

An Easy Approach to Technical Writing

Ahmed Waleed

Thanks to: Amr El Begawy, Marwan Ashraf and Muhammad Yaser

Department of Computer Engineering

Alexandria University

CONTENTS

I	Technical Reports Writing [1]	1
I-A	Characteristics of Good Technical Writing	1
I-B	Converting to Technical Writing [14]	1
II	The Writing Process [2]	1
II-A	Planning	1
II-B	Writing	1
II-B1	Drafting	1
II-B2	Editing [3], [4]	2
II-C	Revising	2
III	CVs and Covering Letters [5]	2
III-A	Curriculum Vitae	2
III-B	Covering letters	2
IV	Collaborative Writing [6]	2
IV-A	Advantages and Disadvantages of Collaborative Writing	2
IV-B	Patterns of Collaboration	2
IV-C	Guidelines for Efficient and Productive Meetings	2
V	Instructions and Manuals [7]	3
V-A	Instructions	3
V-B	Manuals	3
VI	Oral Presentations [8]	3
VI-A	Preparing an Oral Presentation	3
VI-B	Giving the Oral Presentation	3
VI-C	Answering Questions after Presentation	3
Appendix A: Elite Students' Notes		4
Appendix B: Vocabulary		4
References		4

LIST OF FIGURES

1	The Three-Part Writing Process [15]	1
2	Curriculum Vitae Template [16]	2
3	Cover Letter Template [17]	2
4	Preparing Oral Presentation Procedures	3
5	Giving the Oral Presentation Procedures	3
6	Answering Questions Procedures	3

LIST OF TABLES

I	Pros and Cons of Collaborative Writing	2
II	Drafting Instructions	3
III	Drafting Manuals	3
IV	Translation	4

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 Gloria Gonzales 3204 Windover Way Houston, TX 77204
Contact Details ggonzales@email.com 000-123-4567 (Cell)
Career Objectives <small>This section describes to the employer what you are really looking for in a position. To earn a Master of Science degree in Mineral Economics, specializing in financial economics and tradable pollution rights and policy.</small>
Educational Qualifications <small>Should be written in a reverse chronological order, with percentage of marks and name of the institution, and year of passing. Ph.D. in Spanish (US Hispanic Literature), 2016 – University of Houston Dissertation: <i>Quinto Reino: The Wander in US Hispanic Literature</i>. Sencho Rodriguez, Chair</small>
Awards <small>Please demonstrate your achievements to your employer. Forget about any awards you received prior to 7 years. Mexico Study Abroad Summer Grant, 2016 UT Teaching Awards, 2015, 2016, 2018 Dissertation Fellowship, 2015</small>
Skills <small>This section tells the employer what skills you have that fit the position they are looking for. TEACHING EXPERIENCE Assistant Lecturer, University of Houston Mexican-American Literature, Spanish 3333</small>
Employment history <small>Start with your most recent job and go back to the earliest. List the job title, held, responsibilities, duration and key achievements. 2010 - Present IT Administrator Toxox Corporation Main duties performed: Oversee the company's IT infrastructure, managed and maintained the IT and multimedia network and created/supervised the company's intranet and local area network (LAN).</small>
Voluntary Work <small>tell the employer how you have learnt new skills, worked with a team and learnt responsibilities for your assigned work. Volunteer ed library work Organizing educational tours</small>
Interests and Hobbies <small>Please list your hobbies, this is a valuable tool for demonstrating your abilities to an employer. Playing Football / any team game Please avoid jokes and irrelevant hobbies such as sleeping etc..</small>
References <small>Include the names, organizations and contact numbers of people who can act as referees for you. Mr. Jack Hall, Senior Meteorologist (Met Office), Address: 5 Howard Rd, Bromley, BR1 1XT Tel: 0723 7977 4355 Email: jack.h@live.co.uk</small>

Fig. 2. Curriculum Vitae Template [16]

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.

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. I have a Bachelor of Science in Marketing and a minor in Communications. I have been working on Internet marketing 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 achievement. Curriculum: Working to build a following with the best managers in our niche. When I saw the job opportunity, 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 (hard copy/letter) Joseph Q. Applicant	

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.

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

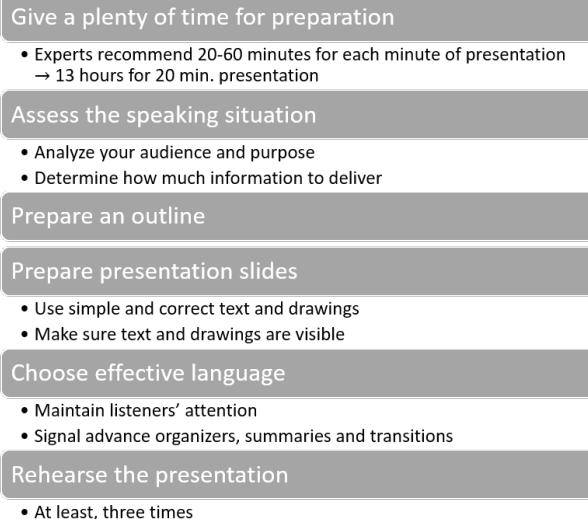


Fig. 4. Preparing Oral Presentation Procedures

B. Giving the Oral Presentation



Fig. 5. Giving the Oral Presentation Procedures

C. Answering Questions after Presentation

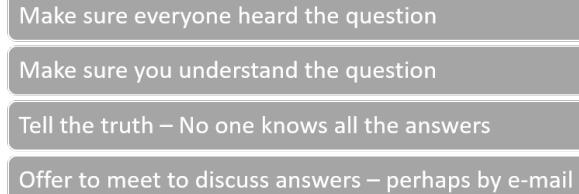


Fig. 6. Answering Questions Procedures

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	متابط
Accessible	سهل الوصول
Conducted	أجرى ، أدى
Tensile	شد
Baseline	حدود
Ambiguity	غموض ، التباس
Preliminary	أولى ، تمهيدي
Attitude	موقف ، سلوك
Journalistic	صحفى
Clustering	تجميع
Branching	تفريع
Devising	تصميم ، ابتكار
Tuning	ضبط
Thesis	أطروحة ، فرضية
Thesaurus	قاموس
Loosely	على نحو رخو ، 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	طبعية
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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