

READING A RESEARCH ARTICLE



A HOW-TO GUIDE





Reading a research article may be an intimidating experience for some and is partly a matter of skill and experience. Don't be intimidated; using a step by step approach, even a difficult looking article can be an easy read.

I. The Elements of a Research Article

The first thing to notice about a research article is its structure. Most research articles will have a consistent format that includes a **Title**, **Abstract**, **Introduction**, **Methods**, **Results**, and **Discussion**. Variations on these headings may be encountered (e.g. Methods Section) but these basic elements can be found in any research-based article. Let's examine what each of these elements contain.

A. **Title** – The title is simply the title of the article, it is meant to summarize the manuscript very simply and give the reader a good idea of the main topic of the article.

B. **Abstract** – The abstract is a brief but comprehensive summary of the contents of the article; it allows readers to review the substance of the article relatively quickly without delving in to a lot of detail.

C. **Introduction** – The introduction provides a context for the research conducted in the article. In this section you should find an introduction to the specific question under study, an explanation of the importance of the question, any relevant background literature, and the hypotheses that will be tested in the article. The introduction will provide information about why the study is being conducted and the importance of the research question

D. **Methods** – The methods section provides information about the design of the study (e.g., an experiment, longitudinal data analysis, etc.), the participants in the study (e.g., children, parents, teachers, etc.), and the measures that were used to collect data (e.g., surveys, interviews, observations, etc.).

E. **Results** – The results section presents the data analysis strategy and the result of the analysis. Here the relationships among variables¹ and/or any differences between groups² will be reported. This section can be quite technical to someone new to research and it is ok if the information seems foreign the first time around.

F. **Discussion** – The discussion section includes further explanation of the results of the study and their implications. The author discusses the results in narrative form and evaluates the implications of the results. This section may also include information about the limitations of the study and areas for future research.

¹ Assessing relationships among variables refers to a statistical analysis being conducted and may include correlations or regressions. See the How-To Guide on *Statistical Language* for further information.

² Observing differences between groups refers to a statistical analysis being conducted and may include t-tests or ANOVAs. See the How-To Guide on *Statistical Language* for further information



II. Reading the Research Article

Now that we have covered the elements of a research article, let's review the recommended steps for reading the article. First, start by reading the title. This should give you a quick idea about the general topic of the article. If the article seems like it is of interest to you, move on to read the abstract. It is important to read the abstract for several reasons. First, it will give you an overview of the research conducted by the authors of the article. This will give you a better idea if you want to spend the time reading the article itself. Also, it will provide some foreshadowing information about the study that could be useful as you read through the article. Once you have gone over the title and abstract, you can take the following steps to get the most out of the article you are reading.

A. **Skim** through the entire article. Spend just a few minutes quickly reading over the article. You should note things like major headings and subheadings. At this point you are not critically evaluating the content but rather just getting a feel for what the article contains.

B. Get the **vocabulary** down. At this step, thoroughly read through the article. Spend time underlining any words or phrases that are new to you. Once you have underlined the words and or phrases, it is time to figure out their meaning. This can be done in several ways. One option is to use a dictionary to look up terms that are unfamiliar to you. Consider also using a relevant textbook as well as a traditional dictionary. Because the ways in which some words are used differ in subtle ways between a dictionary definition and the way it is typically used in the research literature, a textbook can be a valuable resource. For example, you will likely come across the term significance³, particularly in the Results section. This term has a specific statistical meaning that may not be reflected in a dictionary definition. You can also infer the meaning of words and phrases from the context in which they are used.

C. **Comprehend** each section. Try to resolve any of the words or phrases that were initially unfamiliar, then go back and re-read the entire article. After re-reading the article you should have a better understanding of it and be able to summarize the content of the article. If you cannot summarize the article, consider reading the article again.

D. **Reflect and evaluate the article.** Once you have read through and can summarize the article, you are in a position to evaluate the article. By evaluating the qualities of the article, you are able to draw your own conclusions about what the authors found. In addition, you can critically examine the claims that they make about their findings and their implications. This is a crucial part of the process of reading an article, as it allows you to make your own judgments about the merits of the research.

³ Typical dictionary definition: -noun – 1. importance; consequence 2. meaning; import 3. the quality of being significant

Typical statistical textbook definition: The probability that the observed effect was the result of chance alone

*This "How To" guide was adapted from the following sources:

APA (2010). *Publication manual of the American Psychological Association* (6th Ed.). Washington, DC: American Psychological Association.

McNeal, Ann. School of Natural Science, Hampshire College. *How to Read a Scientific Paper – A Four-Step Guide for Students and for Faculty*. http://hampshire.edu/~apmNS/design/RESOURCES/HOW_READ.html



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