

**Audience of Brazilian students in science and technology programs on  
television and magazines**

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**Abstract**

The media contribution to the knowledge on science and technology issues is a feature of modern society, as media serves as a constant source of information and keeps the individual connected to their socio-cultural environment. Access to information through television and magazines seems to be a common way to update on what is constantly being produced in science and technology. Therefore, this article, which is part of a larger

research, aimed at assessing students' access to information on science and technology through television and asking them about their reading preferences in magazines. The sample consisted of students from the five great Brazilian regions and how the data collection was performed by using opinion surveys (quantitative) and focus group (qualitative). The results indicate low rates of access to information regarding science and technology, both in magazines and on television.

## **Introduction**

Media influence on a person's perception formation is an intriguing issue, once the amount of information received is increasingly higher. In general, access to information is easier and more agile due to communication means and the easy use of new technologies. In relation to young people (our study segment), it is possible to observe that they spend hours of their daily routine either watching television or connected to the internet via a personal computer or cell phones.

In this context, in 2011 the Datafolha Polling Institute carried out a survey with young people between 16 and 25 years old about the most used information means by them. The data collected portrays that open television is still the main source of information, followed by Internet. Magazines and cable TV are less used as information means.

Open TV is the main source of information for young Brazilians, cited by 33% as the most frequently used mean of communication for information acquisition, followed by internet (26%), newspapers (19%), the radio (16%), magazines (3%) and cable TV (2%) (DATAFOLHA, 2012).

Taking in consideration that television is the main source of information among young people, this paper aimed at investigating if they acquire information about sciences and technology using television and other means of communication. Regarding science and technology, it is noteworthy that this issue has been gaining attention in the media in recent years, with programs, reports and science fiction films on various schedules.

Therefore, with an ideological discourse and active participation in our lives, TV helps to form our perceptions on these issues.

In this context, we bring the results of a survey conducted in Brazil, where we have investigated the perceptions of students regarding the subject science and technology in many ways, but in this paper we show the data and discussions on the opinions and perceptions of young people in relation to science and technology when inquired on the sources used to acquire this information.

### **Methodology**

Between 2010 and 2011 a nationwide survey was carried out by cluster sampling in the 5 Brazilian regions. The survey had two moments: a quantitative (opinion survey) and a qualitative (focus group). The questionnaire used with high school students was adapted from two other questionnaires: The National Questionnaire of Brazilian Science and Technology Perception (BRASIL, 2007), from *Tercera Encuesta Nacional sobre Percepción Social de la Ciencia y la Tecnología* (ESPAÑA, 2006) and the questionnaire ROSE - The Relevance of Science Education (TOLENTINO-NETO, 2008). The sampling was formed by high school students from the five great regions of Brazil (South, Southeast, Midwest, North and Northeast), residing in the capital of the state (chosen by raffle) and cities in the interior of the state. For each capital and interior city the survey was conducted in 2 schools, one with the highest average of ENEM and the other with the lowest average of ENEM. 1034 students in 20 schools answered the questionnaire. Data from the questionnaire were analyzed using SPSS statistical means (Statistical Package for Social Sciences) software version 11.0. In the qualitative phase, about 350 students participated and the data obtained from the focus groups were registered by digital recording and afterwards transcribed. Some transcription codes were used: **S** represents the student's speech, **R** the researcher's speech, (+) speech pauses and /.../ suppression of parts.

### **Results and discussion**

One of the questionnaires questions tried to verify the student's behavior regarding the information means and the subjects related to Sciences and Technology.

Table 1 shows data about the frequency on which the Brazilian students watch television programs that address themes related to Science and Technology

**Table 1:** Watch TV programs that address Sciences and Technology.

	Midwest	Northeast	North	Southeast	South
Yes, often	13.4	18.6	17.5	14.7	13.9
Yes, sometimes	74.1	65.7	73.2	67.5	67.1
No, never	12.5	15.7	9.3	17.7	19.0

*\*results shown in percentage*

Source: author (2012).

Among young Brazilians who watch TV programs that address Science and Technology it was noticed that the north and northeast regions have greater habit of watching this type of program. It is highlighted that the South and Southeast regions have the highest percentage of young people who never use this means of information to gain knowledge on this topic. It is important to point out that the overall percentage of students who frequently watch programs related to Science and Technology is low, i.e., is not in the culture of Brazilian people to watch this type of program.

One factor that may contribute to this low percentage is that the open Brazilian television shows programs addressing these issues at times of low television audience, as presented in section 1 of the interview with students from a school in the city of Brasilia - DF.

### **Transcription 1: Brasília - DF**

**S:** Who will wake up at 6:30 on Saturday morning to watch a television program about Science and Technology?

**R:** This is really a problem (+)

**S:** It should be in a more accessible time (+)

**R:** Do you think if *Globo Ciências* were on in a more accessible time (+) maybe (+) Saturday afternoon? Would you watch it?

**S:** A few would watch it (+)

**R:** But you, young people?

**S:** I would watch (+)

**S:** If it explains a subject in detail (+) it would be good because there are interviews on television (+) as it was show on *Globo Reporter* /.../ about sedentarism, they did not explain well this report, so it is necessary to be so (+) these subjects well explained (+) to let something understandable (+)

**R:** They end up doing something very superficial (+)

**S:** They end up doing a poor and superficial report (+) only address the subject (+) but do not deepen the subject (+)

In the transcription aforementioned, it is possible to observe that the students criticize the inappropriate time that the program about Science and Technology of the biggest Brazilian open television channel is broadcasted. These students also believe that if the time of the programming was changed few people would watch programs addressing these themes. On the other hand, some students declared that they would watch Science and Technology programs if they were more explanatory, because they consider that many programs treat Science and Technology in a superficial way, letting it somewhat understandable.

Regarding the Science and Technology on Brazilian television in 2012 the Magazine *Ciência Hoje* published results of a survey conducted with the objective of analyzing the Science content aired on the evening news. In this research, Massarani (2012) analyzed the content of *Jornal Nacional* (the most popular news program on open TV, broadcasted in prime time). According to the author:

One of the main results is that Science clearly integrates the agenda of Brazilian television news, occupying about 7% of its time. *Jornal Nacional* reaches millions: out of a 100 viewers who are watching TV while *Jornal Nacional* is on, 57 are watching the program. This is surprising considering that there is a section devoted to Science or even a science journalist working behind the scenes, selecting and preparing the reports. Science is simply part of the news agenda, as well as politics and sports (MASSARANI, 2012, no page).

This research is important due to the fact that it presents a consistent picture of Brazilian television, in which there is concrete evidence of the treatment of Science and Technology in prime time and with a large audience. However, it is important to note that the content of these materials has the character of scientific journalism and serve to give some news about some “discovery” about Science and Technology (as journalism normally address the theme). In this sense, there is a lack of discussions on themes that pervade the scientific and technological knowledge. Apart from this, the inclusion of Science and Technology news in Brazilian journalism, especially on television is a breakthrough, considering the scope and reach of this communication means.

Another point of our survey is about the students’ reading habits in relation to the type of magazines they usually read.

Among the various options offered, students should select only one answer (the kind of magazine most read by them). The results can be seen in Table 2.

Table 2: What kind of magazines do you often read?

	Midwest	Northeast	North	Southeast	South
Celebrity life	5.7	14.5	7.0	7.5	4.1
Sports	21.0	20.8	14.6	23.1	21.3
Political news	6.3	0	1.9	2.0	2.0
Economy news	1.1	0.6	1.9	0.5	1.0
Health and Beauty	10.2	6.9	10.8	9.5	9.1
Television	5.1	6.9	6.4	1.0	3.0
Female Fashion	12.5	16.4	11.5	12.6	7.1
Ecology/Environment/Nature	2.3	5.0	5.1	3.0	3.6
Information Technology	5.1	5.7	6.4	6.5	4.1
Travel	0.6	0.6	0	0.5	1.0
Sciences	2.8	1.3	1.9	6.5	12.7
Other	8.0	5.7	6.4	12.1	9.6
Any/I do not read magazines	14.8	13.2	21.0	12.6	19.3
I have no knowledge on this	3.4	1.3	4.5	2.5	2.0
I don not know	1.1	1.3	0.6	0	0

*\*results shown in percentage*

Source: author (2012).

When analyzing the results about the type of magazine that students most often read, some points were highlighted:

- a) There is a percentage of students who do not read any magazine, with the highest percentages in the northern and southern regions (21.0% and 19.3%, respectively).
- b) Science magazines have low percentages of reading by students. However, students in the southern region of the country had a higher rate (12.7%) compared to other regions.
- c) Ecology/Environment/Nature magazines have low percentage of reading in all regions of the country.
- d) In all regions, sports magazines are the kind that has the highest percentage of reading by students, except in the northern region.
- e) Celebrity life, fashion and sports are the most read kinds of magazine by Northeastern students.
- f) The Midwest region has a higher percentage than other regions in political news magazines (6.3%). In other regions the percentage is at most 2.0% and the Noartheast had no student researched reading this kind of magazine. It is noteworthy that in the Midwest the cities surveyed were Brasilia and Taguatinga, cities where the public administration of the country is. Another point to be noted is that this region was visited at the presidential election time (October 2010).

### **Final considerations**

In conclusion we can say that the Brazilian students interviewed did not have the habit of watching television programs that address topics on science and technology, or read about the subject. Some points can be considered as limiting for the establishment of this culture, such as the fact that our open TV does not offer good quality programs at appropriate times. On the other hand it is known that who defines what is conveyed in the media is the audience, i.e., the programming of a station is established due to the demand of its audience. Thus, if the Brazilian population watched programs about science and technology more often, the programming would certainly be modified. In this sense, the

data from our survey confirm that there is a general lack of interest in the subject, with slight variations in the percentages from one region to another.

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