

Objectives : Consolidate M02 students' learning experience in TS.

### Unlocking key concepts

The ‘IMRaD’ format refers to a research paper that is structured by four main sections: Introduction, Methods, Results, and Discussion. Though it is the most commonly adopted writing framework in social sciences, natural sciences, or engineering and computer sciences; this format is basically used for reporting experimental studies or any planned, systematic research in form of essay, a scientific paper, a formal lab report or an academic journal article. And this is because it offers both authors and readers (e.g. editors and reviewers) a framework to write in economical fashion, and in a way that will be instantly recognizable to the target readers, and convincing to them.

Introduction The introduction section is for persuading readers to the significance of the research paper and positioning the investigative study within the existing body of knowledge. Basically, it explains why this research is important or necessary to the area of the study. It is possibly to initiate it by describing the problem or situation that motivates the research followed by discussing the current state of research in the field before revealing a “gap” or problem in the field. Finally, it may be concluded by explaining how the present research is a solution to that problem or gap. If the study has hypotheses, they are presented at the end of the introduction.

Methods The methods section informs readers how the study under investigation were conducted. It includes information about population, sample, methods, **materials**, and equipment. The “gold standard” of the methods section is that it should enable readers to duplicate your study. A special characteristic of the methods section has to do with grammar aspects. In terms of voice, i.e. the possible alternation between active and passive constructions, passive

**Note that!** Many choices are still to be made on the part of the author in terms of the representation of the research in spite of the restrictiveness of this model.

### Potential Building Blocks

#### CARS Model (Swale: 1990)

##### Create a Research Space

I. Establishing the territory for a research through:

- Claiming centrality
- Making topic generalization(s)
- Reviewing items of previous research

II. Establishing a niche via:

- Counter-claiming
- Indicating a gap
- Question-raising
- Continuing a tradition

III. Occupy a space to the study by:

- Outlining purposes / concerns
- Significance Announcing present research

#### Criteria for Mterials' Selection (SMART)

- Sufficient to support your claim.
- Typical & representative.
- Accurate & Up to date.
- Relevant to the claims.

constructions seem to dominate this section. Also, in the choice between the present and past tense, the latter is clearly dominant in a methods section. Taken together, this means that the language used in a methods section is dominated by simple past passive constructions. E.g. (1)A stratified random sample was collected. (2)The filled bottles were shipped directly to a medical laboratory.

Results The findings are reported in this section. Typically, the Results section contains only the findings, not any explanation of or interpretation on the findings. Respectively, results sections are usually presented in tables, charts, diagrams, images, equations, illustrations or graphs.. And it is customary also to present, describe and comment on these in proper running text passages.

Keep in Mind: Tables and figures are labeled and numbered separately. Captions go above tables and beneath figures.

Discussion In this section, the main findings of the experimental study are analyzed, interpreted, synthesized and summarized. comment on those findings, and connect them to other research. You also discuss limitations of your study, and use these limitations as reasons to suggest additional, future research. It is very common in a discussion section, as well as in a results section, for an author to argue for his or her interpretation of a specific observation or result. In many cases, though, it is not beyond reasonable doubt, for example, what was the cause of a result. For this reason, it is important to be able to express degrees of uncertainty. This can be done in many ways. One of them is through modal verbs.

In case of research articles, a list of references at the end is embedded for the references occurring in the main text in addition to an abstract, title and keywords.

### Potential Building Blocks

- Provide a general introduction & overview materials /methods:
- ✚ Restate the purpose of the work
- ✚ Give the source of the materials/equipment used
- ✚ Supply essential background information
- Provide specific & precise details about materials / methods and justify choices.
- Relate materials/methods to other studies
- Indicate where problems occurred

(Glasman-Deal 2010: 67)

### Building Blocks

- Revisiting previous sections
- Summarizing/revisiting general or key results
- Mapping (relationship to existing research)
- Achievement/Contribution
- Refining the implications
- Limitations
- Current and future work
- Applications. Glasman-Deal (2010: 179-180)

### IMRaD Variations

- Combined results and discussion sections
- Separate conclusion section .
- Separate literature review section.

**Abstract – Summarize the entire study**

The abstract for the report comes at the beginning of the paper, but it is written after drafting the full report. The abstract provides a very short overview of the entire paper, including a sentence or two about the report’s purpose and importance, a sentence or two about your methods, a few sentences that present the main findings, and a sentence or two about the implications of your findings.

The common structures IMRaD based research articles for a potential Academic Journals

- Title
- Abstract
- Keywords
- Introduction
- Methods
- Results
- Discussion
- Conclusion
- References

**While you at it !**

1. Check the meaning of the following terms:

- a. Spider map Chart
- b. Flow Chart

.....

.....

.....

2. List the different types of Diagrams.

.....

.....

.....

3. Explain how the following visuals could be embedded and reflected in research paper for Literature & Civilization area of research.

.....

.....

.....

4. Do you think the IMRaD structure is beneficial for crafting a research paper in your major? justify!

.....

.....

.....

.....

**Common problems in IMRaD drafts:**

- ✚ The Abstract does not provide a clear statement of the main findings.
- ✚ The Introduction does not communicate clearly why the research is important.
- ✚ The Methods section is not detailed enough or is disorganized.
- ✚ The Results section provides comments and explanations instead of simply reporting results.

References ( For further reading)

<https://www.awelu.lu.se/genres/writing-in-academic-genres/research-articles-ras/three-versions-of-the-ra/>

<https://writingcenter.gmu.edu/writing-resources/imrad/writing-an-imrad-report>