

CHAPTER SEVEN

PRESENTATION OF S&T DOCUMENTS

GENERAL

- **Format:** the way a document or presentation is arranged
- **Language:** the way words are used - language is more than vocabulary
- **Limitations:** the aspects of a document that will NOT be COVERED
- **Mechanics:** grammar, punctuation, spelling
- **Scope:** the boundaries of a document or presentation, the material that will be COVERED in the document or presentation
- **Structure:** the strategy of your writing
- **Style:** the way you present your information in a document or presentation
- **Tone:** your attitude towards the subject in writing or speaking

PREPARING S&T DOCUMENTS FOR PUBLICATION

MAJOR QUESTIONS TO ASK

- Do I understand why/why not to write a S&T document like
 - a professional paper
 - a professional article
 - a rapid communication paper
 - a case report
 - a progress report
 - ... ?
- Have I identified an appropriate conference or publication?
- Have I reviewed literature and classified publications?

- Am I familiar with S&T documents like journal articles?
- Do I want to use research resources?
- Have I found financial/technical support to carry out my research?

WHY PUBLISH?

- New insights - thought process disciplining, fresh perspective and new understanding
- Expert feedback on the reported work - reviewer comments
- Professional interests in sharing the results
- Personal/professional gratification
- Prestige and recognition
- Renewed research funding
- Management awareness of the value of individual work to the field

WHY NOT PUBLISH?

- Lack of information about writing opportunities and procedures
 - difficulty in choosing a topic
 - difficulty in identifying an appropriate forum for the article
 - difficulty in keying the article to the forum
 - low odds of acceptance squelching (= suppressing) motivation
 - critical reviewers
- Lack of skills and resources for formal writing
 - lack of basic writing skills
 - lack of patience and endurance
 - little time for writing
 - minimal financial incentive
 - lack of support resources

BASIC CHARACTERISTICS OF PUBLICATIONS

Journal Article

- conveys information to other practitioners in a particular field
- includes a rationale, technical objectives and literature review of related work
- contains results and details on how they were achieved
- the significance of study to other work in the same area is discussed

- length, style, format standard for a specific journal
- stiff competition
- delays in publication (1-2 years delays are normal!)

Examples: IEEE Transactions on ..., Applied Optics, Electronics Letters, etc.

Special Interest Group Publications

- less scholarly than journal articles
- more timely and relevant to specialized readership
- particular issues dedicated to special themes
- articles in theme related issues may include tutorials, reports, reviews, etc.
- peer-reviewed and edited

Examples: IEEE Software Magazine, BYTE, CHIP, MacWORLD, Sensors, etc.

Conference Proceedings

- report work in progress
- report tentative results
- review policies differ
- regular and periodical

Examples: Proceedings of SPIE, Proceedings of IEEE ..., etc.

READABILITY OF S&T DOCUMENTS

THE GUNNING FOG INDEX by Robert Gunning, 1952

Using a sample at least 100 words long

- ① Find the average number of words per sentence ($\langle NOW/S \rangle$) :

$$\langle NOW/S \rangle = \frac{Total\ NOW}{NOS}$$

where NOW and NOS are the number of words and number of sentences, respectively.

- ② Count the words that have three syllables or more ($WW \geq 3S$); YET do not count
- words that are capitalized
 - combinations of short easy words, such as, bookkeeper
 - verbs that are made three syllables by conjugation, such as, created, producing
- ③ $Fog\ Index = 40\% \text{ of } (\langle NOW / S \rangle + WW \geq 3S)$

This figure corresponds roughly with the **number of years of schooling** a person would require to read a passage with ease and understanding.

- ④ Evaluation Scale:

5	FAIRLY EASY
7-8	STANDARD
9-11	FAIRLY DIFFICULT
2-15	DIFFICULT
17 AND ABOVE	VERY DIFFICULT

- ⑤ Robert Gunning's conclusions:
- ✓ **Sentence length** is the most important factor in readability.
 - ✓ Use **common sense** when writing, such that your writing does
 - **neither sound childish**, because you used VSS (= very short sentences)
 - **nor very complex**, because you used VLS (= very long sentences) with complex and multi-syllable words

EFFECTIVE LISTENING

listening \equiv process of taking in information and synthesizing it into an understandable message.

- ★ An average adult spends about a third ($1/3$) of his/her time listening, yet, most people are **inefficient** in the process, because
 - they do not like the speaker

- they find the speaker boring
 - they feel threatened by what is being said
 - they feel physically or emotionally tired
- By learning the techniques of **effective listening**, one can
- **pay attention** to not only the speaker's words, but also to their **context**
 - **note** what is **not mentioned**
 - **listen** with a **purpose**
 - **minimize** distractions
 - **interpret** non-verbal **behavior**
 - **interpret tone** of voice

STEPS TO BECOME AN EFFECTIVE LISTENER

- ★ Listening is an **active** and **engaging** process. To become a good listener, one has to
 - sit **upright** in an **alert** but **relaxed** posture
 - maintain **eye contact** with the speaker
 - make **verbal responses**
- ★ Trying to understand the message conveyed while listening involves three distinct processes:
 - **hearing** - physical
 - **listening** - emotional and intellectual
 - **understanding** - intellectual

★ Listening depends upon hearing and leads to understanding!

Good listening involves seeking the answers to three basic questions:

- ★ What does the speaker **mean**?
 - ★ How does the speaker **know**?
 - ★ What is being **left out** (= omitted)?

① What does the speaker mean?

- ✓ Same words mean different things to different people, in different contexts, under different circumstances.

A skillful listener

- ① tries to find out the context and circumstances
- ② knows that any interpretation of the speaker's words are the listener's

A skillful speaker

- ① makes the meanings as clear as possible
- ② clarifies his/her interpretation of the subject to the audience
- ③ chooses his/her words well to leave no space to ambiguity and vagueness

② How does the speaker know?

A skillful listener tries to find out what reliable, factual observations have been/could be made to verify the speaker's statements.

A skillful speaker presents evidence supporting his/her statements.

③ What is being left out (= omitted)?

A skillful listener tries to listen for what the speaker does not say

- ① Has the speaker omit important factual details?
- ② Has the speaker not drawn certain possible conclusions?
- ③ Has the speaker not developed certain implications of the conclusions drawn?
- ④ Is part of the information inadequate, irrelevant or misleading?
- ⑤ Did the speaker overstress issues in his/her favor?
- ⑥ Was the story fully presented?

★ Spare time during a presentation can be used to become a better listener.

- ✓ People **talk** at a rate of 100-200 words per minute.

BUT

- ✓ People **think** at a rate of 600-800 words per minute.

YET people let their minds take side trips to worry/think about something else in the **spare time** instead of focusing on the subject.

- **Suggestions:** Next time you are listening to someone talk, try to use spare time effectively and see the difference it makes in your understanding of the subject. Try to
 - ① **think about** what the speaker has been saying
 - ② **figure out** where the speaker is going and what the next point may be
 - ③ **summarize** what is being said
 - ④ **break** the subject **down** into main points and supporting points
 - ⑤ **listen for** feelings as well as content
 - ⑥ **look for** consistency or inconsistency in what is being said
- ✓ It will be easier for the **beginner effective listener** to use spare time during an **organized speaker's** talk.
- ★ By minimizing distractions and their effects, one can become a better listener.
 - ✓ Distractions come from three sources:
 - × **the environment** - noise, people passing by, uncomfortable temperature, poor ventilation, etc.
 - × **the listener(s)** - whose minds keep on wandering off, including yourself who is dreaming of having a cup of tea or coffee or a candy bar (= gofret) right now, or worrying about your midterm in some other class; emotional reaction in you upon something the speaker has said or done, etc.
 - × **the speaker** - accent, mannerisms, dress or grooming habits, language use, delivery style, etc.
 - ✓ Distractions influence your listening positively and/or negatively.
 - ✓ Guard against distractions and try not to become too involved.
- ★ By **delaying judgment** about what you are listening to, you can eliminate filters coloring the way the remainder of the message is received.
- ★ By **shutting up** and **listening**, you will give the speaker an opportunity to talk.
- ★ By listening to how things are said, speaker's feelings about the topic (excitement, anger, joy, frustration, disinterest, resignation, concern, etc.) can be sensed.
 - ✓ Tone of voice has four components:
 - × **emphasis** - inflection in the speaker's voice adds important meaning to what the speaker is talking about

- × **speed** - in relation to the speaker's normal rate of speaking gives significant clues to the speaker's experiences
 - increase in speed increase in emotional intensity (excited, angry, frustrated?)
 - slowdown in speed resistance to address the topic (usually in response to perceived physical or emotional threat); also, need to recall information and formulate responses
- × **pitch** - in relation to the speaker's normal pitch gives significant clues to the speaker's comfort
 - higher pitch anxiety, stress
 - lower pitch disinterest
- × **volume** - variations during a talk give significant clues to the speaker's experiences
 - increased increase in emotional intensity (excited, angry, frustrated?)
 - decreased disinterest, perceived threat

★ Observation of non-verbal behavior provides additional clues about the speaker.

✓ There are three kinds of specific non-verbal behavior:

- × **eye contact** - indicator of interest, excitement, belligerence (= combativeness), warmth, skepticism, suspicion, doubt, boredom

- × **use of hands** - very expressive

smooth gestures ⑤ open attitude

covering the mouth ⑤ nervousness

rubbing the nose ⑤ suspicion and doubt

rubbing the neck ⑤ frustration

thumping the fingers ⑤ boredom, impatience

TOUCHING is an important means of communication!

- × **posture** - displays one's feelings

tense, rigid ⑤ stress

relaxed but erect ⑤ comfort, ease, confidence

moving closer ⑤ acceptance

slouching ⑤ defensiveness

TO BECOME AN EFFECTIVE LISTENER

- ☒ become a good listener
- ☒ try to understand the message conveyed
- ☒ use spare time to become a better listener
- ☒ avoid distractions and their effects
 - ☒ delay judgment
 - ☒ shut up and listen
- ☒ listen to how things are said
- ☒ observe non-verbal behavior

ORAL PRESENTATION OF S&T MATERIAL

- ✓ Most S&T **oral presentations** are **short**:
 - **Conference/symposium presentations** are about **10-15 minutes** and 5 minutes are devoted for questions/discussion
 - **Seminars** are normally about **one hour**.
- ✓ Trim the contents down relative to that of a written paper. Present a **few main points** and **proceed slowly** making sure you get your point across and NOT lost. Make an **outline**.
- ✓ **Preparation of material**
 - ★ **Slides or visuals** (overhead or projector) should be
 - **designed specifically and thoughtfully** for use with the oral presentation
 - prepared by use of **professional equipment**
 - **NOT crowded** - five lines of text maximum, short lines. no paragraphs; one diagram/illustration/chart/graph per slide

- allow one minute per visual
- keep it **simple**
- **highlight** specific points
- make use of **visual aids** - they beat words!
- have **good contrast**
- be careful with colors, **choice of colors** is very important

★ **Plan ahead**, preparation should not be left to last minute

✓ **Audience**

★ A (conference/symposium) presentation is a two way process

- Material presented is the **newest available information** in that field.
- The audience may be more **diverse** than the readership of a S&T paper.

★ As the speaker, maintain a good relationship with your audience and use your voice properly.

★ Like it or not you are in **show business**, be interesting!

★ Prepare an **effective presentation** through common sense and practice.

- ✦ give the presentation at a general level
- ✦ avoid technical detail
- ✦ define terms
- ✦ explain difficult concepts with simple words
- ✦ present the new ideas
- ✦ make speculations on the findings

★ Audience should be

- ✦ courteous/professional
- ✦ quiet
- ✦ attentive

★ The communication process can be destroyed by a noisy or asleep audience.

★ The best part of an oral presentation is the Q&A (questions and answers) period, time for **feedback from the audience**

Members of the audience have the options to

- raise questions not covered by the speaker(s)
- briefly present their view on the subject matter

- present their findings that confirm/contrast with the work presented

Formula for Success

- ★ Know your **subject**
- ★ Know your **audience**
- ★ **Prepare**

Important Aspects

- ① Watching the time
- ② Delivering your message
- ③ Hi-tech talk
- ④ Practice
- ⑤ Liveliness
- ⑥ Handling the MOB
- ⑦ Tying it all together

- ① **Time** - conformance to time allotments is important in effective presentations. The time allocated to you is a strong indicator of what is expected (= the scope of your presentation).
 - ✓ Practice a talk at least five times if you are not skilled well, i.e., you are a beginner level presenter.
- ② **Your message** - when you give a presentation, you are both the delivery system and the message itself.
 - ★ Appeal to as many **senses of your audience** as possible.
 - ✦ Take **verbal, vocal** and **visual** elements into account.
 - ✦ **Do not read** a talk.
 - ✦ Use your **hands** effectively.

- ◆ **Evoke interest** in your audience.
- ◆ **Believe** in your capacity AND **develop** it AND **use** it.
- ★ **Impact of believability** of spoken message
 - ◆ verbal 7%
 - ◆ vocal 36%
 - ◆ **visual** 55%

A GENERAL RESPONSE-TO-PRESENTATIONS METER'S SCALE

- ☐ Is that really so, how interesting!
 - ☐ Sounds very interesting.
 - ☐ Interesting.
 - ☐ Could just be interesting.
 - ☐ I wonder if it is worth listening.
 - ☐ Sounds damned heavy going.
 - ☐ Why should I listen to all this?!

- ③ **Hi-tech talk** - giving S&T presentations at professional conferences or company meetings, can both **enhance your career** and **provide valuable publicity** for your university or company or work group.
- ★ Be **enthusiastic** about your topic
 - ★ Develop a **positive attitude**
 - ★ Present **unique aspects** of your topic
 - ★ Make a definite **contribution** to the techniques and practices of your profession
 - ★ Use **visual aids** effectively throughout your presentation
 - ★ **Speak loudly** and **actively** throughout your presentation
 - ★ **Draw your audience** into your presentation
 - ★ **Do not read** your paper
 - ★ **Do not memorize** your paper
 - ★ Make yourself **cue cards** for each visual
 - ★ **Do not** be **too technical/complex**
 - ★ **Answer** your audience's specific questions or concerns
 - ★ **Do not engage** in arguments
 - ★ Always **put yourself in the place of your audience** while preparing and delivering your presentation

- ④ **Practice** - practice before making a presentation, yet beware of the dangers of (last minute) over-preparation!
- ★ **Be in control** of your **subject** and the **message** you want your audience to understand
 - ★ **Rehearse** your presentation at least five times - in front of your bathroom mirror, your family, your friends, ...
 - ★ **Speak up** and **stand tall** - let your audience see you
 - ★ Be **spontaneous** and **informal** - engage your audience
 - ★ Stay **in charge**
- ⑤ **Liveliness** - make facts come alive rather than present them in a monotonous manner
- ★ Be **selective** with your material - what are the facts you want your audience to remember?
 - ★ Organize your presentation around three **main points**
 - ★ **Highlight facts** with anecdotes and dramatization - be **dynamic**
 - ★ Make your presentation **understandable**
 - ★ **Do not over-depend** on visual aids
 - ★ “Stage fright” is human and natural - “**think positive**”
- ⑥ **Handling the MOB** - the **hostile audience** that you never asked for or deserved, it can happen through no fault of your own
- ★ Remember the **impact of believability** of spoken messages
 - verbal 7%
 - vocal 36%
 - **visual 55%**
 - ★ **EDM** (Eye-alog, Dialog, Monolog) formula for hostile audiences - to **invert the usual tendency** of speakers to begin with a prepared agenda and to monolog an audience to sleep
 - * **E = Eye-alog**
 - divide the audience into imaginary quadrants
 - pause
 - hold an **eye-alog** with the friendliest eyes in each quadrant, three seconds each, 12 seconds in all
 - Use the SOFA approach

- S Smile
- O Open your posture to demonstrate receptivity to your audience
- F Forward lean into your audience
- A Acknowledge your listeners by nodding slightly while saying “hello”

* **D = Dialog**

- think of having a **conversation** with your audience
- while **answering questions** from interrogators use SOFA
- pause
- **sweep your eyes** from your interrogators to the rest of your audience - this will publicly and gracefully **empower your own authority**

* **M= Monolog**

- **deliberately paraphrase** questions to formulate a positive response
- do not offer defensive responses - instead, **reposition positive questions**
- **sell the reason** you are actually there

⑦ **Tying it all together**

★ Stage I - PREPARATION

- be **product** (and NOT procedure) **oriented**
- **analyze your audience** adequately
- be **credible**
 - be competent
 - be honest and sincere
 - have your audience's interest at heart
 - be energetic, forceful, bold and dynamic
 - be like-able
- make an **effective introduction** to your presentation
- **organize** your presentation - depending on your subject
 - chronologically
 - spatially
 - sequentially
 - hierarchically
 - classificationally
- prepare a strong **ending/conclusion** - vital to your talk's achieving its objectives

★ Stage II - PRESENTATION

- overcome your “**stage fright**”
- **deliver** your presentation **effectively**
 - be active - make a conscious effort to move as you talk
 - be purposeful - let all your gestures have a purpose
 - be varied - vary your behavior
 - be natural - balance planning and spontaneity
 - be direct - talk to your audience instead of talking in front of them
- **be sensitive** to your audience

★ Stage III - PRESERVATION

- **handle questions** well
- know your subject well
- predict question areas

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