## Mistakes in Brazilian papers are more from concepts than of expression

Erros em artigos científicos brasileiros são mais conceituais do que de expressão

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**FAPESP Agency** - The scientific writing is still the "Achilles heel" of many Brazilian researchers. The mistakes made when writing a thesis or research paper are much more related to problems of research methodology than to lack of ability with words to present the results in a clear, concise and interesting way.

The analysis of Gilson Volpato, Professor at Department of Physiology, Institute of Biosciences, Universidade Estadual Paulista (Unesp), on Botucatu campus, is the sixth revised and expanded edition of the book *Ciência: da filosofia à publicação* (Original name in Portuguese).

Launched in early December, the edition adds four new chapters to the nine of the first edition, published in 1998. One of them presents a brief summary of the history of philosophy in order to explain why science is done as it is today - only accepting conclusions based on empirical evidence (experimentally proved).

The idea of this chapter, according to Volpato, is to show the reader the inseparable character from the practice of science and philosophical and theoretical questions, and you can only do good science and write articles for publication in journals of high impact factor when you have a good philosophical training and a very precise understanding of scientific concepts.

"You must have a very clear understanding of what is doing science to perform good research, resulting in solid articles to be published in high-levels journals. You can not only fix the end of this process - the scientific writing - without having a well-founded basis behind it", said Volpato to **FAPESP Agency**.

Specialist in writing and scientific publication, the author who teaches courses in the area and has already helped Brazilian researchers to rewrite more than 250 scientific articles in the field of human, exact and biological knowledges – states that some of the articles published by scientists in Brazil have many structural problems.

Among these are introductions that do not fulfill their function, incomprehensible tables, graphs and figures, questionable methods and data that do not support the authors' conclusions but, in most cases, according to Volpato, errors inherent to the present study.

"If the research has started in a wrong way and it is bad, doing magic in the article is quite impossible. If the researcher studied an irrelevant question, even with good results, they never result in scientific papers that will stand out in their labs and let alone in Brazil", he said.

A major conceptual error in some papers published by Brazilian scientists, according to Volpato, is willing to do science to solve specific and localized problems, without addressing the general phenomenon, that just has the ability to solve specific problems.

According to the expert, what prooves this fact is that many very titles of some published papers still show the name of the institution or the city where the survey was conducted and data were collected, reinforcing the idea that the study is limited to that site

"In order to do science, we really need data collected from somewhere. But the problem is that some Brazilian researchers collect data from a particular place and only care about that place, especifically"said Volpato.

"It's very different to get the data from a certain place and build a general science that addresses particular issues, as can be seen in articles published by foreign scientists in major international journals. This learning and some scientific daring is still missing in our Brazilian researchers" the autor compares.

## Timely issues

According to Volpato, some of the factors responsible for the absence of general science is the lack of philosophical training on what is necessary to build knowledge and the fact that Brazil was long closed to the world. Some fields were separated from the science done abroad.

Moreover, according to Volpato, other areas related to basic science, such as immunology, cell biology and physics have always had a natural international integration that had greater projection in the 1990s with the advent of globalization and the internet.

According to the researcher, it is necessary to review the concept of doing science under a strictly local perspective so

that we can improve the quality of scientific papers published by Brazilian and thereby increase the publication in journals of high impact factor and international citation.

"The scientific writing is a strong indicator of authors scientific concepts so, to improve it, it is necessary, first, to correct the reasearches concepts of what it is like to do science", he said.

Volpato is also author of the books "Método lógico para a redação científica", "Bases teóricas da redação científica", "Publicação científica", "Bases teóricas para redação científica", "Administração da vida científica", "Pérolas da redação científica", "Dicas para redação científica", "Lógica da redação científica" e "Estatística sem dor!". ( All titles in Portuguese).

The Professor also publishes his work at www.gilsonvolpato. com.br where you can find articles, tips and reflections on scientific writing, education, and ethics in science. The site provides access to online classes in the course "Theoretical Bases for Scientific Writing," presented by Volpato at Unesp.

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