

Writing for publication

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The Scientific Editing Company



Using Zoom

Your control panel is located at the bottom of the Zoom screen. On the left hand side, you can control your audio and video via the buttons:

MUTE/ UNMUTE START/ STOP VIDEO

BREAKOUT ROOMS

(switches off your audio/ switches on your audio) (switches on/ off your webcam)

You may wish to mute your audio and stop your webcam video output while you participate, you will still see and hear everything.

In the centre and right of your Zoom control panel you can see:

PARTICIPANTS(the other participants in the session)CHAT(the group conversation, opens in a new panel on the right)LEAVE MEETING(you can leave the session via this button at the end)Other:(the group conversation)

(for discussions, an invitation to join a room will pop up)

About me

- 1999 2003 BSc Microbiology
- 2003 2004 MSc Informatics
- 2004 2008 PhD Neuroscience
- 2008 2011 Postdoctoral Research Associate
- 2011 Electv Company Director

(University of Edinburgh)(University of Edinburgh)(University of Edinburgh)(University of Edinburgh)







Contents













Icebreaker



Using chat:

- 1) Describe your research in a sentence
- 2) Say which year of your PhD you are in
- 3) Say where you are at the moment





"I think the main thing is: Just do it. Plunge in!"

- Margaret Atwood on writing, 2014







Why publish?



Why publish?



- To share and disseminate your research
- To build on existing knowledge
- To boost your career prospects & raise your profile
- To be the first to report these findings
- Your contract may require you to publish
- To inform the public, industry & others beyond academia
- To inform policy

Publication of an article is often the culmination of years of research and is a key part of the research process.

The average researcher reads 250 articles per year spending (on average) 30 minutes on each article.





History of scholarly communication





History of scholarly communication



Philosophical Transactions of the Royal Society of London

The first journal, published in 1665



Status of scholarly publishing



Data: STM report, 2018. https://www.stm-assoc.org/2018 10 04 STM Report 2018.pdf

When to publish?

When is the right time to publish and how do you know if you have enough?

- Discuss with your colleagues and any co-authors, what do they think?
- Read! Critique & evaluate published papers in your field, how do they compare to your work?
- Ask your PI or colleagues to recommend their favourite articles based on content and presentation
- Consult the editor of your chosen journal

Ultimately, the decision to publish is yours (and that of your coauthors).



"Good writers are avid readers."

- Steven Pinker

(Source: The Sense of Style: The thinking person's guide to writing in the 21st Century)



Authorship



What do you need to have done to be listed as an author?

Group discussion

Co-authorship

What do you have to do to be listed as an author on an article? *Click on the tick and cross on the right...*

Some journals encourage authors to describe the contribution of each author in detail and this can be seen in the "author contributions" section, called the Contributor Roles Taxonomy (the <u>CRediT system</u>), in the published article.

The orders of authors' names on the article may also indicate their level of contribution and this should be discussed with co-authors at an early stage. Authors should meet the following three conditions:

- Substantial contributions to conception & design, acquisition of data, or analysis and interpretation of data
- Drafting the article or revising it critically for important intellectual content
- Final approval of the version and its content to be published
- Authorship is not generally granted if a person has only:
 - Obtained funding
 - Collected data
 - Done general supervision of the research group









Who is involved in the process?



- If you have more than one author, then all of them must approve the final version of the manuscript being submitted.
- The authors usually start to discuss the manuscript before the first draft is written, deciding who will write what section and the order of names of authors for the final version.



- The editor will be the first person to see your submitted manuscript and they will decide if it should be sent for peer review or rejected.
- You may wish to contact the editor in advance of submitting your manuscript to see if they think it would fit the type & style of article published in that journal.



Peer reviewer(s)

- An important part will be the peer review process.
- Most journals invite independent reviewers to assess and comment on each new article and authors are given the opportunity to respond.
- There are usually two peer reviewers and they recommend to the editor whether the paper should be published or not.



The cycle of publishing



Scholarly publishing has several stages and it is a rigourous process: it can take many months from submitting your article to final publication.



You may only submit your manuscript to one journal at a time.



There are two routes for your article once you have submitted it to the journal:

- 1. Sent to peer review
- 2. Rejected by the editor



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Exercise - Your article

- Write a title for your article
- When (on what date) do you want to submit the article?
- List your co-authors
- Have you had a meeting about the article with your co-authors yet? If so, what did you discuss?







3 Preparing to publish

Selecting a journal

Selecting a journal to send your article to is one of the first things that authors do.

Once you have a target journal, you can look at the website and read through the guidelines for authors section for a detailed outline of the type of articles the journal accepts, the structure they prefer, the peer review process and many other journal policies and key aspects to preparing the manuscript.

Other considerations that you may wish to include are:

• The journal's copyright © policies

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- Are there any publication fees or colour printing charges?
- What are the journal's rejection rates?
- Can you make your article open access immediately?



There are over 30,000 journals to choose from



Examine your reference list: Who do you cite? Where did they publish?



Will your paper be consistent with the type & style of articles published in your journal of choice?



Turnaround time? How long will it take for your article to go through peer review?



What reputation does the journal have? What do your colleagues think? Do you read articles from it? Are journal rankings useful to you?

Selecting a journal

You may wish to follow the <u>Think. Check. Submit</u> guidelines to help you identify trusted journals as there are some fake journals out there - the checklist below may be helpful. Researching aspects such which organisation publishes and edits the journal can be useful in helping you to decide.

Journal checklist

□ Who is the publisher of the journal? Do they publish other titles?

□ Is it peer reviewed?

- □ Who are the editors? Have they published in the field before?
- □ Who else publishes their work in the journal?
- Does the journal accept the type of article (e.g. research article, review article, methods article) you want to publish?
- □ Is the journal a member of DOAJ or COPE?
- □ Are articles in the journal frequently cited?
- □ What is the journal's copyright and open access policy? (search on SHERPA RoMEO)
- Other metrics, such as the Journal Impact Factor, may be worth considering though this is generally considered to be an inaccurate measure of journal quality.









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Connecting Researc and Researchers



Exercise







Search for relevant journals for your article

- Make a list of up to five potential journals.
- Next, check the author guidelines for each journal and browse the published articles within it.
- Which is the most suitable for your article?





4 Scientific writing



Scientific writing style

- A well written scientific article is factual, clear, concise and based on evidence.
- Articles usually have a clearly defined structure and the authors use this to tell an engaging story about their research findings.
- There should be a logical and coherent argument throughout the article based on a clearly defined topic.
- The authors usually state their findings early on in the article, it is not like a crime novel where the big reveal is at the end.
- The reader's time is precious there are many articles out there competing for a reader's attention.



"Scientists receive (and offer) much advice on how to write an effective paper that their colleagues will read, cite, and celebrate. Fundamentally, the advice is similar to that given to journalists: keep the text short, simple, bold, and easy to understand."

Weinberger CJ, Evans JA, Allesina S (2015) Ten Simple (Empirical) Rules for Writing Science. PLoS Comput Biol 11(4): e1004205. https://doi.org/10.1371/journal.pcbi.1004205



Scientific writing style

- Clear, concise language
- Use unequivocal language
- Be precise
- Back up your claims with evidence
- Use short sentences

- Be wordy
- Use overly long sentences
- Be vague
- Use emotive language



"Scientists receive (and offer) much advice on how to write an effective paper that their colleagues will read, cite, and celebrate. Fundamentally, the advice is similar to that given to journalists: keep the text short, simple, bold, and easy to understand."

Weinberger CJ, Evans JA, Allesina S (2015) Ten Simple (Empirical) Rules for Writing Science. PLoS Comput Biol 11(4): e1004205. https://doi.org/10.1371/journal.pcbi.1004205

Do

Don't



The readers



- The author(s) should clarify why is this study important or "who cares?"
- Make it easy for the reader to understand and follow.
- How does this study build on what has gone before?
- What is different about this study? What is the contribution to knowledge?



- The reader expects a certain structure to the article, usually in line with the type and style of article usually published in that particular journal.
- They often read through an article quickly, spending on average 30 minutes reading it.
- If this is an interdisciplinary study or published in a more general journal then the reader may not have a detailed background in the field so bear this in mind when preparing the article.



Academic Phrasebank

The academic phrasebank is an excellent resource for researchers.

Created by the University of Manchester, the Phrasebank provides a range of examples of general language functions used in academic writing.

If you are looking for a prompt on how to structure a certain sentence or start a paragraph this is a good place to start.

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Introducing Work	Referring to Sources Describing Methods Reporting Results Discussing Findings Writing Conclusions
	Home Page
ENERAL LANGUAGE FUNC	TIONS
Being Critical	The Academic Phrasebank is a general resource for academic writers. It aims to provide you with examples of some of the phraseological 'nuts and bolts' of writing organised according to the
Being Cautious	main sections of a research paper or dissertation (see the top menu). Other phrases are listed under the more general communicative functions of academic writing (see the menu on the left)
Classifying and Listin	The resource should be particularly useful for writers who need to report their research work. The
Compare and Contras	thinking about the content and organisation of your own writing, or the phrases can be
Defining Terms	incorporated into your writing where this is appropriate. In most cases, a certain amount of creativity and adaptation will be necessary when a phrase is used. The items in the Academic
Describing Trends	Phrasebank are mostly content neutral and generic in nature; in using them, therefore, you are not stealing other people's ideas and this does not constitute plagiarism. For some of the entries,
Describing Quantities	s specific content words have been included for illustrative purposes, and these should be substituted when the phrases are used. The resource was designed primarily for academic and
Explaining Causality	scientific writers who are non-native speakers of English. However, native speaker writers may
Giving Examples	still find much of the material helpful. In fact, recent data suggest that the majority of users are native speakers of English. More about Academic Phrasebank .
Signalling Transition	This site was created by John Morley. If you could spare just two or three minutes of your time, I
	would be extremely grateful for any feedback on Academic Phrasebank: Please click here to

now be downloaded in PDF

version of PHRASEBANK can

Tips & hints



□ Make your research question very clear at the start.

- □ The abstract is a summary of the article: what you did, what you found and why this is important.
- Clearly state your findings early in the manuscript authors often include a short summary of the key in the last section of the introduction.
- You do not have to write the manuscript in the same chronological order that you performed the experiments but it should be logically laid out so that the reader can follow the story.
- □ Write in clear language and try to avoid overly verbose or "wordy" phrases.
- □ Consider making the first sentence of each paragraph a "topic" sentence that indicates what the rest of the paragraph will be about. The reader can then read the first sentence of each paragraph and get a clear overview of the article.





5 Article structure



Structure of an article

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- Most scientific research articles are written in the IMRAD structure, as shown on the right.
- The overall structure of an article can be likened to an hourglass shape.
- Articles are laid out in clearly defined sections with descriptive headings.
- Articles includes graphics and tables to help the reader clearly follow the author's argument.



ntroduction

Results

Discussion

And

Materials & methods

Structure of an article



Your article



For your article, write the following:

- The research question
- Four sub-headings for your introduction
- What was different about your study
- Four sub-headings/ key findings (or expected findings) for the results section
- Four sub-headings for your discussion section







Figures, diagrams & presenting data



"The greatest value of a picture is when it forces us to notice what we never expected to see."

– John W. Tukey

Quantitative

VS

Qualitative







2.

2 -

3





TABLE 2.

Local int. Local int. Local int. Local int. CNL CNL CNL CNL

Qualitative

DIAGRAMS TABLES PICTURES **QUOTES & WORDS** TRY THIS VIZ CONSIDER THIS VIZ WHAT STORY Ripple Effect Mapping Graphic Recording Spectrum Diagram **ARE YOU TRYING** Network Mapping Quote and Picture Concept Mapping Evidence Matrix Icon and Colors Mind Mapping Change Photos Venn Diagram Flow Diagram Indicator Dots Speedometer Word Clouds Dendrogram Cluster Map Callout Box Phrase Net Word Tree Timeline Histomap Heat Map TO TELL? HIGHLIGHT A PERSON'S COMMENT ALIGN WITH A GOAL OR OUTCOME SHOW A PROCESS PRESENT THEMES SHOW CHANGE OVER TIME **DISPLAY PARTS OF A WHOLE** QUANTIFICATION **EXPLORATORY EXPLANATORY**

FOR MORE SEE STEPHANIEEVERGREEN.COM/BLOG PRESENTING DATA EFFECTIVELY EFFECTIVE DATA VISUALIZATION

Qualitative chart selector

Evergreen data: <u>https://stephanieevergreen.com/qualitative-chart-chooser-3/</u>

The Data Visualisation Catalogue

- A summary of different graph types and what data you use them for
- Examples
- Chart nomenclature
- https://datavizcatalogue.com





Figures, diagrams & presenting data



Exercise: Refer to the sub-headings you just outlined in the previous exercise

- 1) Write a list of figures, diagrams &/or tables for this chapter
- 2) For each figure, what type of graphic will you use and how will you lay it out? Draw a quick sketch.
- 3) What information do you need to include in the figure legend?

Motivation & keeping going

Click on the icons below...



- Set deadlines for your writing project & milestones
- Organise your time and schedule your writing
- Avoid distractions ("Ooo, that paper was interesting, I'll read it again now...")
- Focus on the key questions, try to avoid going off on tangents
- You can always fill in details later (just put in a note and come back to it)
- Be concise and keep it relevant
- Language: clear, concise, correct
- Try to avoid using too much "academese"
- Start with the key sections (results & figures), then build out from there
- Join or start a writing group and write together at a set time every week

Freewriting

Just write...

If you are facing a blank page and wondering how to start, freewriting can be a helpful technique to kickstart your writing.

What is freewriting? It is when you write for a set amount of time without stopping. You don't need to worry about grammar, spelling or editing, you just write solidly until the time ends and empty your thoughts on to the page.

Afterwards, you read it through and decide what to keep and what to delete. If you do this regularly, even for only 15 minutes, the word count will add up.

Focus Select a section of your manuscript from your plan 2) Set a timer for 15 minutes 3) Freewrite Timer goes off – read through your 4) work

Freewriting



Pick one sub-heading from your previous exercise, now write as much as you can on that part of your manuscript in 15 mins.

- Think about it briefly
- Start writing, don't stop
- Don't edit
- Empty your thoughts on to the page





6 Copyright & OA



Copyright



- <u>Copyright</u> is a form of intellectual property (IP) that gives authors/ creators legal rights over their work.
- The author automatically owns copyright over their work, they do not have to register or apply for it.
- They can license their work out to others via Creative Commons licences.

Music &

sounds

Copyright covers several types of work, including:

Video



Written documents, books & papers





Photographs

Graphs, drawings & images

© creative commons

"Creative Commons (CC) is a non-profit organisation that provides <u>Creative</u> <u>Commons licences</u> and <u>public domain</u> <u>tools</u> that give every person and organisation in the world a free, simple, and standardised way to grant copyright permissions for creative and academic works; ensure proper attribution; and allow others to copy, distribute, and make use of those works."

- Creative Commons



Open access

- How will you make your work openly available for others to find?
- Many traditional journals require readers to pay subscription fees in order to access the journal content (these fees are usually paid by your university's library)
- Open access means making your work available for everyone to access free of charge.
- Open access applies not only to articles, but datasets, figures and other research outputs too.
- There are a number of ways that you can make your work available, or open access, including via journals, institutional repositories or other online options.
- Many funding organisations and institutions in the UK now require their researchers to make their work open access so it is important to understand your responsibilities.





What is open access?





CC BY SA SHB online (YouTube)

Why is open access important?







CC-BY Danny Kingsley & Sarah Brown

Submitting the manuscript

- When you are happy with your final article draft and all of your other documents, then you are ready to submit your article to the journal!
- Authors are usually asked to complete an online form with their names (all authors), contact details, ORCID and other details.
- You may also be given the opportunity to suggest a short list of peer reviewers for your manuscript.
- If you are given the opportunity to include a cover letter to the editor then you should take it.



Final checklist for submitting:



- article.
 Double check the journal's author guidelines and make sure your article
- □ Suggest a short list of reviewers

complies.

Cover letter (why is it novel and interesting? Why this journal?)



Exercise







Who are the peer reviewers?

• Make a list of up to five potential peer reviewers for your article.





7 Navigating peer review



Why do we have peer review?



WWW. PHDCOMICS. COM

Group discussion

What reviewers evaluate

The first person to see your manuscript will be the journal editor and they will decide whether or not to send your article out for peer review.

Hopefully, they will decide to take it forward and send it on to (usually two) independent reviewers.

What does the reviewer evaluate?

- Novelty and originality of the manuscript
- Validity of the study
- Methodology

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- Does the article fit with the journal?
- Has previously published, relevant literature been cited?



Reviewer's responsibilities:



- To provide expert opinion
- To help improve the article
- To recommend, or not, to the editor that the article is suitable for publication in this journal



Types of peer review

Click the red boxes to see the different types of peer review >>







8 After publication



Making your article visible

Congratulations! Your article has been published!



Now that your article is available, you can take some quick steps to make sure that it is easy for people to find.

- If your article was not published in an open access journal, make a copy (often a pre-print version) openly available in your institution's repository.
- You may wish to add the article citation or the PDF pre-print of your article to your university profile page or a social network.
- Consider writing a blog post or short summary of your article for your department, institution or popular website.
- Share a link and short summary about your article on social media.
- Track interactions with your article using article level metrics and altmetrics. (See next slide for examples of article level metrics.)



Can people find your article?

Basic article level metrics and alternative metrics ("altmetrics") let you track interactions with your article

Platforms such as Altmetric enable you to track social web interactions





Interactions & article metrics



Article level metrics

Basic article level metrics and alternative metrics ("altmetrics") let you track interactions with your article. Some journals, such as the PLOS journals (left), automatically track and display article metrics such as the number of saves, citations, page views and shares (via social media or email).

Screenshot taken on 18.10.19 https://journals.plos.org/plosbiology/article?id=10.1371/journ al.pbio.2001402



- Publishing is a key part of the research process and an important way to share your work with your peers and beyond academia.
- It can be a lengthy process but it is worth it!
- Your institution's library is an excellent resource and you may wish to consult them regarding copyright, open access, storage and journals.



"The secret of my success is comprised in three words: Work. Finish. Publish."

- Michael Faraday



References (writing)

Organisations

Committee on Publication Ethics (COPE)

European Association of Science Editors (EASE)



Books

Belcher, WL (2019) Writing your journal article in 12 weeks, 2nd edition. SAGE. (aimed at humanities and social sciences) Day, RA & Gastel, B (2017) How to Write and Publish a Scientific Paper, 8th edition. Cambridge University Press. Murray, R (2019) Writing for academic journals, 4th edition. Open University Press.

Articles

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Powell, K (2016) Does it take too long to publish research? *Nature*. 530(7589):148-51.

Zhang, W (2014) Ten simple rules for writing research papers. PLoS Comput Biol 10(1): e1003453. https://doi.org/10.1371/journal.pcbi.1003453

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References (Presenting data)

Books

Visual Display of Quantitative Information - Edward Tufte Visual Explanations - Edward Tufte Visualize This – Nathan Yau Designing data visualizations, O'Reilly - Noah Iillinsky & Julie Steele Beautiful visualization, O'Reilly - Noah Iillinsky & Julie Steele The Functional Art – Alberto Cairo The Truthful Art – Alberto Cairo Data visualisation - Andy Kirk

Graph types

- Dataviz Catalogue http://www.datavizcatalogue.com/
- The Graphic Continuum http://www.scribblelive.com/blog/2014/10/01/graphic-continuum/
- FT Visual vocabulary https://www.ft.com/content/304419ec-63a3-11e6-8310-ecf0bddad227

Articles

Franzblau & Chung (2012) Graphs, Tables, and Figures in Scientific Publications: The Good, the Bad, and How Not to Be the Latter. <u>The</u> Journal of Hand Surgery, <u>Volume 37, Issue 3</u>, Pages 591-596

Rougier NP, Droettboom M, Bourne PE (2014) Ten Simple Rules for Better Figures. PLoS Comput Biol 10(9): e1003833. https://doi.org/10.1371/journal.pcbi.1003833

Newspapers

Guardian datablog New York Times South China Morning Post

Web

Flowingdata.com Truth & beauty – Moritz Stefaner

ResearchGate discussion:

https://www.researchgate.net/post/Best graphics prog ram for making scientific illustrations for journal arti cles2



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