Effective communications skills for a functional and smart career
Effective communication

Introduction to the world of communication

Effective scientific papers
Effective Oral Presentations
Effective PowerPoint
Effective communication

Get your audience to
• Pay attention to,
• Understand
• (be able to) act upon

maximum of messages
Given constraints
Information vs Message

Information
concentration of 175 μg per m³ has been observed in urban areas

Message
The concentration in urban areas (175 μg/m³) is unacceptably high
The three laws of communication

1. Adapt to your audience
2. Maximize the signal-to-noise-ratio
3. Use effective redundancy
adapt to your audience

Most freedom

Most constraints
Maximize the signal-to-noise ratio
Use effective redundancy

verbal

Non verbal
Intellectual processes

- **Verbal**
  - Text-like

- **Nonverbal**
  - Vocal, visual

- **Rational**
  - Abstract, learned

- **Intuitive**
  - Concrete, innate

- **Sequential**
  - Slow, exclusive

- **Global**
  - Fast, nonexclusive
Magic Numbers

0: Zero is perfection

1: One is focus and univocality

2: Two is a bit, is duality

3: Three is complexity

4: Four is square

5: Five is handful

6: Six is just after five

2, 3, and 5 are the first prime numbers.
Effective scientific documents

- Technical language
- Scientific method
- Bibliographical references
- Structure
- Peer review
technical language: how to use it
Scientific method

THE SCIENTIFIC METHOD

- Question
- Hypothesis
- Experiment
- Result
- Conclusion
- Observation

Always Test! Always Verify!
bibliographical references

**Citations**

Becker (2012), Lee (2016), and McAdoo (2017) wrote blog posts about APA Style.

**References**


Structure

abstract

Introduction

Body

Conclusion

“What is an abstract of a scientific paper? This introduction gate is the golden passageway to the study. So what?"
Peer review

1. Scientists study something
2. Scientists write scientific report about the result
3. Journal editor receives the scientific report and send it out for peer review
4. Peer reviewers read the article and provide feedback to the editor
5. Editor may send reviewer comments to the scientists who may then revise and resubmit the article for further review. If an article does not maintain sufficiently high scientific standards, it may be rejected at this point.
6. If an article finally meets editorial and peer reviewer standards, it is published in the journal.

START

FINISH
This paper proposes a new wireless biopsy method where a magnetically actuated untethered soft capsule endoscope carries and releases a large number of thermo-sensitive, untethered microgrippers (μ-grippers) at a desired location inside the stomach and retrieves them after they self-fold and grab tissue samples. We describe the working principles and analytical models for the μ-gripper release and retrieval mechanisms, and evaluate the proposed biopsy method in ex vivo experiments. This hierarchical approach combining the advanced navigation skills of centimeter-scaled untethered magnetic capsule endoscopes with highly parallel, autonomous, submillimeter scale tissue sampling μ-grippers offers a multifunctional strategy for gastrointestinal capsule biopsy.
Our low-cost writing technique is versatile enough to fabricate elaborate 3D components. To illustrate this potential, Figure 4 shows a $1 \times 4$ miniature 3D junction made by self-trapped beams. More generally, the technique provides a way to create original structures that are not feasible using other methods, such as waveguides with sharp turns formed by reflection at an interface. Beam trapping can also be induced at interfaces to form surface waveguides. We are currently developing fixing techniques to enable permanent index structures. In addition, we are working on fabricating elaborate microdevices, including sensors and interferometers, with potential application in telecommunications, biomedical, and environmental technologies.
Effective Oral Presentation

- Be prepared
- Be sure of yourself
- Use simple language
- Keep the rhythm
- Use visuals
- Be yourself
Be prepared

Know Your Topic

Organize ideas

Practice Your Presentation
Be sure of yourself

Use eye contact
Use simple language

Clear language engenders clear thought, and clear thought is the most important benefit of education.

Richard Mencel
keep the rhythm

VOICE TONALITY AND VOLUME

- **Tone**
  - The tone of voice should be mid-range and prevent a monotone effect
- **Volume**
  - Loudness of your voice or your ability to project your voice. It should not sound harsh, nasal or out of breath.
- **Rate**
  - How quickly you speak. A medium rate is recommended.
- **Pause**
  - A useful tool to emphasise points. Constant pausing, however, may give the impression that you are not too sure of what you are saying. Avoid fill-in words, such as “you know” and “um” which can be indicative of a person who is unsure.

Why Your Tone Of Voice Is Important

- **Clarification - Your tone can clarify what you are trying to say.**
- **Ability to relate - Your tone can help you relate to how your team is feeling about your message.**
- **Perception - Your tone can help you maintain your executive presence**
Effective oral presentations

Use visuals

[Image of a cartoon character with a surprised expression, looking at a screen that says "NEW EPISODE"]
be yourself

Show your enthusiasm for the topic and your personality
Effective PowerPoint

- Define your objective
- Structure
- Simplicity
- Contents
- Design
- Time
- Practice
- Summary
Define your objective

What is your goal?

Which message you want to transmit?
Introduction

What we are going to say?

Body

Say it

Conclusions

Summerize what did you say
Semplicity

Easy and visually captivating contents
Structure

- Essential text and key point
- Simple and understandable language
- Include only necessary and relevant information
Structure

Coherent and professional design

Combination of colors easy to read

Does not distract from the main content
Time

- Know the time limit.
- Time each section of your presentation.
- Summarize your points.
- Rehearse.
- Start on time.
- Watch the clock.
Practice

Be sure you cover all contents clearly and concisely

1. Mirror
2. Camera
3. Individual
Effective PowerPoint

Summary

HOW TO SUMMARIZE TEXT FOR PRESENTATIONS

Get rid of:
- Detailed descriptions
- Background information
- Trivia
- Redundant statements
- Explanations of common knowledge

Emphasize:
- Persuasive facts and figures
- Illustrative examples
- Impactful quotes
Communication is like a dress...
So what How can we practice what we said?

- Be yourself
- Be creative
- Don’t be afraid to ask for help
Any Questions?