

An Easy Approach to Technical Writing

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An Easy Approach to Technical Writing

Abstract—Technical reports are usually written according to general standards, corporate design standards of the current university or company, logical rules, and practical experiences. These rules are not known well enough among writing engineers and technicians. Therefore, this summary intends to help you create technical reports. Such an interesting topic, many students struggle to get started with. Using rules and guidelines contained, you will be introduced to all the basic technical writing concepts.

I. TECHNICAL REPORTS WRITING [1]

Technical writing is a style of formal writing used in many fields to explain technology and related ideas to:

- Specific technical, general technical or non-technical audiences.

A. Characteristics of Good Technical Writing

Accurate	:	conforms to truth or fact.
Clear	:	simple and direct sentences.
Concise	:	use of a minimum of words.
Coherent	:	easy-to-follow line of thinking.
Accessible	:	consists of small independent sections.

B. Converting to Technical Writing [14]

Suppose you are writing a report where you may not use “I”, or you are writing about a sentence subject that can not actually do anything. What to do when the passive voice is the best, most natural choice? The answer lies in writing direct sentences—in passive voice—that have simple subjects and verbs.

I conducted a tensile test at room temperature because	→	A tensile test was conducted.
I needed to find out a baseline for tensile strength.	→	Baseline tensile strength was established.
I followed ASTM specification E8M for testing.	→	ASTM Specification E8M was followed.

Using passive voice does not have to create ambiguity.

II. THE WRITING PROCESS [2]

Writing a message that is consistently well received can be hard for new writers to achieve. The three part writing process ensures the best outcome each time.

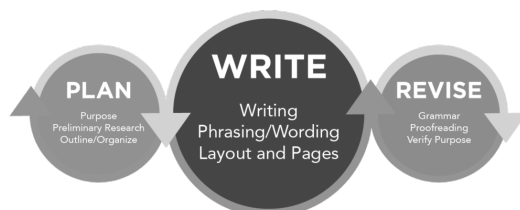


Fig. 1. The Three-Part Writing Process [15]

A. Planning

The most important part of the process requires a bit of time. This is also the most underused part of the process. When people do not plan thoughtfully, their writing becomes very disorganized. [19]

- Analyzing Your Audience
 - identify your readers, their attitudes, and expectations.
- Analyzing Your Purpose
 - what do you want them to know or to do?
- Generating Ideas about your Topic
 - asking journalistic questions:
 - * who, what, when, where, why, and how.
 - write down your ideas:
 - * brainstorming or free writing.
 - talking them through:
 - * talking with someone.
 - imagine and visualize:
 - * clustering or branching.
- Researching Additional Information
 - (read) references, (interview) experts, (distribute) surveys, or (conduct) experiments.
- Organizing and Outlining Your Document
 - (group/order) items, (organize) groups, and (format) outline.
- Devising a Schedule and a Budget
 - estimate the length of each task.
 - estimate the cost of performing experiments.

B. Writing

At this stage of the process, the purpose and organization of your report is already decided. Now you need to craft the words and phrasing for each part of the report. [15]

1) *Drafting*: get it on paper in an organized manner. The focus is on expanding your “plan” ideas into sentences and paragraphs, not on perfection. [19]

- Guidelines
 - Start (with the easiest), (draft) Quickly, Don’t Stop (to research).
- Templates
 - readers get tired of seeing the same design.
 - templates can send the wrong message.
- Styles
 - save time, ensure consistency, and are useful in collaborative writing.
- Language COPS
 - Capitals, Overall appearance, Punctuation, and Spelling.

2) *Editing* [3], [4]: “One of the most important skills a writer can have is the ability to compose clear, complete sentences. The sentence is the basic unit of communication in all forms of English.”

Funk, McMahan, and Day. *Elements of Grammar*

- Words, Sentences, Punctuation, and Mechanics.

(Appendix A)

C. Revising

Revising is the rearrangement and fine tuning of a fully developed—if not totally completed—draft so that the thesis is aligned with the writer’s purpose. [15]

- Studying the Document by Yourself (let it set)
 - read it aloud, use checklists, and review a printout.
- Using Revision Software
 - spell checkers, grammar checkers and thesauri.
- Seeking Help from Someone Else
 - consider the edits of subject-matter experts.

III. CVs AND COVERING LETTERS [5]

A. Curriculum Vitae

Curriculum vitae is a Latin expression which can be loosely translated as *the course of my life*.

- Importance of CV
 - CVs are the first introducer to the interviewer.
- Types of CV
 - Chronological CV: Education and Training is given importance.
 - Functional/Skill based CV: Created with concentrate on skills.
- Order of Contents in CV

Name and Address Jane Smith Director, Human Resources Fit Living 123 Business Rd. Business City, NY 54321	Data and Place September 1, 2018
Head the letter – Subject and Reference Dear Ms. Smith: I'm writing to apply for the position of Social Media Manager for Fit Living, as advertised on your website careers page. I have three years of experience as a Social Media Assistant for Young Living, and I believe I am ready to move up to the manager position.	
The middle paragraph – Brief description of your education and experiences In your job posting, you mention that you want to hire a Social Media Manager who understands Internet and social media trends. During my time at Young Living, I was given the responsibility of increasing follower numbers on Instagram. I explained to my manager that I would be happy to do so, and that I would also work hard to increase follower participation, because engagement has become an important metric. Within six months, I increased our followers by over 50 percent and increased engagement by 400 percent. I'm very proud of that accomplishment. Currently, I'm working to build a following with the best influencers in our niche. When I saw the job opening, I knew it was the perfect opportunity to offer you both my social media marketing skills and people skills. I've included my resume so you can learn more about my educational background and all of my work experience. Thank you for your time and consideration.	
Closing – The closing in which you propose step for further action. Please feel free to email me or call my cell phone at 555-555-5555. I hope to hear from you soon. Sincerely, Your Signature (hand copy letter) Joseph G. Applicant	

B. Covering letters

Cover letters are the first chance you have to impress an employer—they’re not just a protective jacket for your CV.

Fig. 3. Cover Letter Template [17]

IV. COLLABORATIVE WRITING [6]

A. Advantages and Disadvantages of Collaborative Writing

Advantages	Disadvantages
+ greater knowledge base	– disjointed document
+ greater skills base	– inequitable workloads
+ better idea of the audience	– interpersonal conflict
+ improves communication	– takes more time

TABLE I
PROS AND CONS OF COLLABORATIVE WRITING

B. Patterns of Collaboration

Collaborative writing patterns are methods a team uses to coordinate the writing of a collaborative document, according to:

- Job specialties, stages of the writing process, or sections of the document.

C. Guidelines for Efficient and Productive Meetings

A meeting is the coming together of three or more people who share common aims and objectives, and who through the use of verbal and written communication contribute to the objectives being achieved [18]. To conduct a productive meetings:

- Listening effectively
 - listen for main ideas. don’t get emotionally involved, and provide appropriate feedback.
- Setting your group’s agenda
 - (choose a) leader, (define) tasks, (resolve) conflicts, and (create) work schedule.
- Conducting efficient face-to-face meetings
 - (arrive) on time, (stick to) agenda, and (summarize) accomplishments.
- Communicating diplomatically
 - (without) interrupting, (avoid) personal remarks, and (ask) pertinent questions.
- Critiquing a group member’s work
 - discuss the larger issues first, starting with positives.
- Communicating electronically
 - using comment, revision, and highlighting features.

Fig. 2. Curriculum Vitae Template [16]

V. INSTRUCTIONS AND MANUALS [7]

A. Instructions

Introduction	Who/Why/When should the task be carried out? What safety measures and items needed?
Step-by-Step Body	Give the right amount of information, don't confuse steps and feedback statements, and use the imperative mood.
Conclusion	An explanation of how to make sure the reader has followed the instructions correctly, and a troubleshooter guide.

TABLE II
DRAFTING INSTRUCTIONS

B. Manuals

Front-matter	Title page, Table of contents, Introduction (Who/When), and Typographical Conventions.
Body	Explain concepts clearly, use simple short imperative sentences, and be informal—if appropriate.
Back-matter	Glossary: list of definitions, Index: for most manuals of more than 20 pages, and Appendices.

TABLE III
DRAFTING MANUALS

VI. ORAL PRESENTATIONS [8]

A. Preparing an Oral Presentation

Give a plenty of time for preparation

- Experts recommend 20-60 minutes for each minute of presentation
→ 13 hours for 20 min. presentation

Assess the speaking situation

- Analyze your audience and purpose
- Determine how much information to deliver

Prepare an outline

Prepare presentation slides

- Use simple and correct text and drawings
- Make sure text and drawings are visible

Choose effective language

- Maintain listeners' attention
- Signal advance organizers, summaries and transitions

Rehearse the presentation

- At least, three times

Fig. 4. Preparing Oral Presentation Procedures

B. Giving the Oral Presentation

Calm your nerves

Use your voice effectively

- Volume, speed, pitch

Maintain eye contact

Fig. 5. Giving the Oral Presentation Procedures

C. Answering Questions after Presentation

Make sure everyone heard the question

Make sure you understand the question

Tell the truth – No one knows all the answers

Offer to meet to discuss answers – perhaps by e-mail

Fig. 6. Answering Questions Procedures

APPENDIX A ELITE STUDENTS' NOTES

There are a lot of previous exams available on CSED Exams, For you to benefit the most from them, solutions to previous exams of Dr. Nagia are provided:

Habding attempt

APPENDIX B VOCABULARY

Word	الترجمة
Accurate	دقيق
Clear	واضح
Concise	مختصر
Coherent	متناهي
Accessible	سهل الوصول
Conducted	أجرى ، أدى
Tensile	شد
Baseline	حدود
Ambiguity	غموض ، التباس
Preliminary	أولي ، تمهيدى
Attitude	موقف ، سلوك
Journalistic	صحفي
Clustering	تجميع
Branching	تفرع
Devising	تصميم ، ابتكار
Tuning	ضبط
Thesis	أطروحة ، فرضية
Thesaurus	قاموس
Loosely	على نحو رخوا ، فضفاض
Course	دورة
Chronological	ترتيب زمني
Concentrate	تركيز
Verbal	شفهي
Accomplishment	إنجاز
Pertinent	ذات صلة
Critiquing	نقد
Imperative	صيغة الأمر
Troubleshooter	مكتشف و مصلح أخطاء
Typographical	مطبعية
Conventions	اتفاقيات
Glossary	قائمة مصطلحات
Index	فهرس
Appendices	ملاحق
Plenty	وفرة
Assess	قدر ، قيم
Maintain	حافظ على
Rehearse	كرر ، تمرن
...	...

TABLE IV
TRANSLATION

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