

## 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 (<NOW/S>) :

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

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

<input type="checkbox"/> Is that really so, how interesting! <input type="checkbox"/> Sounds very interesting. <input type="checkbox"/> Interesting. <input type="checkbox"/> Could just be interesting. <input type="checkbox"/> I wonder if it is worth listening. <input type="checkbox"/> Sounds damned heavy going. <input type="checkbox"/> Why should I listen to all this?!
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- 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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