

**Your paper doesn't have to be unreadable!**

**A manual on scientific writing**

**Ruth Pappenheim**

© 2022 Ruth Pappenheim

Druck und Vertrieb im Auftrag von Ruth Pappenheim:  
Buchschniede von Dataform Media GmbH, Wien

[www.buchschniede.at](http://www.buchschniede.at)

ISBN:

978-3- 99129-367-5 (Paperback)

978-3- 99139-095-4 (E-Book)



Das Werk, einschließlich seiner Teile, ist urheberrechtlich geschützt. Jede Verwertung ist ohne Zustimmung des Verlages und der Autorin unzulässig. Dies gilt insbesondere für die elektronische oder sonstige Vervielfältigung, Übersetzung, Verbreitung und öffentliche Zugänglichmachung.

## **Contents**

1. Introduction .....	9
2. Writing readable research papers .....	11
3. The purpose determines the style.....	14
4. What makes a text readable? .....	24
4.1. A checklist to assess text quality .....	24
4.2. Text, grammar, and semantics .....	25
5. Exercises.....	38
5.1. Clear wording.....	38
5.2. Function and form .....	40
5.3. Grammar in scientific writing .....	41
5.4. Semantic networking.....	43
5.5. Use of commas .....	47
5.6. Combining words.....	48
5.7. Now it's your turn! .....	59
References: .....	61



## Foreword

It is often believed that scientific texts are complicated because of their specialized terminology. However, in my experience teaching scientific English and editing research papers, I have found that technical and scientific jargon is the least of the problem. It is rather that putting research into words demands a special way of expressing thought processing. Scientific writing is a very special kind of communication. Thus, for example, writing an abstract of a research project differs completely from writing a review or a summary of a book or a film.

Our point of departure in this manual is the question “What does the scientific community expect to find in a paper?” They expect a clear presentation of the different phases or components of research design: raising an issue that is still unsolved in the state of the art, postulating assumptions, proposing hypotheses, describing research methods, analyses, and results, concluding, and discussing the outcome. This manual focuses on the way these research components can be expressed in any scientific field.

Writing *readable texts* is our aim. We will focus on language aspects that make a paper *transparent* so that the reader can easily follow the research design. Often, our first drafts are *obscure* texts. Revising them implies getting rid of unnecessarily complicated wording and improving text networking.

Based on the concept of *readability* in science, this book will allow you to gain awareness of how research is expressed, thus providing you with criteria to improve your writing skills. The exercises will allow you to reinforce your ability to use expressions commonly used in the different sections of a paper.

## 1. Introduction

This manual has probably caught your attention because you are involved in research. Reading scientific papers has become part of your ordinary life, and you can easily judge if a paper is well written. However, when it comes to your own writing, things don't seem to be that easy. You may find yourself looking for the right expressions to convey a hypothesis, justify your research, or stress its contribution. You have come across these expressions, and they are somewhere in the back of your mind. But while you write, you may struggle to find the right words.

In its initial explanatory section, this manual pretends to *activate* the linguistic knowledge you have acquired through reading. You will associate scientific style with the kind of thought processing that is universal in science. This awareness will then be reinforced with the exercises in the last section of this manual. By the end of this training, you will apply these principles to your work.

*Readability* will be our core concept throughout this course. A readable scientific text is characterized by *clarity, precision, and logical connection*. These characteristics allow the reader to effortlessly grasp the logical processing of ideas in a research paper.

Academic or scientific style is not just formal and technical. It is special because it serves

particular communication purposes. Science has a precise way of expressing knowledge with distinctive words, phrases, and grammatical forms. There are special ways to convey what is being done in research, such as determining the scope of a project, defining hypotheses, and interpreting quantitative or qualitative data. Here, you will gain awareness of the most common linguistic and stylistic characteristics in the components of research papers.