Effective communications skills for a functional and smart career

SAPIENZA
UNIVERSITÀ DI ROMA

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

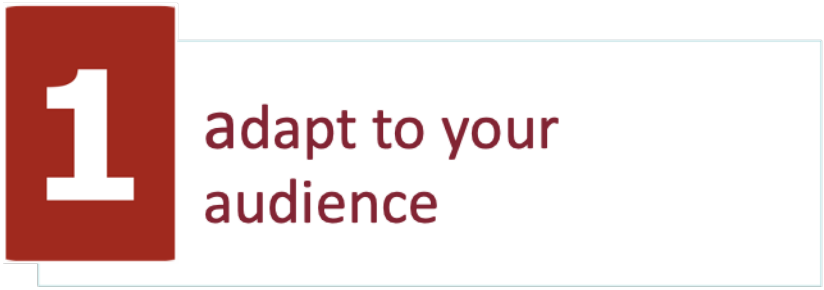
Information

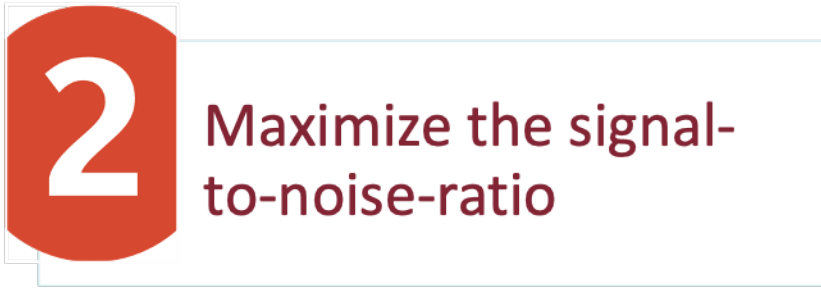
concentration of 175 µg per m^3 has been observed in urban areas

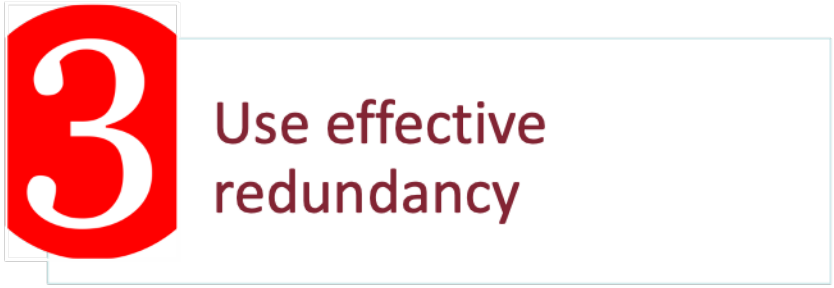
Message

The concentration in urban areas (175 µg/m^3) is unacceptably high

The three laws of communication



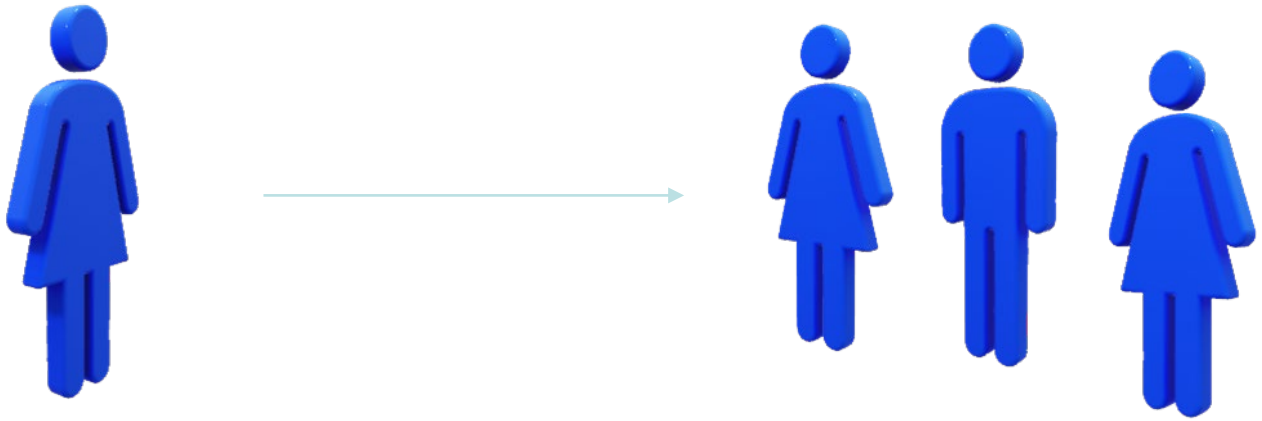




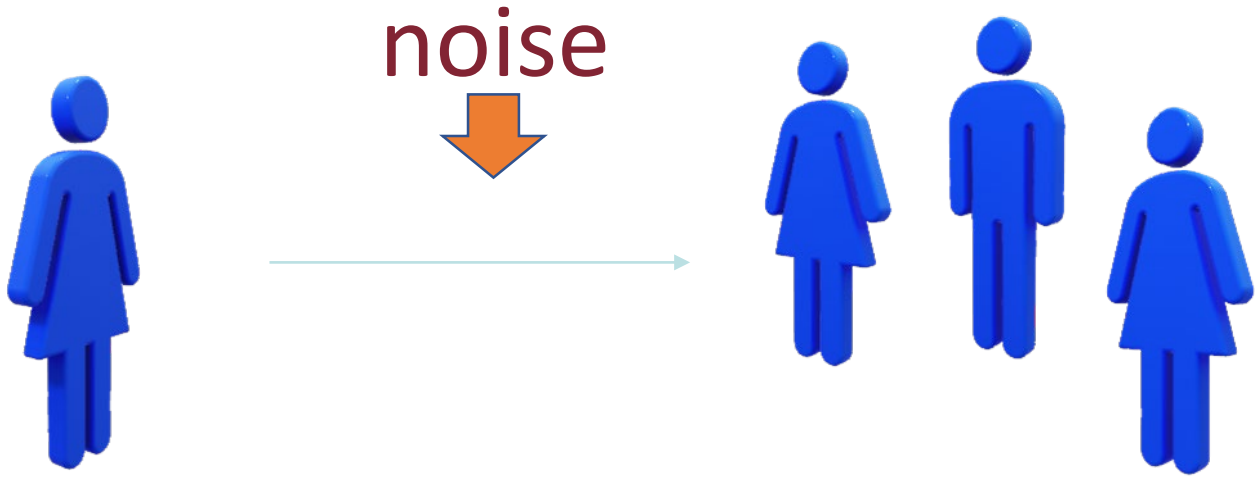
adapt to your audience

Most freedom

Most constraints

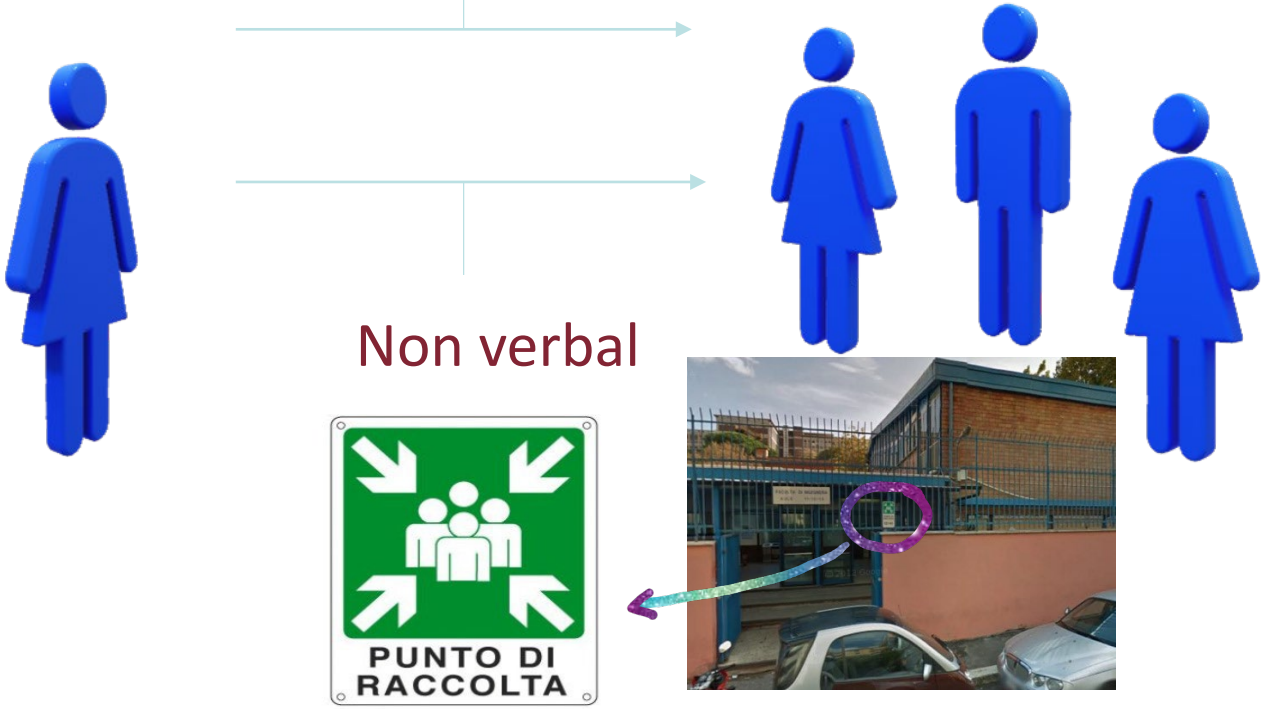


Maximize the signal-to-noise ratio



Use effective redundancy

verbal



Intellectual processes

Verbal
Text- like

Nonverbal
Vocal,visual

Rational
Abstract, learned

Intuitive
Concrete, innate

Sequential
Slow, exclusive

Global
Fast, nonexclusive

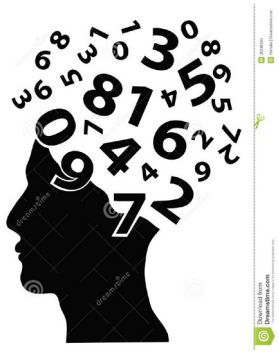
Magic Numbers

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

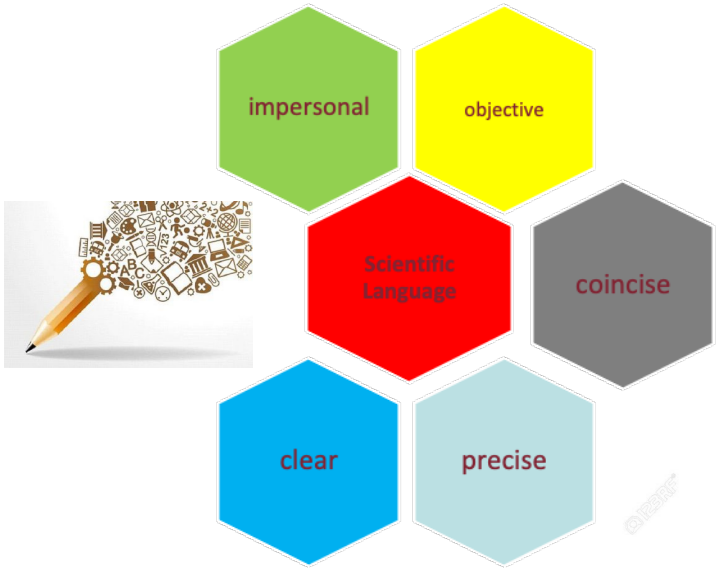
5 Five is handful

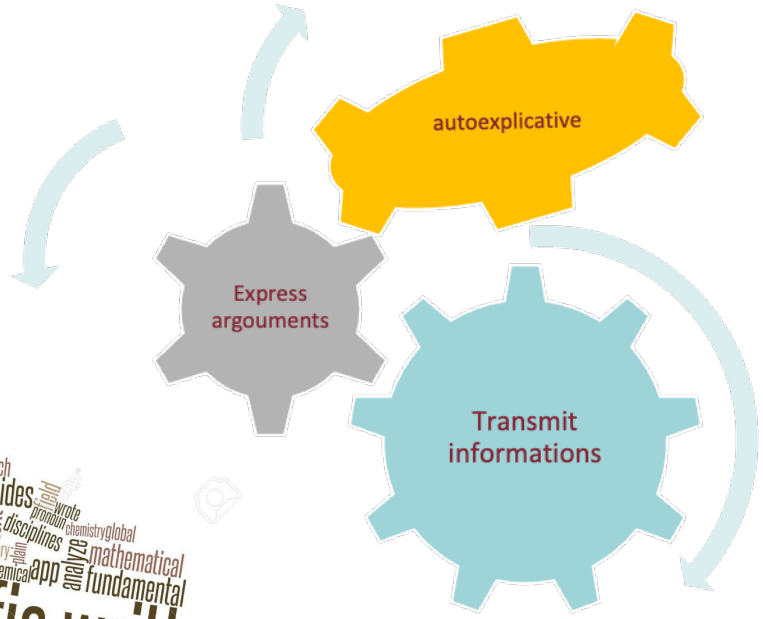
6 Six is just after five

2 3 5 Two, three and five are the first prime numbers

Effective scientific documents

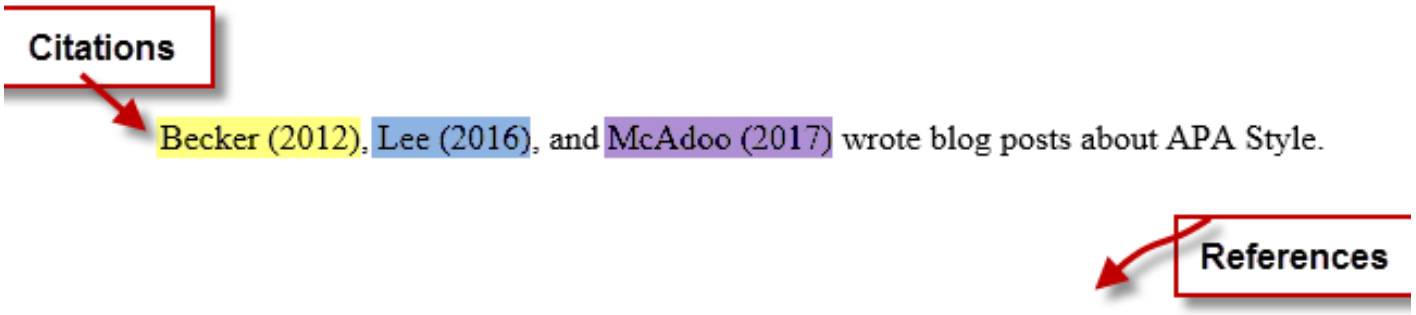
technical language: how to use it





Scientific method

bibliographical references



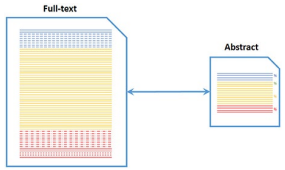
Structure

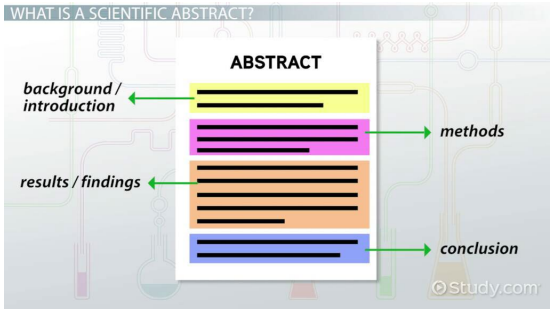
abstract

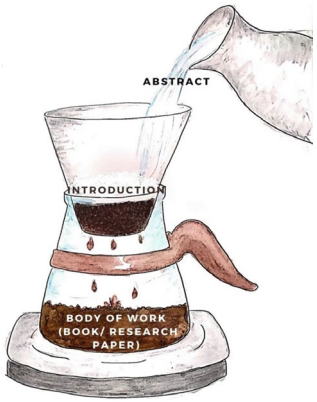
Introduction

Body

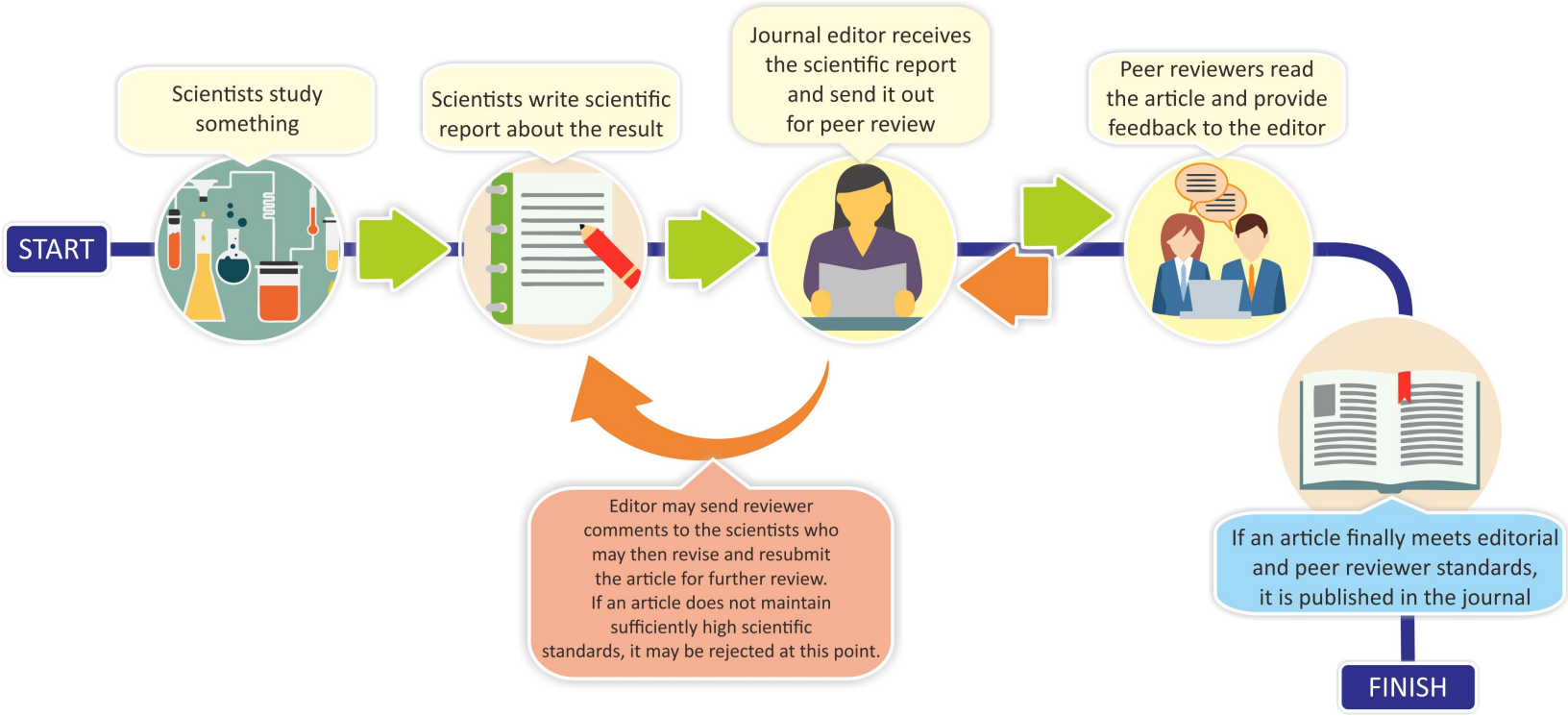
Conclusion







Peer review


START
Scientists study something
Scientists write scientific report about the result
Journal editor receives the scientific report and send it out for peer review
Peer reviewers read the article and provide feedback to the editor
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.
If an article finally meets editorial and peer reviewer standards, it is published in the journal
FINISH

Little test:which part of the text is it and why ?

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.

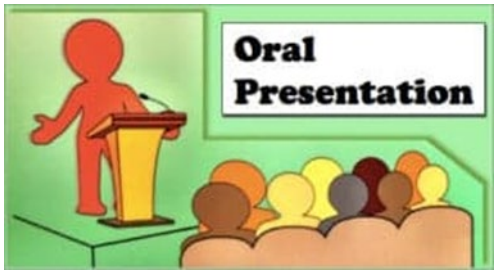
Published in: IEEE Transactions on Biomedical Engineering (Volume: 61, Issue2, February 2014)
92. Biopsy using a magnetic capsule endoscope carrying, releasing and retrievi ng untethered microgrippers, S. Yim, E. Gultepe, D.H. Gracias, M. Sitti, *IEEE Transactions on Biomedical Engineering* 61, 2, 513-521 (2014)

Little test:which part of the text is it and why ?

Our low-cost writing technique is versatile enough to fabricate elaborate 3D components. To illustrate this potential, Figure 4 shows a 1 × 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.

Self-trapped beams for fabricating 3D integrated optical components
Versatile optical tools that 'write' low-loss circular waveguides inside appropriate media offer a simple, affordable path to complex microdevices.
Self-trapped beams for fabricating 3D integrated optical components (spie.org)

Effective Oral Presentation



Be prepared

Be sure of yourself

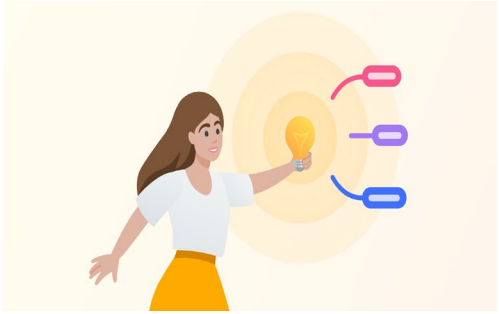
Use simple language

Keep the rhythm

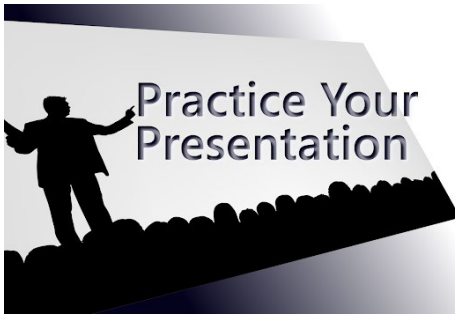
Use visuals

Be yourself

Be prepared

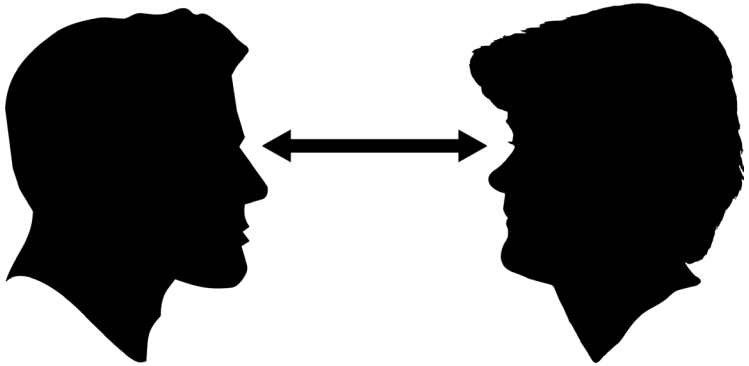


Organize ideas

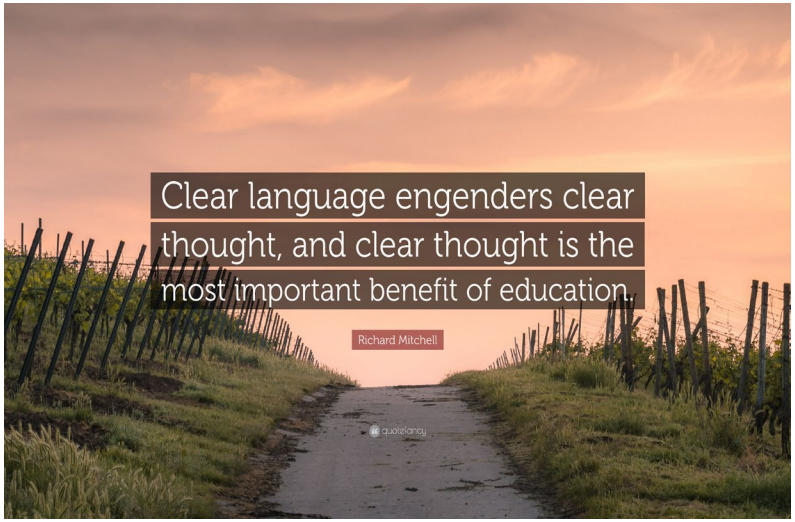


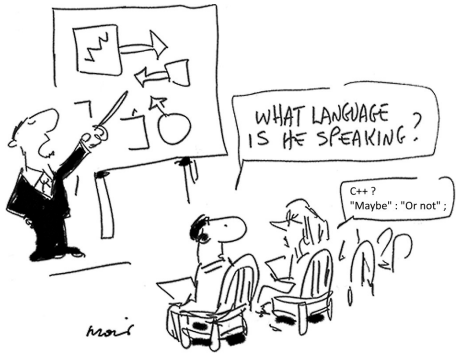
Be sure of yourself

Use eye contact



Use simple language





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.

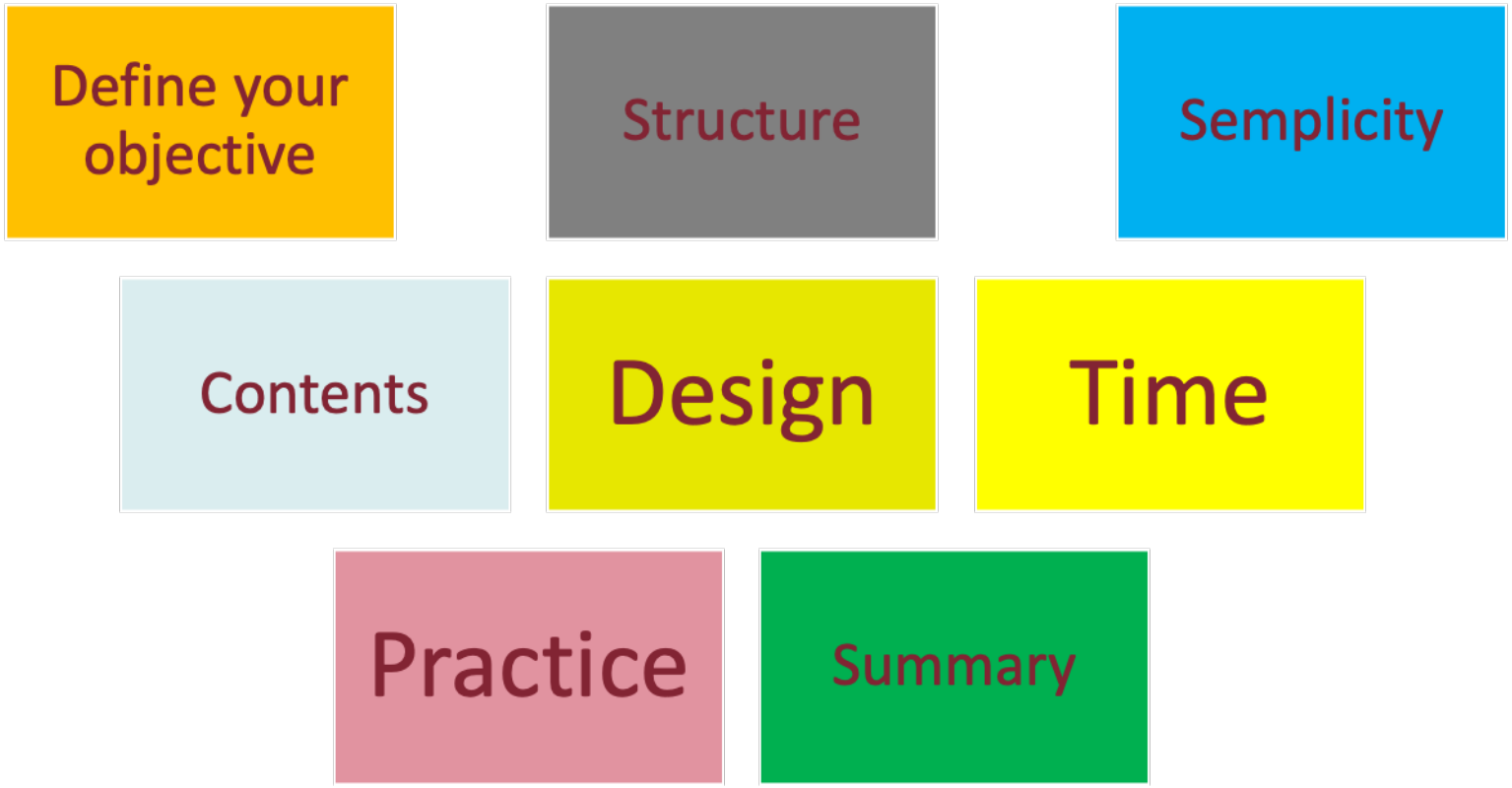
PERCEPTION - YOUR TONE CAN HELP YOU MAINTAIN YOUR EXECUTIVE PRESENCE

Use visuals

be yourself

Show your enthusiasm for the topic and your personality

Effective PowerPoint



Define your objective

What is your goal?

Which message you want to transmit?

Structure

What we are going to say?

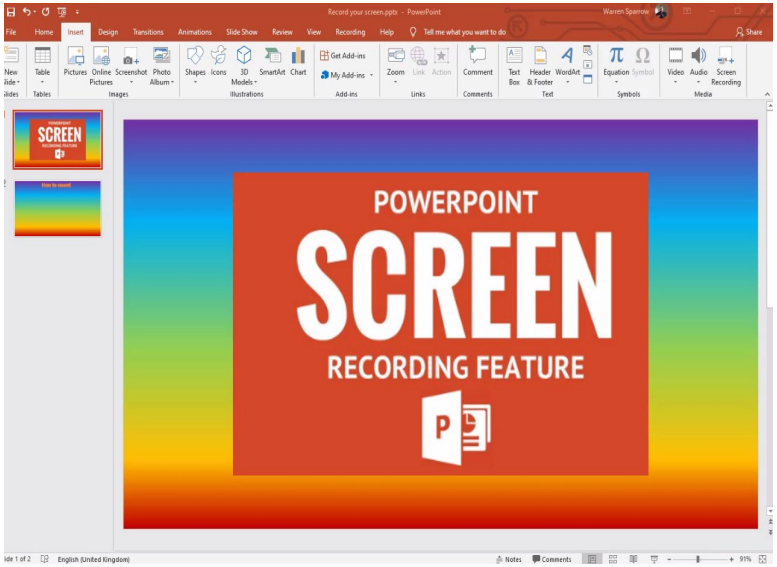
introduction

Say it

body

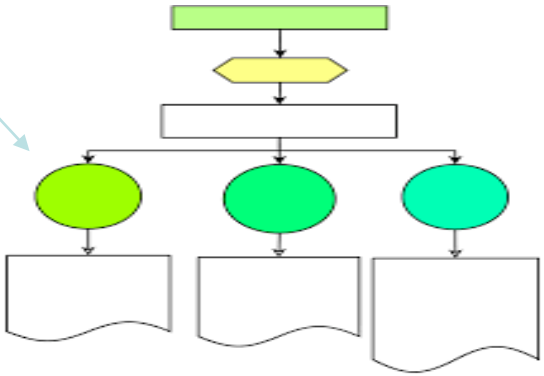
Summerize what did you say

conclusions



Semplicity

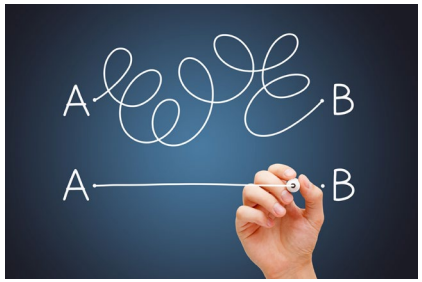
Easy and visually captivating contents



Structure

Essential text and key point

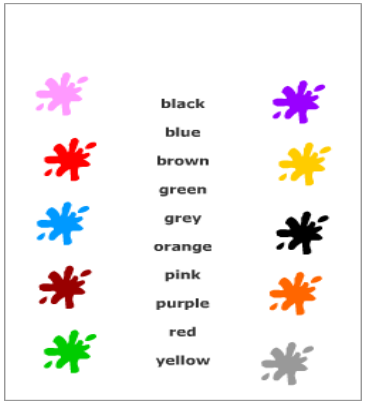
Simple and understandable language



Include only necessary and relevant information

Structure

Coherent and professional design



Does not distract from the main content

Combination of colors easy to read

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

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?

Any Questions?