Inductive Or Deductive Reasoning in The Narrative of The Introduction of a Scientific Article: A Logical and Sequential Ordering

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Abstract
The objective of this short report is to describe and compare inductive and deductive reasoning in the introduction section of a scientific article as part of the research process. The purpose is to provide a reflection on the approach to reality in both methods, proposing criteria on the logical order and rationality of research.

Keywords: Deductive reasoning; inductive; scientific article

Introduction
The introduction is the section that places the reader in the context of the study. It indicates a route that allows understanding the problematic situation that gives rise to and justifies the research, provides knowledge regarding the subject in a contextual framework where the study problem is located, and allows to understand what is known and what is unknown about the subject to be treated, presents the questions or research questions, gives an answer to why the study is carried out and culminates with the objective or hypothesis of the work. The introduction must present the most relevant background that gives the foundation to the research, defines the objectives and relevance of the study according to the problem, and keeps a sequential and logical evolution (fig 1), which guides the reader in the environment and allows to understand what it is and where it wants to go.

The introduction and understanding of the object of study
The relationship between the problematic situation and its connection with everything that gives meaning to the research itself is reflected in the section of the introduction. Not described in the introduction what the study is? Or why it is important? It creates a void not only for the reader but also for the reviewer [1].

Introduction and information for the reader
This section presents in an orderly manner the existing and updated works that relate to the subject under study. This allows the reader to understand in an orderly and systematic way where the research is going and the reason for the study. If the narrative is fluid and cohesive it can allow the interested reader to engage with the research.

The Inductive approach to the introduction in a scientific article
There are methods whose main objective is the search for information and there are others that focus on the construction of knowledge [2] its rational form and its particularities on the approach to the precision of the problem has as a characteristic the need to start from the knowledge of individual phenomena that allow generating generalizations that have an empirical basis. In the introduction section of a scientific article, I would start with the collection and presentation of particular data and then show generalizations through inductive reasoning. This form of work is supposed to limit subjectivism [3].

Limitations of inductive reasoning
All inductive reasoning starts from an absolute truth of the premises that will become in turn the truth of the conclusion [4] [5]. Therefore, reliability is doubtful. Even more, when in its conclusions it provides diverse information.
obliged to express in an expository narrative, clear and orderly research topic, strategy and objectives of the study.

Conclusion

Deductive reasoning that uses general principles to reach a specific conclusion has a logical structure that allows the reader to be more context-oriented. A section of the introduction that uses logical reasoning strategies, the inductive approach using particular premises to reach a general conclusion, can create in the non-expert reader uncertainty and lack of understanding of the subject under study. The introduction section should be a guide for the expert reader or not. For this reason, logic indicates that general premises that lead to the specific aspects of the subject must be exposed.

Conflict of interest

The authors express no conflicts of interest with each other or with any institution.

Table 1: Comparison of deductive and inductive reasoning

<table>
<thead>
<tr>
<th>DEDUCTIVE</th>
<th>INDUCTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a theoretical-observational link</td>
<td>Knowledge through isolated information</td>
</tr>
<tr>
<td>Inferences are made from existing knowledge</td>
<td>Inferences are made from a truth considered infallible</td>
</tr>
<tr>
<td>It goes from the general to the particular or specific</td>
<td>Part of the specific that leads to generalizations on the subject</td>
</tr>
<tr>
<td>The conclusion is the product of diverse experiences</td>
<td>The conclusion is emanating from a truth considered absolute but, which may be questionable.</td>
</tr>
<tr>
<td>The reader is led in the narrative through the premises to reach an understandable conclusion</td>
<td>The reader is introduced to a conclusion and after observing all examples is placed in the context</td>
</tr>
</tbody>
</table>

Figure 2: Deductive reasoning and obtaining scientific knowledge

References

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