

Tips and tricks for writing a scientific article

Assoc. Prof. Jitse P. van Dijk MD PhD^{1,2,3}, Margriet Hielkema MSc⁴, Marieke R. Potijk BSc⁴

¹ Lecturer & Expert in Social Determinants of Health, Olomouc University Society & Health Institute, Palacky University, Olomouc, Czech Republic

² Associate Professor in Public Health, Department of Community & Occupational Health, University Medical Centre Groningen, University of Groningen, The Netherlands

³ Scientific Director, Graduate School Kosice Institute for Society and Health, Medical Faculty, Safarik University, Kosice, Slovak Republic

⁴ PhD student, Department of Community & Occupational Health, University Medical Centre Groningen, University of Groningen, The Netherlands

CORRESPONDENCE:

Assoc. Prof. JP van Dijk MD PhD
Department of Community & Occupational Health
University Medical Centre Groningen
Ant. Deusinglaan 1
Building 3217, Room 631
9713 AV Groningen
The Netherlands

ABSTRACT

In this manuscript some writing tips and tricks are offered which can be of help in the process of creating a convincing and readable manuscript. The process of writing a manuscript itself should become easier, in particular for the inexperienced writer, with help of the websites mentioned in this article.

KEYWORDS:

scientific article, writing

INTRODUCTION

Writing a scientific article can be a very difficult process. Moreover, for some it is a kind of superlative to suffering. Fortunately, there are some guidelines which can be helpful in the writing process, like a fixed structure, as indicated in Figure 1. Van Dijk went into this in more detail in a previous article¹.

Figure 1 General structure of an article

(Title page)
(Abstract)
1 Introduction
2 Methods
3 Results
4 Discussion
(References)
(Tables, Figures)

There are also several websites which can be of great help in writing a manuscript. In this paper we will highlight several handy tools for this. We will also show how to check whether your bibliography is complete and whether the document is written in understandable English. Next, we will go into plagiarism and the question where to submit the manuscript. Finally, the criteria for authorship will be highlighted.

METHODS

For this contribution we used material which is lectured to PhD students in Groningen². Furthermore, two of the authors used this for a lecture for the Public Health Research group³, and it was used for a presentation in Olomouc⁴.

RESULTS

General web sites – Several websites give general information about writing a manuscript; some are about grammar, some discuss the sections of a manuscript and some give handy synonyms or sentences to use. A general website is <http://owl.english.purdue.edu/owl/section/1/>, which provides support for several aspects of the academic writing process⁵.

Another helpful website is <http://writing.wisc.edu/Handbook/index.html>, which provides several recommendations and comments for writing a clear and readable article, such as: 'Write clear and concise sentences' and 'Use the active voice'. The website gives a lot of 'Transitional words and phrases' and offers some help regarding the 'Stages of the writing process'⁶. For writing papers with a special focus on psychology or related behavioural sciences, <http://www.psych.uw.edu/psych.php?p=339> is a website one could consult⁷.

A real diamond is the website <http://www.phrase-bank.manchester.ac.uk/>, where frequently used sentence structures can be found that are related to specific parts of the manuscript, i.e. the Introduction, Methods, Results and Discussion⁸. Also very helpful is the website on Etblast, <http://etest.vbi.vt.edu/etblast3>. This website can, for example, be used to decide whether all of the important literature is included in a paper. A search for articles on Etblast is quite similar to a search on PubMed, but with Etblast one can search with one's own written text instead of keywords⁹. A part of one's own text or the whole draft text can be entered; then the button <Search for Similar Text> is pushed and the website provides you with similar references. On this basis one can decide whether the bibliography is complete or not.

Understandable English – One necessity for writing a draft is the question of whether the written text is understandable for the reader; in other words, whether understandable English is used. The website <http://conc.lex tutor.ca/vp/eng> gives insight into one's scientific vocabulary¹⁰. It shows a ratio of the most commonly used words in the English language ('K1' is used for the most frequent words 1–1000; 'K2' for 1001–2000) versus academic English (AWL) and jargon (off-list). A more or less 'neutral distribution' ends up in a ratio of 70 K1: 10 K2: 10 AWL: 10 off list. To identify which words are 'academic', one can paste one's text into the website <http://www.nottingham.ac.uk/~alzsh3/acvocab/awlhighlighter.htm>. The 'academic words' will be highlighted. The website <http://conc.lex tutor.ca/vp/eng> also gives the origin of the words used: Anglo-Saxon words or words related to Greco-Latin or to the French language.

Visualisation words – To visualise the words that are stressed in the draft – and among them should be the keywords of your article – the website <http://www.wordle.net> can be used¹². To find alternatives for words in the text and to understand the meaning of words in a broader context¹³, the website <http://visuwords.com> can be recommended.

Plagiarism – The website created by <Etblast> provides a similarity score with other papers, <http://etest.vbi.vt.edu/etblast3>. This website has already been mentioned in this paper. The website, <http://dejavu.vbi.vt.edu/dejavu/> can be called the 'déjà vu' database,¹⁴ because it provides a database for similarity scores.

Where to submit – To explore or to decide where to submit one's manuscript, there are a few rules to take into account. The manuscript should be submitted to a journal with an Impact Factor (IF)^{15,16}. An IF is based on the number of times a journal was cited in the past two years. A higher IF means that the chance of others reading one's paper is higher, and therefore, it is more likely that the paper will be cited. One might also be inspired by published papers used in one's own bibliography. In the end, the content of the manuscript is more important than the IF. Use a <journal finder> from sites like <http://etest.vbi.vt.edu/etblast3> to find a number of journals, and then have a look at their contents to see whether they published articles similar to the one you have created. Journals have requirements; stick to these and be sure to use correct English!

Rules for authorship – Some general rules for authorship (in biomedical journals) are given on the website http://www.icmje.org/ethical_1author.html; the number of journals adhering to these criteria is increasing¹⁷.

DISCUSSION

In this contribution we have suggested several websites which can be of great help in creating a manuscript. We hope that reading this article will make writing a scientific article easier. Probably the most difficult issue in the process of writing a manuscript is staying focused on the main idea or hypothesis. Once more, we wish to underline the fact that the websites we have referred to are available for use by everyone. Finally, we wish you good luck and no suffering in writing your research papers.

JP van Dijk graduated in Medicine, Law, and Public Administration, University of Groningen and was for a period of 8 years member of the University Council (comparable with

the University Academic Senate); science policy belonged to his portfolio.

M Hielkema graduated in Psychology, University of Groningen, and is PhD student at the Department of Occupational & Community Health, University of Groningen.

MR Potijk is a medical student at the University of Groningen and a PhD student at the Department of Occupational & Community Health, University of Groningen.

ACKNOWLEDGEMENT

This article was supported by the project 'Social determinants of health among socially and other health disadvantaged groups of the population' (CZ.1.07/2.3.00/20.0063).

REFERENCES

- 1 Van Dijk JP. The structure of a scientific article. Profese 2013: ##-##.
- 2 The Share Science Writing course 'Read as a Writer'
- 3 Hielkema M, Potijk M. Tips and Tricks for Writing and Word Usage; for the Public Health Research group; 2012, April 23.
- 4 Van Dijk JP. Tips and Tricks for Writing; for the Palacky University, Olomouc, Czech Republic; 2012 September 7.
- 5 Purdue Online Writing Lab – <http://owl.english.purdue.edu/owl/section/1/>
- 6 University of Wisconsin, Madison – <http://writing.wisc.edu/Handbook/index.html>
- 7 University of Washington, Dept of Psychology – <http://www.psych.uw.edu/psych.php#p=339>
- 8 University of Manchester – <http://www.phrasebank.manchester.ac.uk/>
- 9 University of Virginia, Virginia Bioinformatics Institute – <http://etest.vbi.vt.edu/etblast3>
- 10 University of Quebec, Montreal – <http://conc.lexutor.ca/vp/eng>
- 11 University of Nottingham – <http://www.nottingham.ac.uk/~alzsh3/acvocab/awlhighlighter.htm>
- 12 ## – <http://www.wordle.net>
- 13 Visuwords™ online graphical dictionary – <http://visuwords.com>
- 14 University of Virginia, Virginia Bioinformatics Institute – <http://dejavu.vbi.vt.edu/dejavu/>
- 15 Van Dijk JP. Rankings and their impact on university's science policy. Profese 2013: ##-##.
- 16 Van Dijk JP. Science policy measures to increase university output. Profese 2013: ##-##.
- 17 International Committee Medical Journal Editors – http://www.icmje.org/ethical_1author.html