, the qualifications, as well as the working conditions and career paths of professors/teachers,

among others. INEP is also in the process of developing a third tool which does not evaluate courses, but the institutions themselves. In order to provide supplementary information for the higher education evaluation system, INEP annually administers the Higher Education Census (Censo do Ensino Superior). The forms are filled out by the institutions and returned to INEP by the Internet.

The higher education evaluation system has a dual objective:

- Serve as a reference for the accreditation and re- accreditation of higher education institutions, as required by the new legislation in place since 1996;
- Guarantee the quality of higher education provision which has been widely expanding since the mid 90's.

One could say that these objectives have been satisfactorily met. When analysing the outcomes of Provão, one can observe that numerous courses, created since the inception of Provão are of better quality than those already existing. This demonstrates that Provão is a change agent for the quality of the system. The new courses, structured to meet the requirements of INEP's evaluations are of better quality.

Also, under the coordination of INEP, Brazil was invited to take part in PISA 2000 (Programme for International Student Assessment/OECD). The importance of Brazil's participation in PISA goes way beyond measuring student performance. Working alongside with some of the world greatest assessment experts has allowed Brazilian specialists and researchers to improve conceptually and methodologically the quality of their own work. This, in turn, will consolidate the progress already made with SAEB and ENEM.

The objectives of PISA are perfectly convergent to the aims of the reforms implemented in basic education in Brazil. PISA's assessment framework also focus learning skills which are relevant to adult life. Its results, as well as the results of other national assessments and examinations, help monitor the progress of the educational reforms.

Like ENEM, PISA has a reference matrix which states the content associated with competencies and skills, put in scales and levels which represent the necessary cognitive processes for the development of reading, mathematical and scientific literacy. Those cognitive processes develop during schooling, within the individual and social background. In 2000, the principle domain assessed by PISA was reading.

Brazilian students did not achieve good results in PISA 2000. In fact, Brazil scored lowest among all the participating countries.

It is worth highlighting some considerations on these results, so that we can better benefit from our participation in PISA. As the results from SAEB and ENEM have already shown, we know our students have very precarious reading and composition skills. However, the PISA results reinforce the influence of the grade variable, which, in the Brazilian case, seems to be the determining factor of performance.

Only one half of the reference population for the Brazilian PISA sample were in upper secondary education, whereas nearly all of the 15 year-olds of the OECD countries were already in this level of education. Since the age/grade gap is an extremely negative variable for student performance, we recalculated student means for those students which did not have great

age/grade gaps. Their results show a higher proficiency level than that of the original OECD ranking.

Another consideration refers to the impact of socioeconomic background on student performance in reading. Although this is not the only explanatory variable, one must note that Brazil has the lowest GDP *per capita* and the greatest income inequality among all countries participating in PISA 2000.

The evaluation of primary, secondary and higher education in Brazil plays a fundamental role in the strategy for reform of our educational system. This reform is geared toward the improvement of quality.

The results obtained so far convince us that we are on the right track. However, we have had to face some challenges, and others will be certain to come.

The greatest challenge was the creation of a new culture, the culture of evaluation. Even if evaluation is based on the improvement of quality and not on punishment, it does create a distinction between the good and the bad, the best and the worst, and this is not always well taken. All change meets resistance, and a change like this one even more so.

The implementation of the evaluation systems I have just described have had to face fierce resistance since their inception. But as soon as they began to have beneficial effects on society, they became institutionalized, and the resistance has somewhat crumbled. Today, one can say that a culture of systematic evaluation is beginning to take hold in Brazil and is not ready to disappear.

However, we need to improve existing programs of evaluation and face serious challenges.

Before closing I would like to point out some of those challenges:

- The difficulty of creating tools that measure competencies and cognitive abilities. It would be useful to do research in areas other than cognitive. But how do we go about that?
- Our identification of internal and external factors that influence student performance remains inconclusive. We have a lot to do in this area.
- It is difficult to establish performance standards that can stand up to comparison in a system of great regional diversity, as is the case in Brazil.
- It is also difficult to establish standards for higher education performance considering the diversity of institutions, their missions and specific vocations.
- And finally, we still have to find a way to measure the added-value that a school or a higher education institution gives to each student, in terms of the cultural background with which a student enters in each level of the education system.

I thank you for your attention.

