

Informes e Participações (1)

Voluntary national examination at conclusion of secondary school: a methodological challenge in brazilian education*

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Introdução

This paper analyzes an innovative, annual testing procedure under way for exiting secondary school students in the Brazilian educational system. This government venture has been in implementation for five years, in partnership with private institutions, specially Cesgranrio Foundation. Founded thirty-two years ago, this Foundation is a non-governmental organization located in Rio de Janeiro, Brazil. It was founded by twelve universities for the purpose of administering achievement tests to college-bound students. The idea was to improve the quality of applicants and, thereby promote high quality university graduates which would contribute to Brazil's development through academic and professional excellence.

This purpose of the Foundation, however, gradually expanded; at present, organizing those tests is no longer its main activity; and it has been operating in other

broader areas at the same time. Thus it included the nation-wide contests for selection of candidates for employment; out of this practice that extended beyond entrance examinations there arose the need to develop the area of evaluation as an indispensable process as part of several educational steps to ensure the improvement of the quality of teaching and learning. As the idea matured among the Cesgranrio Foundation's professionals, and in discussions with other researchers interested in the improvement of quality of life and social welfare in Brazil, it evolved toward perception that evaluation had to go beyond the educational area and cover society as a whole. Therefore, efforts were expanded to include evaluation of institutions and evaluation for certification, evaluative practice and contact with recent advancements in the area. Metavaluation was incorporated into the different evaluations conducted by the Cesgranrio Foundation

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itself and by others. At the same time, in order that this development be fully accomplished, forums, seminars and workshops have been held in local, national and international levels, in private and governmental organizations.

This is a historic moment for Brazil, when evaluation process are put on the spot in all areas, especially in the educational, social and health areas. The need for planning and developing evaluative processes is becoming evident to managers, researchers and beneficiaries of the educational system as well as the general public while implementing new policies, improving practices, or responding to accountability. Within this context, government educational evaluation programs have emerged targeting different objectives and levels: a) Evaluation System for Basic Education (SAEB), to evaluate both the national educational system and in each one of the states, at the elementary and the secondary levels; b) National Examination of Secondary Education (ENEM) for individual evaluation of the students who are completing their secondary education, in order to offer them proof of their school performance in terms of competencies and abilities acquired along their secondary education; c) National Examination of Courses ("Provão") to evaluate undergraduate courses, identifying to what extent the students who completed their degree programs acquired an essential aggregate of contents and abilities related to their fields of study, and also to what extent the university offers facilities that are necessary for the excellence of the courses.

In general, when the evaluation process is directed to ward the educational systems it is concerned with two major aspects, that is (1) identify those states,

regions, or counties which present a satisfactory level of performance and (2) identify those characteristics that make schools and systems mores effective and egalitarian in the sense of promoting learning for all different students, regardless of those characteristics which are out of the school control. In this sense, the evaluative process tries to identify strengths and weaknesses in the educational system and this cannot be done without establishing criteria of excellence and the appropriate analysis to offer valid information to those who are involved in the system and society in general.

Specifically in relation to the institutions of higher education, the Brazilian government tries to identify on the one hand, what courses are preparing students with the necessary minimal conditions for the practice of the corresponding career and, on the other hand, which elements or characteristics favor the best preparation of the professionals in each career.

In the case of the ENEM the focus of the evaluative process is the student. Thus, its purpose is, on the one hand, to investigate those competencies acquired during the high school period of study which are essential for the Brazilian youngster's entry into society as a citizen and as a worker.

On the other hand, the purpose is to identify those students' school characteristics that facilitate such acquisition. In both cases, criteria of excellence must be negotiated. Also relationships among observed performance of the students and characteristics of students' environment need to be analyzed to guarantee a fair interpretation of results and its proper utilization for the improvement of the students, the process and the overall system.

A major constraint to the success of these evaluation processes has been the lack of professional evaluators, mainly due to the scarcity of formal training programs and substantial publications on evaluation in this country.

One way of facing this problem is having professionals from other areas try to learn evaluation as they develop evaluation. Such a situation might have been responsible for the often seen distortion of concepts, particularly in distinguishing assessment from evaluation. Evaluation has been the only term used to define both processes. An insightful distinction between assessment and evaluation was given by Professor James Sanders in an informal conversation – "Assessment is WHAT. Evaluation is WHY". A common mistake is to consider as evaluations, processes that involve measurements but do not get to judgments. However, in spite of such limitations, it is important to recognize that Brazil is making important efforts to build an evaluation culture within its educational system.

More specifically, in connection with ENEM (the focus of this report) it should be emphasized that the Brazilian Ministry of Education is now offering an opportunity for self-evaluation to those students completing the 12 years of mandatory education.

Innovative Characteristics of ENEM

ENEM is an annual, voluntary test created in 1998; it was given for the sixth time in 2003. It is made up of two instruments: (1) a test (made of objective items

and an essay), and (2) a socioeconomic questionnaire.

The exam "considers the young citizens playing distinct but complementary roles: reader and writer of the world (EXAME..., 2002). The objective part of the test has as its main purpose the evaluation of the participant as a "reader of the world" (EXAME..., 2001). This part is elaborated as an instrument which seeks to measure five competencies and twenty-one abilities, forming wholes, associated to the competencies. These competencies are listed below and the abilities are annexed.

Competencies

I – Command of the cultural norm of the Portuguese Language and use of the mathematical, artistic, and scientific language.

II – Construction and application of concepts of different areas of knowledge to understand natural phenomenon historical geographical processes, technological production and artistic manifestations.

III – Selection, organization, relation, interpretation of data and information represented in different ways, in order to make decisions and confront problem-situations.

IV – Relating of information represented in different formats to available knowledge in concrete situations in or to build consistent argumentation.

V – Use of knowledge acquired in school to develop proposals of solidary intervention in reality, respecting human values and considering the socio-cultural diversity.

In all the previous exams the objective part was always composed of sixty-three questions. Thus, three questions are prepared for each of the twenty-one abilities. All the questions are of the multiple choice type, with five choices of which only one is correct. In terms of difficulty, the intention is to distribute the questions so as to obtain a test that provides easy questions, difficult question, as well as questions of medium difficulty. All questions have the same value, and the total points obtained are placed on a zero to one hundred (0-100) scale. Besides the students' general score on the objective part of the tests, their performance is also graded on each one of the five competencies. It is important to note that all the questions in the objective section are original, transdisciplinary, and intended to present an entirely original problem-situation, leading the respondent to adopt solutions involving contents inherent to more than one discipline.

On the other hand, the essay intends to evaluate the participant as a "writer of the world". In this regard, the student must produce a text based on a proposal which is presented to him. Just as it was done in the objective part, the proposal or theme of the essay also involves a problem situation. In this sense, it is expected that the student will be able to solve it, using the knowledge acquired through formal education as well as that acquired during his day-to-day life. Again, as in the objective part, the essay is evaluated by means of the five competencies – actually the same as those in the objective part, adapted for the production of the text. Each one of the five competencies is evaluated at four levels. The student's grade for the essay is obtained by calculating the arithmetical mean of his specific grades in each of the five competencies.

Here it is necessary to comment on the logistical challenge that is confronted each year the ENEM is held. For example, at the present time, this examination is planned to be held simultaneously, in the whole country, for more than 1.800.000 students. This situation requires first to find places where the exam is given, assuring good environmental conditions for the students, including easy access; second, it is necessary to prepare the test materials making sure that they are transported to the different locales of testing, on the correct date and time; and third, it is very crucial to develop a competent process of correcting of an immense volume of tests. For the objective part of the exam an optical reading mechanism is used since the answers are written in a proper sheet and format. However, the correction of the essays cannot be automated and in this case each essay is analyzed by at least two examiners. Whenever a high discrepancy between grades occurs or the essay is discarded by only one of the judges for not answering the question, there is a third correction. Such is the procedure to correct more than 3,000,000 essays.

The performance in the objective part as well as in the essay are reported as category placements that is to say, "insufficient" to "average" (from zero to 40 inclusive) "average" to "good" (from 40 exclusive to 70 inclusive), and "good" to "excellent" (70 exclusive to 100 inclusive). The individual grades on the ENEM are released only to the examinees themselves, through a report sent by mail to his (her) home address. It is for the student to decide when and how to use the information. The aggregate of the examination results (without identification of the respondents) is presented in a "pedago-

gical report" sent to the schools and governmental Secretariats of Education. It must be emphasized that for announcements the ENEM makes full use of the media: press, radio and television; there is also the ENEM Kit, with information about the examination; the kits are sent to high schools with students nearing graduation, to private and public universities, and Federal Ministries, among others.

As mentioned before, besides taking the test, the examinees must complete a socioeconomic questionnaire provided with the student's Manual (which contains information about the test). Thus the examinee must complete the questionnaire previously, using an appropriate optical sheet, and submit it on the day of the test. This report makes it possible to learn about different aspects of the examinees, such as personal identification, family status, school background, and professional life (if applicable). The information collected through the socioeconomic questionnaire is used not only to obtain a profile of those who took the examination in the country and in each state but also to allow different studies aiming at a better understanding of the student's development and the characteristics that show some relationship (positive or negative) with their performance.

Thus, for example, reporting procedures cut across characteristics of the students and their performance in the objective part of the examination, in essay writing and in each of the competencies in such a manner that one can know the mean, the standard deviation, the highest score and the lowest score of groups of students in different profiles. Such crossing procedures are also used in connection with their level of performance. At this point, it is important to make clear that

the rich database generated by the test is kept at the Ministry of Education; the material is made available for studies and research, provided the anonymity of the students is preserved, and the research seeks to generate subsidies for the improvement of teaching and learning.

Results achieved

The ENEM was held for the first time in 1998, when 157,221 students who were finishing or had completed high school registered to take the Exam. This number was possible due to the great interest raised by the Ministry of Education through the media, and to the action of the Secretariats of Education and high school teachers through out the country. That year most of the examinees were students in private and public school in large urban cities. This is understandable not only because of the fact that it was a voluntary test and there was a fee to be paid, but also because of the locales where the test was to be given. Although it was not planned to be a means of access to higher education, in the very first year only few institutions of higher education adopted it as one form of admission.

In 1999, the second year it was given, the number of registrants rose to 396,953 students. There are various possible explanations for this impressive rise, such as (a) there was a lessening of the initial resistance inherent, in general, to evaluative processes; (b) the test became better known; (c) a larger number of higher education institutions adopted it as the only form of gaining admission to the university; (d) the examination began to attain credibility among high schools; and (e) society began to discuss the test.

At this point, it is important to explain that there had been an initial resistance to this type of examination in Brazil, because teachers and students were more used to traditional examinations, limited to measuring contents where each question refers to a certain content of a specific discipline. In that sense it is natural that in the initial years when the test was given, students were afraid they would not be able to solve questions with formats, structure and formulation different from those they were used to. Teachers, on their part, feared the performance of their students, and also because they realized they would have to exchange their conventional teaching methods, based on the acquisition of contents, for a new form, organized according to the development of competencies and abilities. University professors, especially those responsible for the formulation of entrance examinations, also showed an initial resistance (some still do). They found it difficult to change the pattern according to which a student who wishes to attend a university must necessarily have attained proficiency on a whole lot of specific contents, whereas many times all that was required was that he take an objective test; he would be exempted from taking any examination that would involve writing a text, whether through answering questions involving reasoning or through writing a paper.

Therefore, it was necessary to intensify the "sensitivity training" of teacher and students in the first and second year of ENEM. However, the point that may have been decisive in making the examination acceptable to the students was that test-taking is voluntary, the anonymity of the students is to be preserved, and identification of the examinee is to be made only with his (her) consent, when he (she) wi-

shes and the way he (she) desires. The fact that the examination is optional and that the results are released only to the examinee for his self-evaluation may lead him to consider the following points: As a high school graduate is he able to be a "reader of the world and a writer of the world"? And, more than that, is he capable of using his reading and writing abilities to fully exercise his citizenship? Will he strive for the high quality of secondary education? These are highly relevant objectives indeed.

In the year 2000, a total of 390,180 persons registered for the examination. Then, students, school and the communities in general started to mobilize and strive for the democratization of the examination. This objective was accomplished in 2001, when registrations for the examination rose to 1,629.131, due to the fact (a) the test was now free of charge for students coming from public school and low-income families, and (b) the increased number of locales for the test made it easier to serve students who do not live in large cities, and specially those who live in rural areas.

In 2002 the number of registrants reached 1,829.170. This number remained practically stable in 2003 with 1,882,393 registrants, which means practically all the students who graduated from high schools, in the country. The democratization of the test, and the discussion regarding the test at different levels—the student body, teacher, technical/administrative staffs of the schools, university professors, and society in general—were, among others, facts that contributed to the appropriation of the ENEM not only by students but also by higher education institutions, by graduate programs which are

interested in developing study and research projects using the database generated by the examination; by the labor market, which uses the ENEM's results as their preferred selection criterion, particularly for jobs that, by way of formal education, require only graduation from a secondary school; by teacher-training courses, which discuss the examination and incorporate disciplines related to education, promoting the development of competencies and abilities; and finally, by the Brazilian Educational System, which renewed the discussion regarding the function of secondary education in this country.

The success of the ENEM has been strongly demonstrated in its results along

a trajectory of five years. However, difficulties did emerge in several ways and had to be overcome. From now on, probably many other challenges will have to be foreseen and prepared for; otherwise, the continuity of this innovative evaluative process will be in danger.

Above all, there is one crucial area that needs more attention. Relevant evaluation principles, in this case utilization-focused (MERTENS, 2003), need to be integrated with assessment principles. Such an effort is indeed a major challenge but can become a generator of future contributions to evaluation theory and practice.

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Annex

Abilities

- 1 – Given the discursive or illustrated description of an experiment or phenomenon of a scientific, technological or social nature, identify relevant variables and select the necessary instruments in order to conduct or interpret it.
- 2 – In a Cartesian graphic of a socioeconomic or technical-scientific variable, identify and analyze values of the variables, intervals of growth or reduction and taxes of variation.
- 3 – Given a statistical distribution of a biological, chemical, physical, economical or social variable, translate and interpret the available information or reorganize them, aiming at interpolation or extrapolation.
- 4 – Given a problem situation, presented in a language pertaining to a determined area of knowledge, relate it to its formulation in other languages and vice-versa.
- 5 – From the reading of prestigious literary texts as well as from information about artistic conceptions, establish relationship among them and their historical, social, political or cultural context, inferring the choice of themes, discursive nature and expressive resources of the authors.
- 6 – Based in a text, analyze functions of language, identify signs of linguistic variables, whose nature can be sociocultural, regional, related to register and style, and explore the relationship between the colloquial and the formal language.
- 7 – Identify and characterize the conservation and the transformations of energy in different processes of its generation and social use, and compare different resources and energetic options.
- 8 – Analyze critically in a qualitative or quantitative way the environmental social and economic implications of the utilization of natural, material and energetic resources.
- 9 – Understand the meaning and the importance of water and its cycle for the preservation of life in its relation with socioenvironmental conditions, knowing how to quantify variations of temperature and changes of phases in the natural processes and those of human intervention.
- 10 – Utilize and interpret different weather scales in order to situate and describe transformations in the atmosphere, hydrosphere and lithosphere; origin and evolution of life, population variations and changes in the geographical space.
- 11 – Facing the diversity of life, analyze, biologically, physically or chemically, common patterns in the structure and processes that guarantee the continuity and evolution of living beings.

12 – Analyze socioeconomic and environmental factors associated to the development and the life and health conditions of human populations through the interpretation of different indicators.

13 – Understand the systemic character of the planet and recognize the importance of the biodiversity to preserve life, relating environmental conditions and human intervention.

14 – In view of the diversity of plane and spatial geometrical forms which are present or imagined in nature, describe them through their characteristics, establish relationships among its elements, calculate length, areas or volumes and utilize the geometric knowledge for reading, comprehension and action upon reality.

15 – Recognize or not the aleatory character of natural phenomena and utilize counting processes, representation of relative frequencies, construction of samples spaces, distribution and calculus of probabilities in problem situations.

16 – Analyze qualitatively or quantitatively problem situations which are referent to environmental disturbances, identifying source, transportation and destiny of the pollutants, recognizing its transformations; foresee effects in the ecosystems and in the productive system, and propose forms of intervention to reduce and control the effects of environmental pollution.

17 – Identify stages, calculate gains, taxes and indices, and analyze social, economical and environmental implications in the process of obtaining and producing energetic materials and inputs.

18 – Value the diversity of ethno-cultural and artistic heritage identifying it in its manifestations and representations in different societies, times and places.

19 – Confront diverse interpretations of situations or facts belonging to a historical-geographic, technical-scientific, artistic-cultural of a daily life, comparing different points of view, identifying assumptions of each interpretation and analyzing the validity of the utilized arguments.

20 – Compare socioeconomic processes relating them to its historical and geographical context.

21 – Given a set of information about a historical-geographical, reality, insert in a context and put in order the registered events, understanding the importance of the social, economical, political or cultural factors.

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