VAMOS CONTAR: A COMMUNICATION CHANNEL BETWEEN IBGE AND BRAZILIAN EDUCATORS

MIRANDA Tatiana B.

Centro de Documentação e Disseminação da Informação

Instituto Brasileiro de Geografia e Estatística

Brazil

Contact email: tatiana.miranda@ibge.gov.br

ABSTRACT

This article presents the objectives and format of Vamos Contar, a project by the Brazilian Institute of Geography and Statistics. In order to fulfill the Institute's mission "to portray Brazil by providing the information required to the understanding of its reality and the exercise of citizenship", it is not enough to only produce and disseminate geographic and statistical information. In a country such as Brazil, in which the population faces major difficulties in the educational field, the Institute realized it could play an active role as a contributor to people's qualification so as to enable them to autonomously read and interpret data concerning their reality. Targeted at providing informative material and teaching resources for the pedagogical work based on data produced by the Institute, Vamos Contar was born as an educational project aimed at communication with teachers.

ESTATISTICAL EDUCATION

Regardless of its relevance for the development of skills related to data collection and analysis, counting and interpretation of information, Statistical Education still has limited participation in the curriculum and in the routine of Brazilian schools. A consequence of this fact is the low percentage of Brazilians who can effectively interpret statistical outputs, for instance, in the form of graphs and tables.

According to the survey for the elaboration of the 4th edition of INAF (National Index of Functional Literacy), only 23% of the Brazilian population can be considered to have understanding of graphic representations such as maps, tables and graphs. In addition to that, concerning the tests of the survey including graphs and tables:

> "the occurrence of right answers is usually low (between 41% and 8%), with significant prevalence of youngsters over older generations, of higher social classes (A and B) over the others, of men over women, of those with more schooling over those with less.
>
> Although the test proposes the reading of graphs and tables which are usually displayed in the media, only among the population with a university degree is it possible to reach above 70% of right answers.
> That evidences how much the Basic School needs to dedicate to the work with those representations as a strategy for the democratization of access to information and also to resources and procedures intended to organize and analyze information (4° INAF, 2004, p. 24)."

According to Irene Cazorla and Franciana Castro, the precarious status of Statistical Education in Brazil results in the incapacity of persons to have opinions and reflect upon any statistical data presented. Deprived of skills in the reading and interpretation of statistics, a large number of our population end up only consuming the data, graphs and tables available in the media and these have been previously interpreted by journalists and other professionals.

> Figures convey an idea of scientificity, impartiality and neutrality. When speeches, advertisements, headlines and news broadcast by the media make use of statistical information (numbers, tables or graphs), they gain in credibility and are seldom refuted by the common citizen, for this person might even question the veracity of the information presented, but has not been prepared to argue against it (CAZORLA e CASTRO, p 46, 2008).

More than expanding skills related to logical, quantitative and mathematical functions, Statistics allows one to collect information and turn it into knowledge about a given social reality. That permits a more critical analysis of information, since it is part of and encompasses the process of data collection, analysis and construction. The communication and information aspects of the contemporary world demand the making of choices and a reflective analysis before the overwhelming volume of information accessed every day.

Lopes (2010, p 02) analyzes some authors who deal with the importance of numerical and statistical literacy so that individuals can criticize and choose relevant and reliable information:

> According to Lajoie, Jacobs e Lavigne (1993) statistical literacy goes beyond computing abilities, it implies the numerical literacy needed by populations constantly bombarded with information they have to decide upon. Sharing this same perspective, the authors of GAISE – Guidelines for Assessment and Instruction in Statistics Education – (ASA, 2005), consider statistical literacy essential for individuals to make personal choices.

The television, the radio and the Internet, above all, disseminate a vast amount of information. The receivers of these data need to be prepared to select information and criticize its reliability. “We need to think of ways to build an emancipated subject, one who can relate to this new ecosystem of communication in an active way, not as a mere reproducer of previously-known discourses, but an author as well (CORRÊA, p 04, 2012). ”

According to Lopes (1998, p 05)

> (…) no area of human activity or knowledge can ever disregard Statistics, since it contributes to the awareness and interpretation of collectively-typical phenomena and to the indication of their probable future development. Nowadays it is essential that we be aware of this fact, for thinking statistically is a basic necessity of the end-of-century citizens. They need to develop their capacity to analyze, criticize and intervene when dealing with information which is part of everyday life.

A broader perspective for the data, in a social setting characterized by the high and varied production of information, is the development of critical and autonomous approach to realities, as fundamental skills in the access of citizenship. The configurations of the current communicational environment, especially on the Internet, allow the fast production of information and its immediate dissemination. The possibility of exposing their opinion on the web, through sites, blogs and social networks, gives every Internet user the opportunity of producing and disseminating information for free and in a simple way. However, not always is the information disseminated based on reliable sources. No pre-requisite for quality, veracity or reliability can prevent broadcast on the Internet. The task of selecting valid and relevant information relies on the users themselves.

Another highlight is the aforementioned poor status of statistical education among most of the Brazilian population. Official sources of statistical data, such as IBGE, cannot reach the majority of the population through the same institution which produces the data even though they have several forms of data dissemination, ranging from printed publications to a group of thematic web pages. As a consequence, the official information from IBGE and from other

official bodies is filtered and interpreted by the media (television channels, radio stations, printed and online newspapers) and by independent producers (blogs, sites, social network profiles, among others) before it reaches the general public. Quite often, official information is interpreted superficially by the media:

> According to Cazorla e Castro (2008, p 47):
>
> More and more we watch information polluted by numbers, statistics and graphs. (…) Terms once limited to the academic world, such as margin of error, level of confidence and sampling, now come into Brazilian homes at prime time. Billboards, magazines and newspapers present graphs which are increasingly more colorful, sophisticated, seductive and effective. They are not always reliable, nevertheless.

In that respect, providing statistical education is a task of great relevance to citizen formation, since one of the grounds of the access to citizenship is understanding and having a critical opinion about social, political and economic issues. "Given this reality, it is necessary to prepare the citizens to understand the process of generating statistical information, so that they can question, ask for additional information and make informed decisions (...)" (CROSSEM apud CAZORLA e CASTRO, Ibid).

VAMOS CONTAR PROJECT

IBGE has as its mission "to portray Brazil by providing the information required to the understanding of its reality and the exercise of citizenship". Nevertheless, before the problems faced by the population regarding the ability to interpret statistical and geographic content and information, it is notable that production and dissemination of information did not mean access to it.

Together with the task of producing and disseminating data, there is the need to promote cooperative actions intended to instruct the population and establish a minimum connection with the contents produced by the Institute. In order to provide means to develop reading skills in geographic and statistical information, the Institute's intention was to create an educational project to which Brazilian teachers could contribute as partners.

In 2000 IBGE launched the *Vamos Contar* Project, which resulted from the work of a multidisciplinary team formed by education and communication professionals from the Institute, in partnership with the Ministry of Education. The project started in the same year as the Population Census, and one of its main objectives was to enable teachers to make use of pedagogical resources and activities to teach students about the importance of the Census. The aim was to make students aware of the relevance of the Census operation, and engage them as motivating agents in their own homes, for stimulating their parents and family to answer the survey questionnaire. Another leading objective of *Vamos Contar* was to enable teachers to expand students' knowledge about "Brazilian realities, as well as the several uses of the Census for the country" (CORRÊA, Ibid, p 07).

In year 2010 a new edition of the project was launched, with the same objectives as in the 2000 version. To support teaching, IBGE created kits to be distributed among 1,546,612 classes in 157,309 schools all over Brazil. Those kits (separated into three school levels, the 1st and 2nd segments of Elementary Education and Secondary Education) included: advertising material of the Census, booklets with instructions for pedagogical work in Cartography, Geography and Statistics, maps and DVDs explaining the activities.

After the year 2010 a new format of the project was conceived, with a broader, more practical and accessible configuration than just the distribution of material with instructions and the application support of *Vamos Contar*. The idea was a configuration that could overcome logistical and financial restraints relative to the production and distribution of printed material. Another plan was to turn the project into a continuous action, instead of isolated editions. The solution came as an online portal, http://vamoscontar.ibge.gov.br, in 2012.

In 2011, Cetic (Center for Studies on Information and Communication Technologies) conducted a survey on habits of computer and Internet use with Brazilian teachers from 650 public and private schools of urban areas of all the Major Regions of the country. Despite the

small size of the sample in comparison with the total number of schools in the country in 2011 - 193,047 - that survey was elaborated by the CGI.br (Brazilian Internet Steering Committee), which deals directly with the target audience of the *Vamos Contar* project.

The results point to a high percentage of computer use by teachers, even when the use of the web for educational purposes is considered. The survey showed that 98% of the teachers surveyed had used the computer in the previous 3 months and 94% had a computer in their own home. As far as Internet access is concerned: 82% use the Internet every day or almost as frequently, and 16% use it at least once a week. Most of the teachers surveyed could access the Internet from home, 81%, and 13% from their school.

In terms of the Internet as a tool for didactic and teaching aid, data are extremely promising. In order to find some content for use in the classroom, 34% of the teachers use the Internet every day or almost as frequently, and 46% at least once a week. The frequency of Internet access by teachers in search of examples to be used in class is distributed as follows: access the web every or almost every day (15%), at least once a week (34%), at least once a month (19%). In relation to the use of specific portals for teachers: access the web every or almost every day (13%), at least once a week (27%), or at least once a month (22%).

The data obtained from the Cetic survey show that the use of the Internet by educators is frequent and that it is associated to the teaching activity, since a large number of teachers use the web to prepare and plan their classes, and also to collect material and find resources which can be used in their classes. It is in this context of expansion and popularization of Internet use in the academic environment, even as a didactic tool, that the concept of *Vamos Contar* in a web portal justifies its existence and reinforces its value.

The progressive increase of the number of teachers who access educational material on websites is to be reached in the medium and long term in Brazil. The dissemination of Internet access is something recent in the country. We believe we still need to expand the use of teaching material from educational websites. Therefore, we promote dissemination of these initiatives and awareness-raising actions concerning the quality and reliability of the material available in these portals.

The portal is currently the main vehicle of interaction with teachers. However, we also search for more traditional alternatives to reach teachers and students. As mentioned before, in 2010, we distributed material to 157,309 schools in the country. Besides, we are working on printed publications aimed at the child audience.

With reference to its dissemination, *Vamos Contar* goes beyond the Web. We are now elaborating posters, cards and folders to be sent to schools and other educational bodies in the country. We are also planning a schedule of visits to schools in order to promote and explain the potential and application of the project. It is our aim, through the dissemination in this portal, to encourage teachers to use it as a source of didactic resources and information for classes.

***VAMOS CONTAR* PORTAL**

The *Vamos Contar* portal aims at providing pedagogic guidelines and didactic resources to classroom works based on data and information produced by IBGE. The basic focus of the website is on Statistical and Geographic Education. Nevertheless, those areas should not limit the use of IBGE data, but rather function as a leading principle to motivate the interdisciplinary use of the contents of the website.

Another guiding principle of the portal is to provide teachers with instruments so that they can act pedagogically with focus on the statistical literacy of their students. Therefore, the site is often updated with activities on statistical education. These activities cover: a) data collection, register and analysis, b) reading, interpretation and construction of several types of graphs and tables and c) the steps of a statistical survey.

The portal includes the following content blocks: activities, resources, previous editions and teacher's blog. The activities and resources are split into schooling levels, adapting the type and format of the contents to particular grades and age groups. The sector of activities suggests educational actions presented in the form of class plans. Teachers have access to class formats

programs with relevant information on pedagogic grounds and class development, for every educational action should have objectives to be achieved, as well as clear detail contents and topics to be taught.

As a result, each activity details the objectives, contents, materials and implementation steps. Every activity is split into steps which are explained in an objective and detailed manner, guiding the teacher in the stand-alone use of the activities in the portal. The class plan format also aims at saving teachers' time, since most Brazilian teachers employed in Basic Education have low wages and work in two or more jobs to increase their income. As a result, the time for planning classes is restricted, which makes it helpful to access activities already formatted as class plans.

Activities are split into education levels: Preschool, Elementary Education (first cycle, 1st to 5th year), Elementary Education (second cycle, 6th to 9th year) and Secondary Education. The target audience is teachers from the beginning of Preschool until the end of Secondary Education. It is notable that notions of Statistics and Geography should be transmitted to small children during Preschool in order to promote students' gradual progress along the schooling years. Training students to read and interpret information and contents produced by IBGE requires starting the process in the very beginning of school life.

Another highlight of the topics proposed by the activities is their adaptation to the daily reality of students, as well as the incentive to critical interpretation. IBGE continuously releases outcomes of surveys that portray the Brazilian reality under several aspects. Hence, the *Vamos Contar* portal goes beyond reading graphs, maps and tables, providing critical interpretation of information. The key question is: what do these data mean to the reality of my country? Knowing about the information is not enough – interpretation is the key to turn it into active knowledge about Brazil. The selection of topics related with the daily routine of students and with contents belonging to their reality is legitimate, due to the provision of meaningful contents for students. Furthermore, their motivation to learn is intimately related with their identification with the educational contents.

Regarding the resources, teachers have access to the following support materials: school maps, fun and games, and audiovisual contents. The map sector is split into four groups: Geographic School Atlas, Elementary School, Secondary School and Blank Maps. The Geographic Atlas shows animated figures and provides general information about our planet and the formation of the continents, as well as a number of maps of Brazil and of the world.

The Elementary and Secondary Schools include maps of the world, Brazil, Major Regions and Federation Units. The maps are adapted according to their complexity, age groups of the audience and objectives of the school grades. For this reason, they are split into maps for the Elementary and Secondary School audiences. An important point is that the maps are available in PDF format and can be printed from the website. Although most of the teachers have daily access to the Internet, one of the concerns in the *Vamos Contar* portal is to address different ranges of teaching professionals. As a consequence, most activities and resources can be accomplished with no computers in the classroom.

The blank maps display only the outlines of the localities, allowing their identification and naming, as well as captioning and other cartographic tasks by the students. This block includes blank maps of Brazil, Major Regions and all the municipalities. The particular group of municipal blank maps is an important resource for reinforcing local identification, by stimulating students to identify their municipalities and neighboring cities on a map. It allows teachers to use geographic knowledge of physical and social realities closer to students as a basis and, thus, facilitate awareness of their most immediate reality.

The block Fun and Games shows playful resources and animations about Geography and Statistics. This part of the website is linked with the *IBGE 7 a 12 portal*, a website fully dedicated to children between 7 and 12 years of age. By means of online games, memory games and puzzles, the students can playfully access contents such as: critically endangered fauna, maps of the world, Central America and Brazil. It allows teachers who work in schools with computer labs to perform online activities with students in a playful way. In addition, students can finish their studies accessing these resources at home.

The website section launched in 2000 tells the history of the project showing its previous

editions. Teachers can find previously used materials like: educational manuals, maps and teaching videos.

The last block is the Teacher's Blog, a place to disseminate the educational actions developed based on the contents and resources available in the *Vamos Contar* portal. Teachers can post texts in the blog describing the work performed in the classroom and its results. The project staff moderate these messages. Very positive and fruitful reports have been received. An interesting fact is that the posts refer not only to the work performed with resources from the *Vamos Contar* portal, but also from other informational portals of IBGE: SIDRA, cidades@, países@ and IBGE. This experience evidenced how much the data and websites produced by IBGE are used in classrooms, confirming the need for a project like *Vamos Contar*, which can function as an educational and didactic guide to teachers' work.

In addition to posting texts in the Teacher's Blog, teachers have access to a photo album to register classes and students work. Besides the interaction between teachers and IBGE, the blog promotes the work produced by teachers. By reporting their experiences in the educational website of the agency responsible for official data in Brazil, teachers can demonstrate the validity and relevance of their pedagogical work.

It is worth highlighting that the project is recent: the site was inaugurated in October 2012. There has not been yet statistics on the impact of the portal in the application and dissemination of statistical education. However, teachers use of the interactive tools available on the website will enable us (while the project is developed, consolidated and disseminated) to measure and evaluate the potentialities of its practical application.

FINAL COMMENTS

Brazil is still on the way to achieving education quality. Education in Brazil still faces many problems. For most of the population, this picture entails some consequences directly associated with the understanding of reality and the exercise of citizenship, both stated in IBGE´s mission. We know that the implementation of an educational project for teaching Geography and Statistics to students is just one contribution towards the improvement of education in Brazil. Besides IBGE, a number of public and private institutions are engaged in the construction of quality educational system.

Even though the *Vamos Contar* portal is an online project launched less than one year ago, the demand for educational resources, the growing use of the Internet by teachers, the magnitude of the topics and the official nature of the data produced by IBGE raise expectations that the project may address some demands of national education. It is our intention to open ways through *Vamos Contar* for the study of knowledge areas - especially Statistics and Geography - extremely relevant for education as a whole. It is also our intention to contribute to enable people to autonomously read and interpret the information produced by IBGE. Individuals should have broad understanding of their reality in different scopes: social, political, economic and environmental, and then build the capacity to access and fully exercise their citizenship.

BIBLIOGRAPHY

CAZORLA, I. M. CASTRO, F. C. ***O papel da Estatística na leitura do mundo: o letramento estatístico.*** In: UEPG Ci. Hum., Ci. Soc. Apl., Ling., Letras e Artes, Ponta Grossa, 16 (1) 45-53, jun. 2008.

CGI.BR (Comitê Gestor da Internet no Brasil). ***Relatório do TIC Educação 2011***. São Paulo, Brasil, 2012, 04 Available on: http://op.ceptro.br/cgi-bin/cetic/tic-educacao-2011.pdf.

CONTI, K. C.. CARVALHO, D. L. ***A Educação Estatística na Educação de Jovens e Adultos: a inclusão em atividades letradas.*** In Revista Educação: Teoria e Prática- v.19, n. 33, p 177-193. UNESP, Rio Claro, Brasil, 2009.

CORRÊA, R. C. F. ***Vamos Contar: Um projeto de Comunicação e Educação do IBGE***. In: Anais do XXXV Congresso Brasileiro de Ciências da Comunicação- Fortaleza, Brasil- 2012, 04, 07. Available on: http://www.intercom.org.br/papers/nacionais/2012/resumos/R7-1423-1.pdf.

IPM (Instituto Paulo Montenegro). ***Relatório do 4º Indicador Nacional de Alfabetismo Funcional.*** Instituto Paulo Montenegro, São Paulo, Brasil, 2004, 24. Available on: http://www.ipm.org.br/download/inaf04.pdf.

LOPES, C. ***A Probabilidade e a Estatística no Ensino Fundamental: uma análise curricular.*** Thesis (Master) - Faculdade de Educação, Universidade Estadual de Campinas, Campinas, 1998, 05.

LOPES, C. ***A Educação Estatística no Currículo de Matemática: Um ensaio Teórico.*** 33ª Reunião Anual da ANPED (Associação Nacional de Pós-Graduação e Pesquisa em Educação). Minas Gerais, Brasil, 2010 Available on: http://www.anped.org.br/33encontro/app/webroot/files/file/Trabalhos%20em%20PDF/GT19-6836—Int.pdf. Minas Gerais, Brasil, 2010, 02.