



#01 Writing as a digital researcher

Scholarly writing practices in an age of digital texts

This briefing paper helps you to consider the different ways that you as a researcher engage with writing, and how digital tools might be useful for those different processes.

Writing a thesis, and indeed any kind of academic writing, is an arduous and sometimes painful process. There are digital tools that can make aspects of writing easier, more productive, or more effective, though **you will need to experiment to find what works for you**. In addition, the nature and meaning of academic writing is changing as digital media become more widely used for the expression of academic ideas. For example, the collaborative approaches to writing and sharing of knowledge afforded by Web 2.0 technologies are problematising assumptions about the nature of authority and originality in academic writing. This briefing paper will help you to reflect on academic writing in digital environments while you consider some practical strategies for enhancing your own writing process.

Writing to Generate and Explore Ideas

Generating ideas and editing them into final shape involve different cognitive processes as well as different emotional investments, so it helps to keep the two distinct. This might mean allocating different times, using different files or folders (real or virtual), or using different processes to generate text.

When you are writing to generate ideas, you need to be creative and not to edit your thoughts before they are formed. This is one of the most productive times to try mind mapping (see briefing paper **#01** for specific recommendations).

- ✦ Try using the full screen mode on your writing/word processing software for a different look and a distraction-free work space. No formatting or editing tools: just write.
- ✦ Continuity is important at this stage, so if you find it hard to focus on your main argument, add alternative ideas as notes or comments and get back to the flow.
- ✦ If you like to produce an overview first, sketch this in briefly (pens and paper, graphical tools, canvas-style presentation software such as [Prezi](#) can all be used). Use keywords or headline statements for each of your main points. Colour can be used to indicate themes: shapes/arrows can help to build a narrative or argument.
- ✦ If you prefer to work on 'patches' of text where you are comfortable with what you want to say, do this only until it becomes difficult – then stop and move on. You can always return to and reorder these patches later.
- ✦ If you find it easier to express yourself in speech than in writing, try talking before you write (even better if a friend can interview you). If you record what you say, you can then type a transcript and treat this as your initial notes or first draft.
- ✦ Use a research journal to jot down those thoughts and questions that come into your head when you are not sitting at your desk. This could be a paper journal that you carry around with you, a research blog, or you could use a smartphone or other electronic device.

Writing to engage with other people's ideas

A great deal of your writing will inevitably be mapping the field that gives your research its significance. Another way of thinking about this process is 'reading into writing' or enriched note-taking. How do you make sure that you properly acknowledge the work of others while demonstrating your own stance and articulating your own perspective?

- ✦ Use notemaking function in referencing software such as [EndNote](#) or [Zotero](#). Or use the annotation function in [Adobe Reader](#) (or [Foxit Reader](#) or Apple's native Preview) when you are working with pdfs. Note that not all pdfs downloaded from the web can be annotated in this way.
- ✦ As you take notes, make a habit of distinguishing direct quotation, summary, and your own thoughts and questions. You could use italics for quotes (make sure you include the page reference) and square brackets for your comments, or different colour.
- ✦ Develop your own keyword tagging system and use the same system for bookmarked or referenced files as well as for your own notes. This makes it much easier to build up your own view of the field. You can find more on tagging in 'further information'.

Writing to record information

Researchers often need to take notes or to make records of other kinds such as work plans or logs of data collection activities. It is tempting to think of these aspects of writing as administrative but in fact it is impossible to write an excellent research article or thesis if the research itself is not excellent. This means making sure that records are made rigorously and systematically, and organised for ease of retrieval. Recording is one area where digital technologies really have an edge.

- ✦ A simple database or spreadsheet is easy to set up in [Google Drive](#) – if you use Google Charts you can even output graphical representations of your data
- ✦ No need to write everything down when video, audio and image recording are available on your smartphone or laptop. Make sure you tag or file such 'notes' carefully and review them – ideally in writing! - as soon as possible after the event. This is a much better option than transcribing everything later, when you have forgotten why you recorded it.
- ✦ Keyword tagging is an essential skill (see further information). It allows you to build your own personal map of the field as well as keeping track of records across different formats and services. For example, you can upload and tag videos on [YouTube](#), or photographs on [Flickr](#), using the same terms that you have used for your literature review or qualitative data analysis.
- ✦ Keeping open records and making your research data openly available are increasingly popular: in fact some funders now insist on it. A specialist librarian can advise on how best to keep research records so they can be shared with other researchers in a way that is secure, manageable, and easily searchable.
- ✦ [Dropbox](#) is used by many researchers as a file management system. There are several web services that also allow you to manage 'notes' – images, links, files, videos – in the cloud. Folders and tags provide the organisational structure, and they are easy to sync with other cloud services.

SpringNote	Free, intuitive to use, also available via iPhone app to allow you to capture ideas when away from your desk or laptop.
Evernote	Widely used and easy to synchronise with other accounts, this includes superb text recognition and access via browser, desktop or iPhone app.
Zoho Notebook	Convenient both for aggregation and collaboration/sharing of notes in a variety of formats.

Writing to structure an argument/thesis

This is another stage of the writing process when mind mapping can usefully play a role.

- ✦ Any software with both graphics and text functionality can be used, from the drawing menu in MS Word/PowerPoint to dedicated mapping software. Do use colour, shape and arrows to indicate themes, links and the direction of narrative/argument.
- ✦ If you have a creative bent, creative writing applications such as [Scrivener](#), [Storyist](#) or [WriteRoom](#) (all Mac OS or iOS) are great for organising what you have to say in a coherent manner.
- ✦ A canvas-based presentation tool such as [Prezi](#) or even a graphics programme allow you to 'place' sections of text as headings, and zoom in on the details.
- ✦ Literal cut and paste: If you get stuck trying to order material online, print and cut it out into smaller sections (even paragraphs) and try reordering it physically. Take snapshots of different arrangements to remind you what worked.

Writing to refine (revising and editing)

Revising and editing are what word processing software was invented for, but learn which features are really helpful and which are a distraction. Most serious writers turn off auto-correct functions, for example.

- ✦ Before you work on the surface features of your writing, make sure it actually reads well. It can help to leave some time between composing and reading as an editor. Print out your work and mark it up, and/or read it aloud – do not rely on reading it from the screen.
- ✦ Next check the 'surface' features: spelling, punctuation and grammar (use inbuilt checkers but remember they are not infallible), consistency in the layout (use styles), correct presentation of references (your reference management software should be able to output references in a wide range of formats).
- ✦ Only check for one feature of your writing at a time.
- ✦ Find a friend and review each other's work. Online sharing and collaboration tools are valuable here. If necessary, educate your supervisor in the use of annotation tools so that you can easily follow and respond to comments.
- ✦ It may sound obvious but keep earlier versions of your writing. Sometimes the first way you put something down is actually the best, but that won't be any good to you if you've over-written the file.
- ✦ If you're in it for the long haul, various tools can be used to analyse your writing style. [I Write Like](#) is a non-serious website that provides an instant comparison with well-known prose writers, but there is more serious work to be done in noting which words you over-use and whether there is variety in your sentence length and structure.

Writing to communicate

Text is no longer the only credible way of communicating academic ideas, and even if text is still the academic medium of choice, you have far more control over how people access and experience your text than in the days of dependence on a print publisher.

- ✦ Think about how your thesis could be repurposed for a different audience, perhaps a non-specialist one.
- ✦ What do they need to know and how best can you communicate this with them?
- ✦ Complex research data can often best be communicated visually (see our briefing paper on data visualisation). Qualitative data can have more impact when it is illustrative, e.g. including personal quotes, video clips or images. Know when text is doing its work and when to give it a back seat.
- ✦ Your choice of fonts, margins, bullet points, headers and footers and sub-heading style all carry messages, just as body language and tone of voice carry messages when you speak. With formal publications you will rarely have any choice over these issues: when you do, learn how they work to achieve different kinds of authority and voice.
- ✦ How would you present your ideas in [pecha kucha](#) format or as an animation? Online, videos and [infographics](#) are the forms of communication that receive the most attention – how would your work appear in those media? Translating from text into another medium and back again can clarify your main points.
- ✦ Check out our briefing paper on communicating research online for more ideas.

Writing to create your own identity as a researcher

Becoming a successful academic writer involves more than simply learning the particular writing conventions of a discipline. It's also about creating an identity as a scholar. So in order to be 'read' as a successful sociologist, for example, it's necessary to write like a sociologist. Online communities allow you to rehearse and develop your identity as an emerging writer, with more opportunities for feedback and a far wider variety of models to follow than if you confined yourself to print. Microblogging via [Twitter](#) is a good place to start, followed by commenting on other people's research blogs, and finally be maintaining a blog of your own.

In any online community, don't be afraid to lurk first as you pick up the language and conventions of participation. Layer information so that tweets refer to blog posts in which you summarise longer articles (links available online), so people can pick up just as much detail as interests them. Also remember that knowledge is produced collaboratively in online spaces. Writing on your own and other people's blogs and in collective spaces is more than just practice for 'the real thing', increasingly it is the real thing. Our briefing paper on communicating online has more ideas to get you started.

Tagging

This is simply attaching key words to digital items such as files, photographs, data sets or videos. One item can have a number of tags, and you can tag at different levels – large files or single records. You have probably tagged items on file sharing sites, and you may have discovered that you can make useful connections this way, but did you know that you can privately tag your emails, files, and personal media? When you are working as a researcher, it makes sense to be consistent in how you tag so that you can collate items across a range of media and across different research phases. Although it concerns tagging photographs, this [online article](#) helpfully describes the process and how it differs from organising files into folders.

Additional information

As a researcher you should be aware of your responsibilities with respect to, amongst other things, IPR, research ethics, information security, data protection and mobile computing. If you need advice please see the Plymouth University [Research Degrees Handbook](#) and ask your research supervisor for guidance.