

Mebuke Tamar, PhD in Philology, Professor,
Georgian Technical University
Tbilisi, Georgia

A scientific article is a genre of scientific writing that is characteristic for peer-reviewed journals; other genres of scientific writing include research or grant proposals, theses or dissertations, laboratory reports, and literature reviews. As the primary readers of scientific writing are other scientists to whom the information is transmitted, redundant details, definitions, and explanations are usually omitted, as well as descriptions of general-knowledge concepts, or how routine procedures are carried out. The style of scientific writing is concise and precise as the aim is to communicate scientific information.

As science is based on previous work, corrects itself, and develops, scientific writing references other publications and is set within the context of already published papers in a definite field of science. This context provides a motivation for proposing a new work, writing a paper, gives grounds for new findings and interpretations, and serves the evidence of the authors' knowledge and expertise in the field of science.

The most common structure of a journal article, as well as any *format scientific writing usually follows a standard formal structure, frequently abbreviated as IMRD (Introduction-Methods-Results-Discussion)* (C.R. Miller 2013) frequently followed by conclusions. Journal articles also include such structural elements as a title, abstract, acknowledgements, and references.

An introduction states the question or problem to be resolved or studied, provides the background information, i.e. the context of the problem, the reason for the research, proposes the way of its solution, relates the problem to a theory, and explains how and why the research is important.

The organization of ideas is crucial for best understanding of information, hence, organization within sections or paragraphs happens according to the order in which ideas are presented. This organization of information in each part is shown by definite headings.

The main mode of presenting ideas is argumentation, which reflects a logical flow of thought. As introduction usually states the problem the

solution to which is given in conclusion, the semantic structure of an article, or its coherence, is circular, i.e. the introduction corresponds to the conclusion. Sentences in paragraphs are joined by a chain of lexicogrammatical connections that serve the means of cohesion and reflect logical unity of text structure. In case of multiple examples or a list of details, sentences may have parallel structures. When different implementations of innovation or an invention are suggested, the semantic structure of sentences, as well as paragraphs, may be radial.

As presentation of ideas is logical, a step towards the goal for a certain section is called a move. As every structural unit of a scientific paper serves some purpose and is, therefore, a “move” towards achieving a goal, the move structures is common for all structural units of it, such as a sentence, paragraph, and subsection as each of them are steps toward achieving a definite goal.

In conclusion the author summarizes the findings and generalizes their importance, raises questions, discusses ambiguous data, and recommends prospects for further research, or provides advice for practical application depending on the type of a scientific paper. All conclusions have to be supported by data.

Knowledge of the structure and composition of a scientific article is an important part of teaching academic writing at a Technical University. The elements of this knowledge should be introduced to the students at a bachelor's level of instruction and guide the development of logical, scientific thinking and arranging material in logical sequences both in the native and a foreign language. This knowledge will help students to write course works, conference presentations, and diplomas.

Special attention to academic writing should be paid at the post-graduate level of instruction where most students are already engaged in profession-connected activities, establish contacts with foreign colleagues, make presentations at work and at international symposiums about the results of their work and findings, write papers for scientific journals and reports about the results of their work.

Development of skills for scientific and logical thinking and writing should be considered an integral part of teaching foreign languages at Technical Universities in order to involve students into the context of the profession-connected work and make them competitive in it.