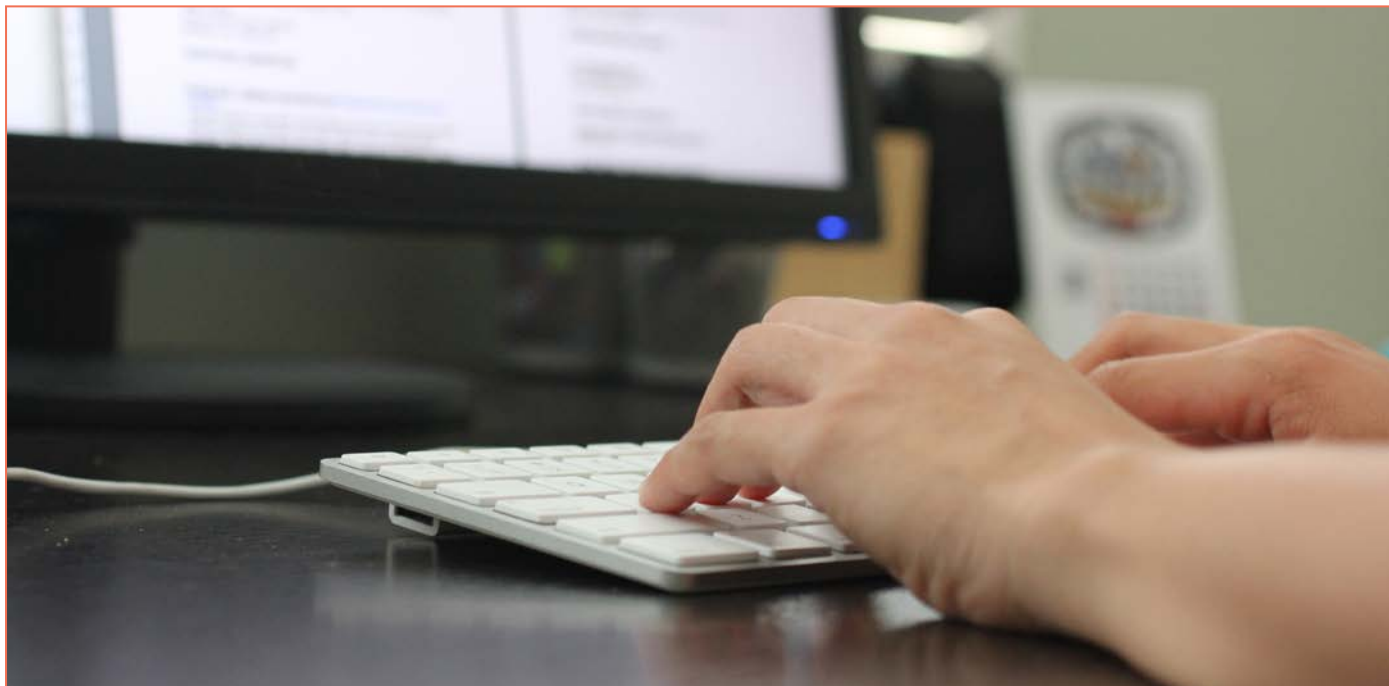


LESSON 1 SCOPE AND NATURE OF TECHNICAL WRITING

Technical writing is different to other forms of writing. Other writing may be primarily designed to tell a story or, in a broad sense, to entertain, inform, educate or communicate; technical writing is more about documenting information as a reference i.e. information that is designed to instruct, explain or direct in a clear and concise manner. The purpose of technical writing can be as diverse as preparing a document that can be used by the owners of a new machine or device, a journal article or thesis that records the results of a piece of academic research or to simplify more complex information.



What Is Involved?

You may think technical writing has to be about technical or scientific subjects, but that isn't necessarily so. Technical writing includes the writing of:

- **Manuals** - instruction manuals, procedures manuals, process manuals, user manuals, policy manuals.
- **Reports** - data and analysis reports; scientific reports; summarisations of larger reports that highlight and summarise key points and elements.
- **Leaflets and brochures** - simple instructions e.g. how to assemble something; OH&S instructions, how to use a product; how to operate a machine etc.

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Suggested Tasks

Think about the term 'technical writing'. Try to define it for yourself. Write down your definition.

Now, search online for "technical writing definition".

Read several definitions. How do they compare to your own definition? Was your definition as accurate as you thought?



Other technical writing may be found in any of the following:

- Articles (e.g. magazine)
- Blogs
- Books
- Catalogues
- Conference presentations
- Contracts
- Course notes & study guides
- Course curriculum documentation
- Customer service text
- Demonstrations
- Educational handouts
- Frequently asked questions (FAQs)
- Journals
- Marketing material
- News bulletins
- Newspapers
- Newsletters
- Press releases
- Product packaging
- Product labels
- Product reviews
- Product user guidelines
- Production processes
- Progress reports
- Procedures (e.g. staff or quality manuals)
- Project reports
- Proposals
- Reference guides
- Research papers
- Sales material
- Scripts for film or radio
- Training material
- User manuals
- Warning labels
- Websites
- Work specifications

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Suggested Tasks

Think about what types of technical writing you are most exposed to.

Are they listed here? If not, it demonstrates just how broad the scope of technical writing is.

Examples of Technical Writing

The following examples show how technical writing may be used in different situations, such as training materials or user guides in manuals or on websites.

Example 1: CALCULATING A T-TEST IN EXCEL

The prime purpose for using a t test is to determine whether the means of two groups show a statistically significant difference. The t test may be applied to groups with independent members or to groups with dependent (matched) members such as pre and post events.

To calculate this in Excel you will need to install the Data Analysis Tool:

Go to Tools, select Add-ins and click on the box next to Analysis Tool Pak. Click Ok. Your Data Analysis Tool Pak is installed.

To use the tool, go to Tools and select Data Analysis. A box will appear, you will need to select t test Two Sample Assuming Equal Variances – this is an unpaired t test. Enter the data ranges and set the Hypothesised Mean Difference to 0. Click on labels. Alpha is automatically set to 0.05. New Worksheet will be also set by default, change this to: Output Range and set the output for \$Axx (xx the cell which is suitable for your datasheet). Click OK and your spreadsheet should appear.

The results will differ slightly from those calculated by hand due to rounding.

Example 2: GUIDELINES FOR SAFETY WITH ELECTRICITY

- Remember electricity can kill!
- Don't let wires become exposed through insulated coverings
- Don't allow any parts of cables, plugs or electric machines to become loose
- Don't overload a circuit by putting too many double adaptors on the one socket
- Never use electric tools in wet conditions
- Never use electric tools when a lightning storm is threatening
- Don't pull the plug out by the cord – this can weaken the connections
- Don't let water (or wet hands) get near any electrical cord
- Don't switch a power tool on when it is partly dismantled
- Always switch the power off before disconnecting a power tool
- Don't work around live wires (e.g. connecting power to a building)
- Where appropriate, use an earth leakage safety plug.

Example 3: PROPERTIES OF LIGHT

For photographic purposes, light possesses several properties. The first is intensity, which will be discussed later. The second is colour, which in

BECOMING A TECHNICAL WRITER

To be a technical writer you must have a broad range of skills in order to secure employment, or to ensure ongoing projects if working freelance. To be successful in this field you will need:

- Excellent communication skills – both written and verbal (you will be dealing with many and varied experts in their fields).
- Logic and precision – technical writing demands a precise approach, your work must be backed with sound research. Your work should also be logical – research you have undertaken and the facts you have amassed should be presented in a logical form. For example, with an A-Z on how to assemble something you would start at ‘a’, not ‘c’!
- Excellent word processing skills.
- To be able to manage projects: set up schedules, meet deadlines, be part of the review process.
- To work efficiently and independently.
- A solid, broad education.
- To constantly update your knowledge and skills.
- To network with your peers and industry.
- To build a portfolio of work to demonstrate your skills for future employment or work prospects.

photographic terms is measured by colour temperature. This temperature scale is based upon the concept of a ‘black body radiator’. In essence, this means that if we take, for example, a cold black iron bar and heat it, we will eventually reach the point where it begins to emit light. The temperature required to make this body emit light is measured in Kelvin degrees, the temperature scale which begins at absolute zero or minus 273 degrees Celsius.

Consequently, the light emitted by a tungsten light source (for example, studio flood lights), is said to have a colour temperature of 3,200 degrees or the equivalent in light spectrum emission to a black body radiator heated to this temperature. The higher the temperature, the bluer and less red the light emitted until eventually, at very high temperatures, the light moves towards the violet end of the visible spectrum. Normal daylight is measured to be 5,500K degrees.



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Suggested Tasks

Using the list of skills presented here, decide which ones you already have, and which ones you need to work on.

If you can give yourself an honest self-appraisal, you will be able to set yourself goals for self-improvement.

- To develop advanced research skills and know how to gather information.
- To efficiently proofread and edit your work.
- To understand publishing and delivery processes.
- A professional approach to your work – you need to be reliable and also ethical; your reputation will dictate the amount of work you get.

What Characterizes Good Technical Writing?

To be a good technical writer you must have the skills to simplify difficult tasks and to concisely and clearly explain complex pieces of information.

Regardless of what you are writing, the following is a guide to good technical writing:

- Know your subject - conduct extensive research, gather material from a range of sources and double check the accuracy of the information you have gathered.
- Know your audience - ensure that your writing has the appropriate breadth and depth; use a writing style relevant to your reader. Use technical language and abbreviations when your writing is pitched at knowledgeable experts but explain these if you are pitching your writing at an uninformed reader.
- Good writing must be understood quickly and easily by a wide audience with different abilities of comprehension. If you are writing

an academic textbook on nuclear fission, your readers will expect a certain level of technical difficulty. But if you are writing a book on nuclear fission for the general public to read, you will have to explain it in a clearer way. Look at scientific writers such as Stephen Hawking and Brian Cox. Both are able to work in a scientific, academic way, but both are able to present their knowledge in a way that is accessible to the lay person in an interesting and informative way.

- Write in a concise, clear, accurate and non-personal style i.e. using the third person perspective e.g. he, she, it, they, them, him, his, her, hers, its, their, and theirs are all third person pronouns. Do not include personal opinions. Keep the writing simple and to the point. Make sure your descriptions are detailed but use economy of words, so you don't lose your reader.

Tips for Technical Writers:

- Stay abreast of new trends – read from a broad range of material e.g. papers, internet, books any new material in the areas you are concentrating on.
- Build your knowledge and skills to suit the job: writing and communications skills, technical experience and your industry knowledge.
- Always proofread your writing – this allows you to alter mistakes or introduce new ideas to improve your writing.
- Always customise content to suit the audience.

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Suggested Tasks

Search online for an article written by Brain Cox, Stephen Hawking, or another well-known science writer you are familiar with.

Read through all, or part, of the article. Note how it is written and how the knowledge is conveyed to the reader.

Can you see elements of 'what characterizes good technical writing' in their work?

Where and How Technical Writing is Published

Technical writing may be published in print, electronic media or in broadcast media.

Print Media

Print media no longer dominates publishing to the extent it once did however print is still very significant. What has changed?

- Products that were once sold with bulky printed manuals are now more likely to be sold with summarized user guidelines, printed on far less paper, together with either a CD or web site address, address giving access to a comprehensive user manual.
- Products used to carry simpler labels with less technical information but as consumer laws have become more complex, the amount of technical information being printed on product labels has increased.
- Professional associations and institutes have been moving away from publishing journals and conference reports in print, opting to publish more material electronically. In some instances, members have been given the option to receive electronic rather than print copies. In other cases, the printed material may have become smaller sized documents because the organisation began to produce newsletters and web sites to carry some of the material that was previously disseminated in print.

- Book, newspaper and magazine sales have decreased. This is partially because people read things on electronic devices today that they could not access electronically in the past. Some publications have begun to offer electronic versions of the same publications as well as the printed version. Some have been forced out of business.
- A big income stream for print publishing in the past was text books for schools, colleges and universities. As educational institutions have moved to electronic media, the loss of revenue has impacted significantly on print publishers.
- Some print publishers have adapted by moving into electronic publishing, others have adapted by simply reducing the quantity of print publishing they do. Technical writers across many disciplines have found it increasingly difficult to get contracts to write non-fiction books or magazine articles; and those that do get work are finding the financial rewards of writing for books and magazines has become poorer than was once the case.

Electronic Media

While opportunities to write for print media may have diminished, opportunities to write for electronic media have increased. Nevertheless, the business of electronic media is different to print media in some significant ways.

The cost of writing and publishing something on a CD or on the internet is minimal, and this has made it accessible to just about anyone whether or not they

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Suggested Tasks

Go online and search for examples of poor technical writing published on websites.

Search using phrases such as “examples of poor technical writing”, “good and bad technical writing” or “samples of poor technical writing”.

Note what makes these examples poor. Think about how you could improve them.