

Results and Discussion Sections in Scientific Research Reports (IMRaD)

After introducing the study and describing its methodology, an IMRaD* report presents and discusses the main findings of the study. In the **results** section, writers systematically report their findings, and in **discussion**, they interpret these findings. If the discussion section is not followed by a separate conclusion section, then the discussion will include elements of a conclusion as well (e.g., provide limitations, directions for future research, or other moves outlined in the handout “IMRaD Conclusions”).

* IMRaD refers to reports with the structure Introduction-Method-Results-Discussion used in empirical research in natural and social sciences. Please refer to the Writing Center quick guide “Writing an IMRaD Report” for more explanations.

Depending on the discipline, journal, and the nature of the study, the results, discussion, and even conclusion sections can be organized in varying ways:

Option 1: **Results** and **discussion** in separate sections with conclusion moves included in the discussion section

Option 2: **Results** and **discussion** combined; **conclusion** separate

Option 3: **Results**, **discussion**, and **conclusion** in separate sections

Results (What did you find?): Creating a results section involves systematically presenting and describing the outcomes of the study. To summarize results, writers often use visual representations: Tables and figures are commonly included in the results sections to ensure clarity.

Discussion (What does it mean?): Discussion sections interpret the most significant results as they help shed light on the study’s research questions. While writing a discussion section, writers compare the results of their study with previous research as well as speculate on the explanations for such findings.

Common Moves in Results Sections

Below are some moves, sub-moves, and language commonly used in results and discussion sections.

Move	Includes one or more sub-moves	Sample language
Making reference to aims research purposes and procedures		To identify the difference between A and B, ...
Making reference to data/ statistics	a) Referring to data in tables or charts b) Emphasizing significant data trends in tables or charts	a) Figure 1 compares the results obtained from the preliminary analysis of X. b) Figure 10 demonstrates a clear trend of decreasing...

Evaluating results	<ul style="list-style-type: none"> a) Stating a positive result b) Stating a negative result c) Highlighting interesting or surprising results 	<ul style="list-style-type: none"> a) Strong evidence of X was found when... b) There was no evidence that X has an influence on... c) Interestingly, X was observed to...
Reporting survey and interview findings	<ul style="list-style-type: none"> a) Reporting response rates b) Reporting proportions c) Reporting theme d) Reporting participants' views e) Introducing excerpts 	<ul style="list-style-type: none"> a) Respondents were asked to indicate whether... b) 70% of those who were interviewed indicated that... c) Another reported problem was... d) One interviewee argued that...
Making transitions	<ul style="list-style-type: none"> a) Seamlessly moving out of one result and into another b) Summarizing the results section 	<ul style="list-style-type: none"> a) Comparing the two results, it can be seen that... b) Overall, the experiments show that...

The table is based on the information from University of Manchester's Academic Phrasebank <http://www.phrasebank.manchester.ac.uk/reporting-results/>

Common Moves in Discussion Sections

Move	Includes one or more sub-moves	Sample language
Providing background information	<ul style="list-style-type: none"> a) Reference to the literature b) Reference to the question 	<ul style="list-style-type: none"> a) Prior studies that have noted the importance of... b) With respect to the first research question, it was found that...
Restating, comparing, and explaining result(s)	<ul style="list-style-type: none"> a) Summarizing results b) Supporting previous findings c) Contradicting previous findings d) Indicating an unexpected outcome e) Offering an explanation for the findings 	<ul style="list-style-type: none"> a) The results of this study show/indicate that... b) This finding is consistent with that of Doe et al. (2000) who... c) This outcome is contrary to that of Doe et al. (2017) who found... d) One unanticipated finding was that... e) This discrepancy could be attributed to...
Advising cautious interpretation of findings		Although exclusion of X did not..., these results should be interpreted with caution.
Suggesting general hypothesis		It is therefore likely that connections exist between...

The table is based on the information from University of Manchester's Academic Phrasebank <http://www.phrasebank.manchester.ac.uk/discussing-findings/>

Activity to help you prepare for writing IMRaD results and discussion sections

Choose a journal in your discipline and read the results and discussion sections of a few IMRaD reports. Analyze these sections addressing the following questions:

- How are the sections organized? Are results and discussion presented together or in separate sections? Is the conclusion a separate section or a part of the discussion? Why do you think the authors decided to follow such organizational patterns?
- Which moves and sub-moves are present in the results and discussion sections of these reports?
- What language or contextual clues helped you identify these moves?
- How often are citations used in both sections? When or for which purposes do the authors use each citation?
- How often is passive voice used? Which tense(s) do the authors predominantly rely on? How can you explain this use?

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