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Tips for Writing a Research Paper – IMRaD Structure | Edanz Learning Lab

7-9 minutes

Peer-reviewed academic journals publish a variety of article types, such as **research articles** that report original research, **reviews** of the literature, and **case reports** of a small number of interesting cases. Each article type has its own specific format, and it is important that you use the appropriate one.

1. Know IMRaD

Original research papers usually use the **IMRaD** formula. This acronym includes the four main sections of a research paper, which answer four basic questions, as follows:

- **Introduction:** Why did you do the study?
- **Methods:** What did you do?
- **Results:** What did you find? **and...**
- **Discussion:** What do your findings mean? How do you advance your field?

According to the [International Committee of Medical Journal Editors](#), the “[IMRaD] structure is not an arbitrary publication format but a reflection of the process of scientific discovery.” The

full structure is actually **TA-IMRaD-RAS**, because research papers begin with a Title and Abstract, end with the References, and often also have an Acknowledgment and various Statements. Some features of these additional sections are as follows:

- **Title:** usually part of the submitted Title Page, which also contains authors' details and often the word count and number of illustrations (tables and figures)
- **Abstract:** a summary of the study with or without subheadings such as Introduction, Methods, Results, Conclusion; usually ends with key words
- **References:** two commonly used styles are numbering in order of appearance (Vancouver) and alphabetical by surname and in date order (Harvard); the style and the position of the reference list depend on the journal
- **Acknowledgments:** here, you thank people who do not qualify for authorship but who helped you with the research or its analysis, reporting, and presentation
- **Statements:** declarations of, for example, work contributed by each author, funding source/s, conflicts of interest (reasons for any perceived bias), ethics approval, whether the data can be accessed by others, any supplementary methods/results files online, and whether any of the work has been previously presented; these declarations are sometimes made on the submitted Title Page and may appear at the beginning or end of the published article

Get the full details on using IMRaD in this handy infographic you can download from the [Edanz Learning Lab eBooks and infographics](#).



How to

WRITE A RESEARCH PAPER**Use the IMRaD formula****I****M****R****a****D**

Introduction

Methods

Results

and

Discussion

*Why
did you
do the study?**What
did you
do?**What
did you
find?***&***What
does it all
mean?***2. Find a target journal early**

Refer to the author guidelines of your target journal early on in the writing process. These guidelines explain the journal's requirements for manuscript preparation, for example:

- Word count of the main text
- Word count and format of the abstract
- Variations of IMRaD structure:
 - Methods may be at the end or combined with Results
 - Results may be combined with Discussion

- Methods, Results, and Discussion may all be combined as one or more sections, with different headings for different parts of the study
- IMRaD section names (for example, Introduction, Background, or no heading for the first section of IMRaD)

- Extra sections: some journals require a Literature Review or Related Work section between the Introduction and Methods; some require Conclusion and Future Work sections after the Discussion
- Number and style of references
- Number and formatting of illustrations and associated text, and placement of illustrations within the main text, at the end, or in separate files
- What statements to include and if there are special online forms to complete
- General formatting (such as double line spacing)
- UK or US spelling

Using the free [Edanz Journal Selector](#) will help you find a suitable journal and its online author guidelines.

3. Use the “write” order

To increase your writing efficiency, use **TA-MRDI** order instead of **TA-IMRaD**. Otherwise, you may waste time at the start by writing an Introduction that is too long or unrelated to the rest of the paper. The “write” order of TA-MRDI, with the Introduction written at the end, will allow you to build a focused academic argument and help convince the reader of the need for and importance of your study. The recommended order for writing your research paper is actually based on your illustrations and can be summarized in these 10 steps:

1. Preparation

- Draft your illustrations, put them in a logical order
- Summarize each illustration's key point
- Use the key points and notes from your initial reading to make a brief IMRaD [outline](#) to answer the questions: Why did you do the study? What did you do? What did you find? What does it all mean?

2. Title

Announce the most important feature of your research.

3. Abstract

Summarize the key messages of your IMRaD outline in the [abstract](#); input text into the [Edanz Journal Selector](#) to find a target journal.

4. Methods

Describe the materials/samples, procedures, and analytical methods in the order of your illustrations to allow others to repeat your study.

5. Results

Finalize your illustrations and highlight their main features in the main text.

6. Discussion

Evaluate your results in the context of the published literature, identify strengths and weaknesses, draw conclusions, and include

implications and future directions.

7. Introduction

Present enough information for readers to understand your study's aim, design, conclusions, implications, and importance; the amount of background depends on the target journal readership (for example, generalists vs. specialists).

8. References, etc.

Prepare the **References** and any **Acknowledgment/s** and **Statements**.

9. Title

Finalize the **Title**.

10. Finally...the abstract again

Finalize the **Abstract**. The “write” order of TA-MRDI will allow you to save time and start writing even while you are still performing the research. As soon as you have analyzed your results, prepare the illustrations and make sure they have corresponding descriptions in the **Methods** section of the main text. The Methods are factual, recent, and familiar to you, so they should be relatively easy to describe.

In the main text of the **Results**, you highlight the main features of your data and illustrations, making sure to describe relationships between the data instead of just repeating what is already shown in the illustrations.

In the **Discussion**, you compare your findings with those already

published, and you identify strengths and weaknesses of your research. In this way, you evaluate your results in the context of what is already known in your field, and you can draw conclusions and propose practical and conceptual implications and future research directions.

While you read the relevant literature, you can decide which published articles will help frame your research in the **Introduction**, especially if your study design and data are of a higher quality than those in the literature.

After writing the Discussion, you will also have a clear idea of the key findings, variables, concepts, theories, and topics that need to be explained to the reader in the Introduction. By writing the Introduction last, you will provide readers with a logical and convincing rationale for your study and help them to understand the relevance and usefulness of your findings.

Complying with the author guidelines of your [target journal](#) and being familiar with IMRaD and the “write” order of TA-MRDI will help you prepare your manuscript efficiently and completely.

Finally, after drafting your manuscript, remember to [revise, edit, and proofread](#) your manuscript. You’re well on your way to [outperforming your competition](#) and [raising your publication rate](#).