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Toolkit for science communicators and trainers

This set of slides was produced within the project QUEST - Quality and Effectiveness in Science and Technology Communication.

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The following set of slides is a self-explaining presentation open to science communicators and trainers.

Please feel free to use these slides or part of them as a tool for lectures in science communication.

The first part is dedicated to the 12 indicators of quality in science communication.

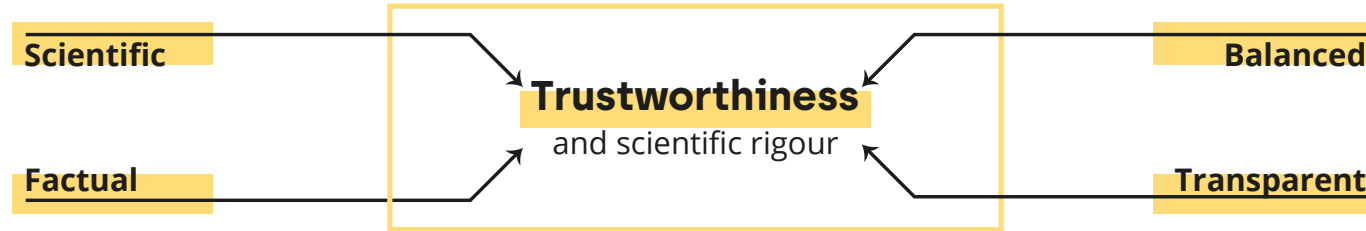
They illustrate the elements that ensure clear and effective communication.

For more details on the indicators please download:
<https://questproject.eu/download/12-quality-indicators-for-science-communication-guide-for-science-communicators/>

The second part is dedicated to a 14-point checklist to ensure the achievement of the indicators and therefore clear and effective communication.

For more details on the indicators please download:
<https://questproject.eu/download/checklist-for-scientists-quality-and-effective-science-communication-for-public-audiences/>

Part 1



12 Quality Indicators for Science Communication

The first pillar of quality communication



Scientific rigour

It is based on reliable, rigorous scientific information and sources. References to scientific sources.

Factual

It is accurate, objective and fact-checked.

Balanced

It includes comments by independent experts.
It includes voices of key stakeholders.

Transparent

It provides information about the scientific process. It is honest about the funding and affiliations.

The second pillar of quality communication



Clear

Language is simple and accessible.
It has clear focus and outlines key messages.

Factual

It provides a wider context.
It is coherent in structure and style.

Spellbinding

It is emotionally engaging and makes full use of the format's capabilities.

Interacting with the audience

It involves the audience in a dialogue.
It respects the audience.

The third pillar of quality communication



Purposeful and targeted

It has a clear objective.
It is knowledgeable about its audience
It is tailored to reach the target groups.

Impactful

It generates changes in individuals and in society.

Relatable

It addresses real life questions and problems.
It relates scientific results to everyday life.

Responsible

It is socially or politically conscious and follows ethical standards.

Part 2

The following slides focus on the checklist that scientists and communication practitioners may keep at hand and check when aiming for more effective communication.

Ideally, for each checkpoint, scientists or practitioners should be able to answer as follows:

“Yes/Done. I addressed this point the following way...”

An example of one of the checkpoints applied to a lecture in a city hall in a town, open to the general public, at a Saturday evening event:

2. Do you know who your audience is?

Yes, I called the organizers and they said that in previous events they had an audience of about 50, mostly adults of 40+ years old. They said that at the end there were plenty of questions from the public, which shows a high degree of curiosity.

Hoping to address each and every one of these points is resource consuming, and in many cases a hard task. We suggest that you do your best to check most of them.

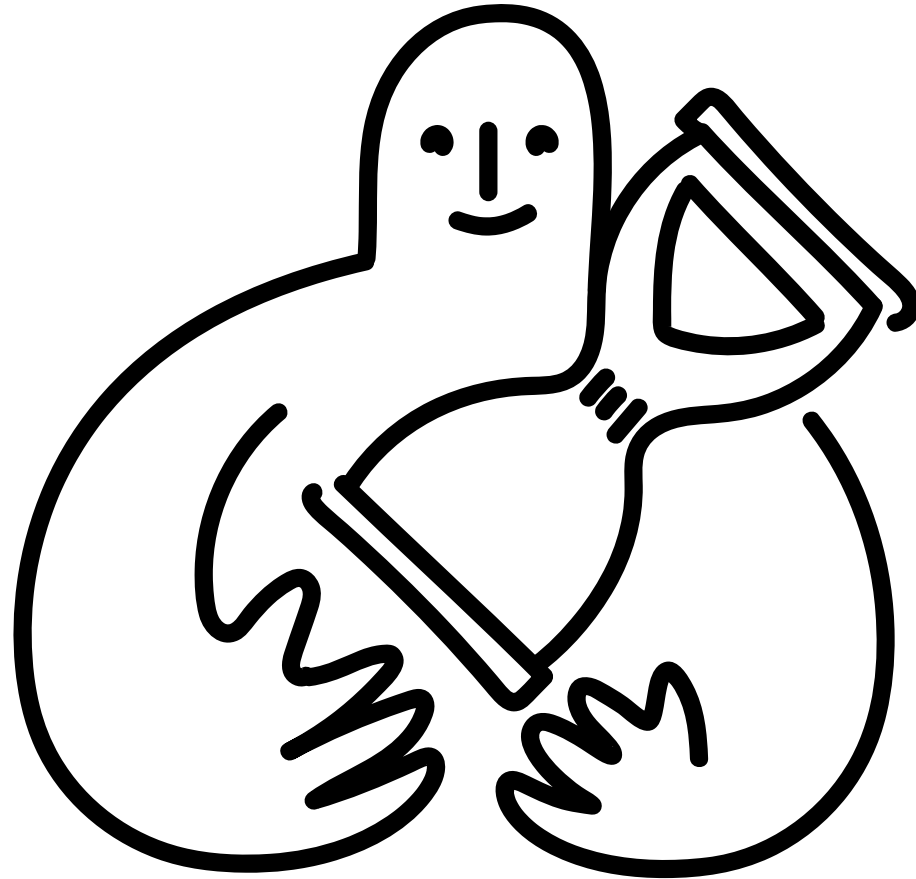


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Instructions Part 2 – Checklist for effective communication.

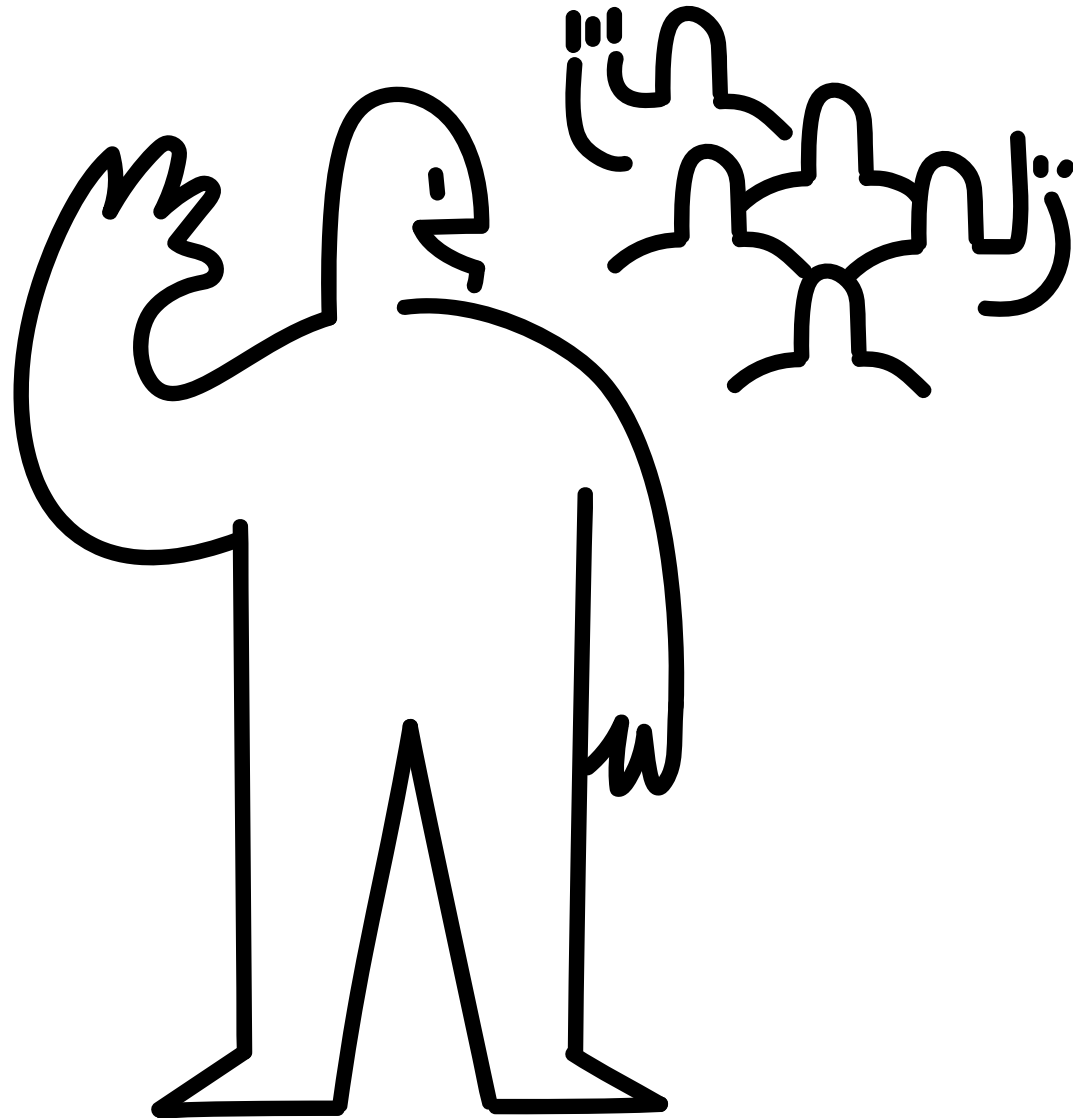
1. Are you allocating enough time to preparation and to improving your communication skills?

- Preparation depends on the event or communication format
- We tend to underestimate the time preparation takes
- Consult with other colleagues with previous experience or communication officers



2. Do you know who your audience is?

- Audience comes first. Before planning a communication, it is important to collect information about who will be there, why are they coming to an event (or reading a text, or watching a video...).
- This also includes knowing the platform or the channel that will be used for communication (for example, if it is for a radio interview, it requires knowing more about the radio channel, the tone, its average audience etc).

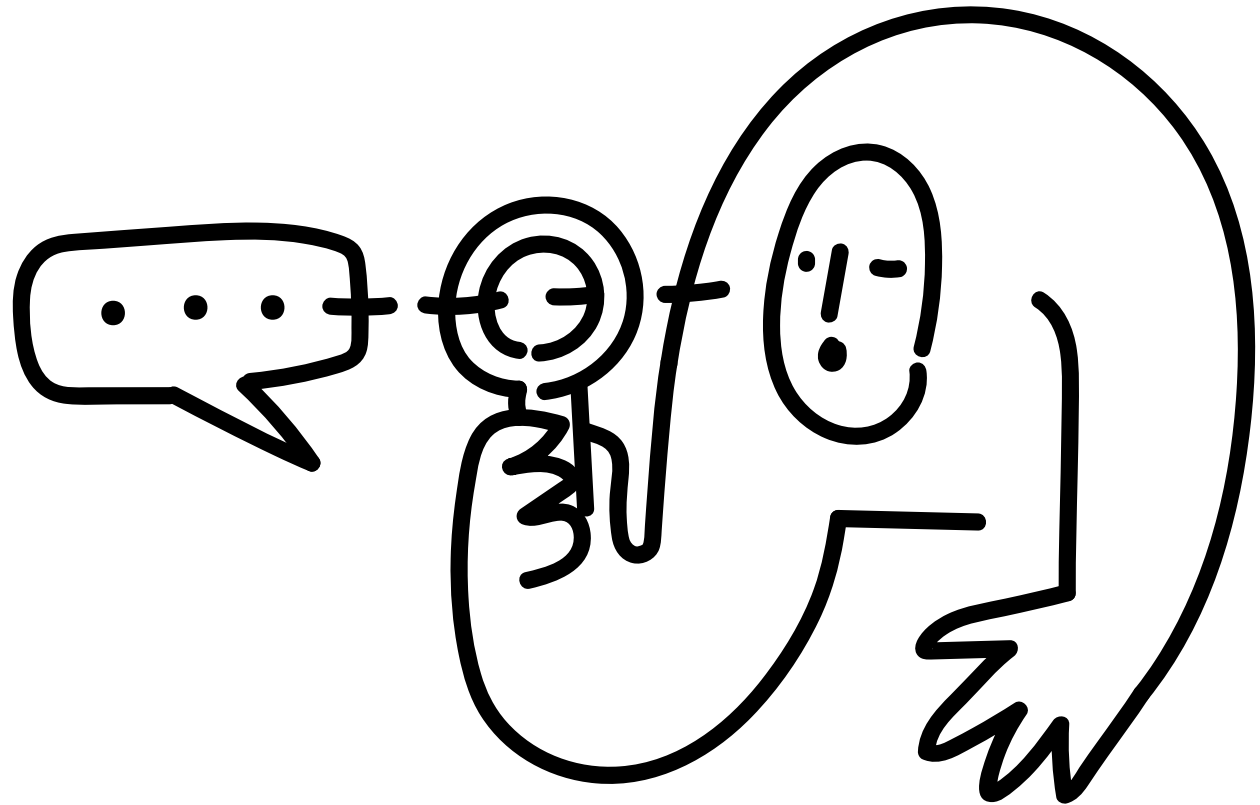


3. Have you identified the key messages to deliver and kept the focus on them?

- Overloading information is overwhelming to the audience. We tend to pack a lot of information into a limited space and time. It is better to focus on a few clear messages.

- Be sure to stay on message during the communication event. Digressing from the key messages may introduce overloading of information.

- Defining and maintaining focus require awareness.



4. Are you framing the message so that it raises curiosity and is compelling to the public?

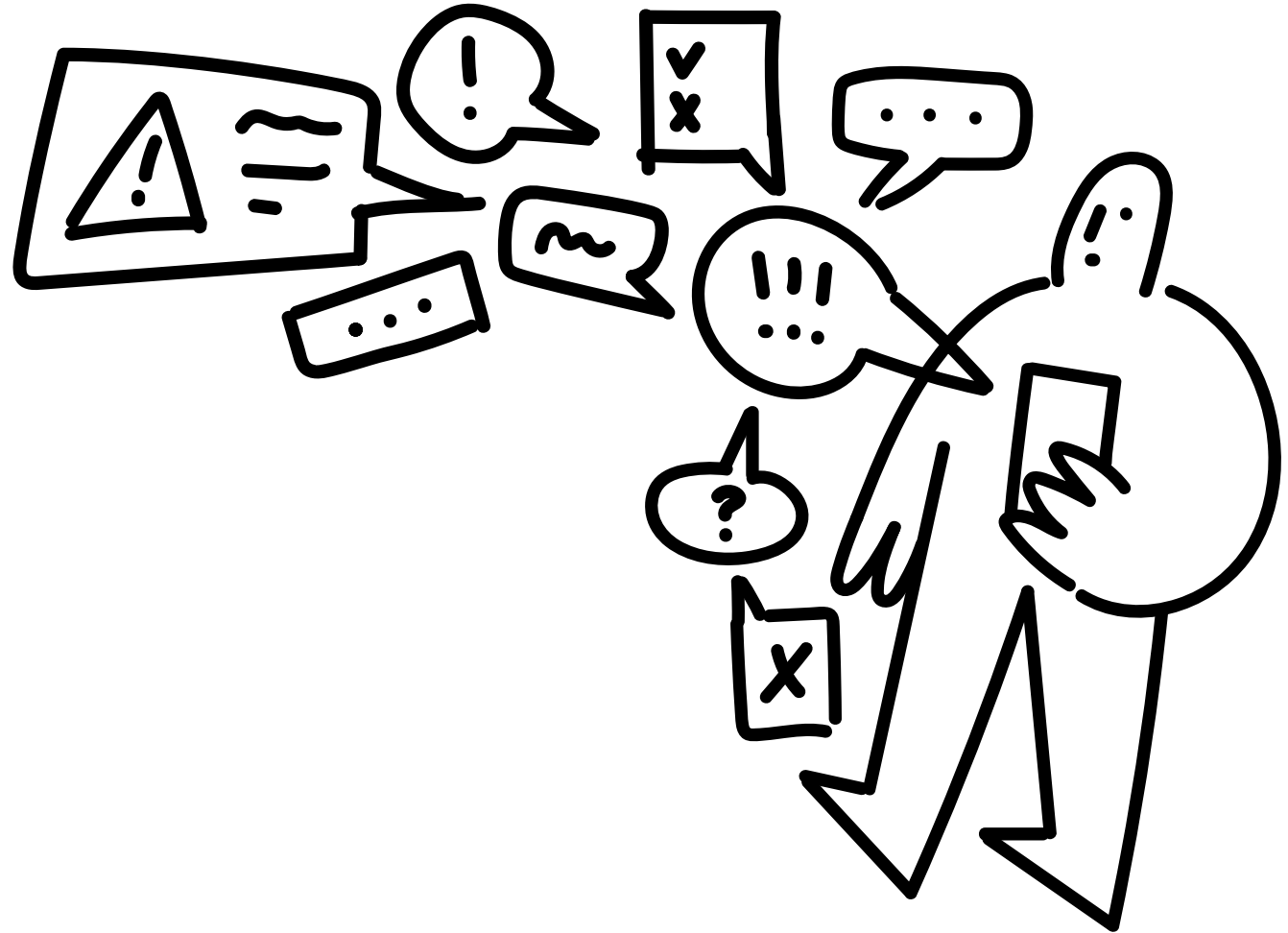
- Framing is like finding a vehicle to deliver a message. A vehicle in this context looks like a story, a metaphor, a conflict.
- Lecturing, or writing a technical text, works well in academic environments – but not with the general public.
- Look for alternative ways to frame messages, addressing the public's concerns, interests, and curiosity.



5. Are you linking to current facts or events?

– Science and technology are developed in a dynamic world. Communication should connect to what's happening in the world.

– Connect to today's news, anniversaries, upcoming events.



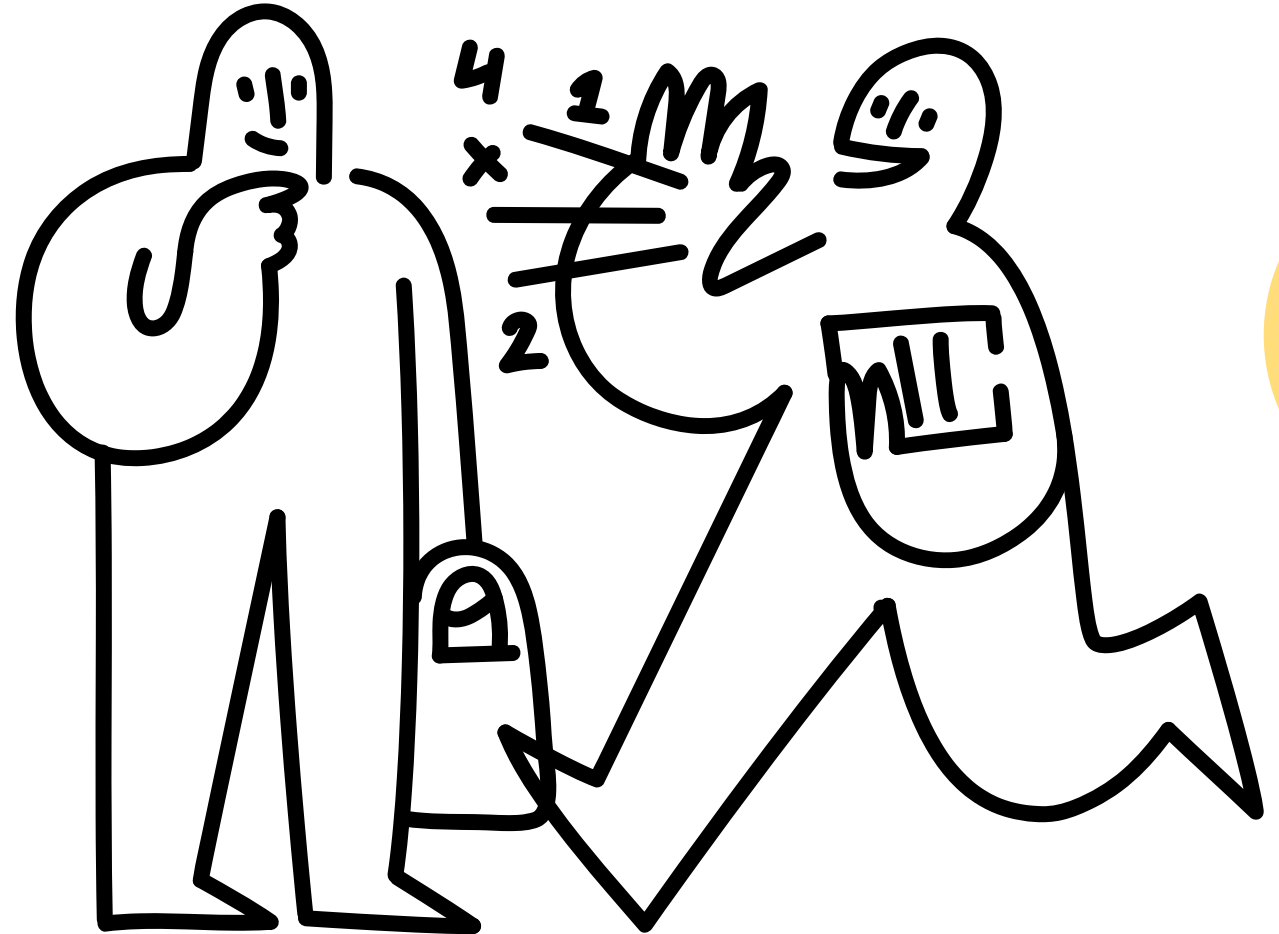
6. Are you communicating something that you also care about?

– When possible, you should communicate something you care about too. It will build a connection with the audience.



7. Are you telling stories or just delivering a list of facts or numbers?

- Stories in particular are proven to be successful tools in communication.
- People are interested in people more than in things or data.
- Facts and data need to be embedded in the story.



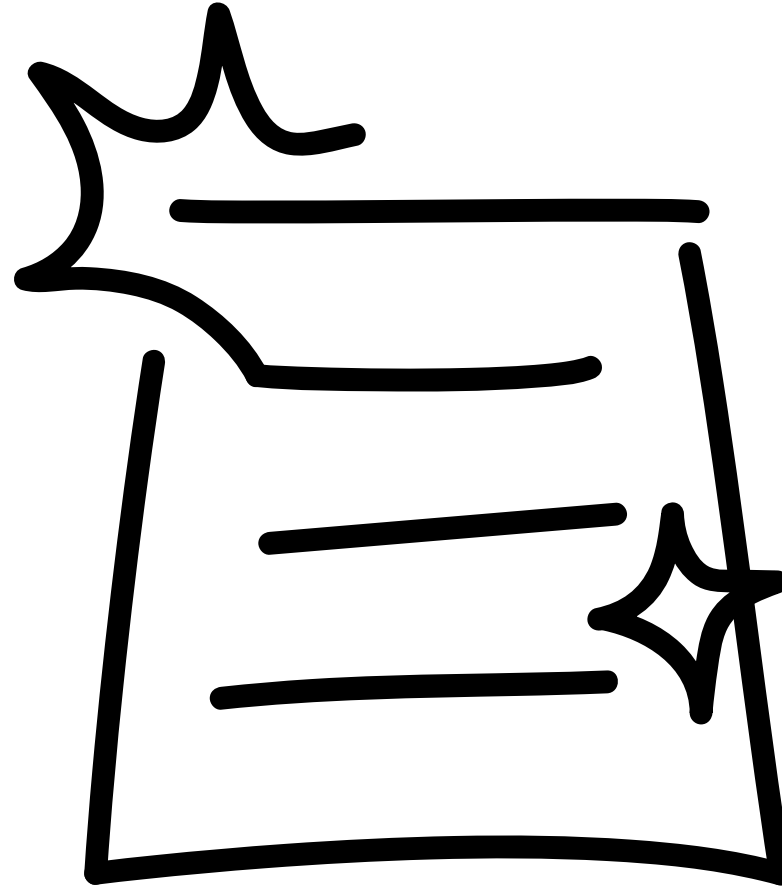
8. Have you used a simple explanation, can it be understood by the public?

- Be clear but accurate at the same time. It is not easy to do, but is a key to success. You should read your sentences several times, out loud.
- Simplifying a text requires sacrificing content. But it takes you closer to the core of your message.
- Simplifying requires taking care to not use technical terms (or explaining them).



9. Are you using short sentences?

- This is a mantra in any sort of communication: less is more.
- Essential communication involves reducing the (brain)work for the audience. Short sentences are often simpler than long ones.
- Having point 3 of this checklist (being focussed on key messages) clear in your mind will help you to be concise and to the point.



10. Have you strategically planned ways to open a dialogue and interact with your audience?

- A dialogue is a two-way experience. It means you must be prepared to react to people's questions.

- A dialogue implies interaction with the audience.

- A dialogue has to do with the tone used. Keeping a discourse conversational and open helps generate a dialogue and shift from lecturing or broadcasting to a passive audience.

- Interacting with the audience instead of delivering a lecture helps communicators and the public to understand and appreciate each other, and the messages shared.

- Introducing, strategically, activities to engage the public keeps the communication alive (and the public too).

- Activities should involve movement, discussion, doing things when this is possible.

11. Are you carefully thinking about how to keep your delivery or writing lively and monitoring the public's reaction?

– Science may be hard to decipher and therefore to appreciate. Think of ways to keep your communication lively.

– In a talk, making use of a video or an activity helps to keep the attention of the public high.

– In writing, bringing the voices of some characters, rather than just raw data and facts, also helps to keep the reader's attention.

– Inserting anecdotes, stories, or images (real or mental images) helps as well.

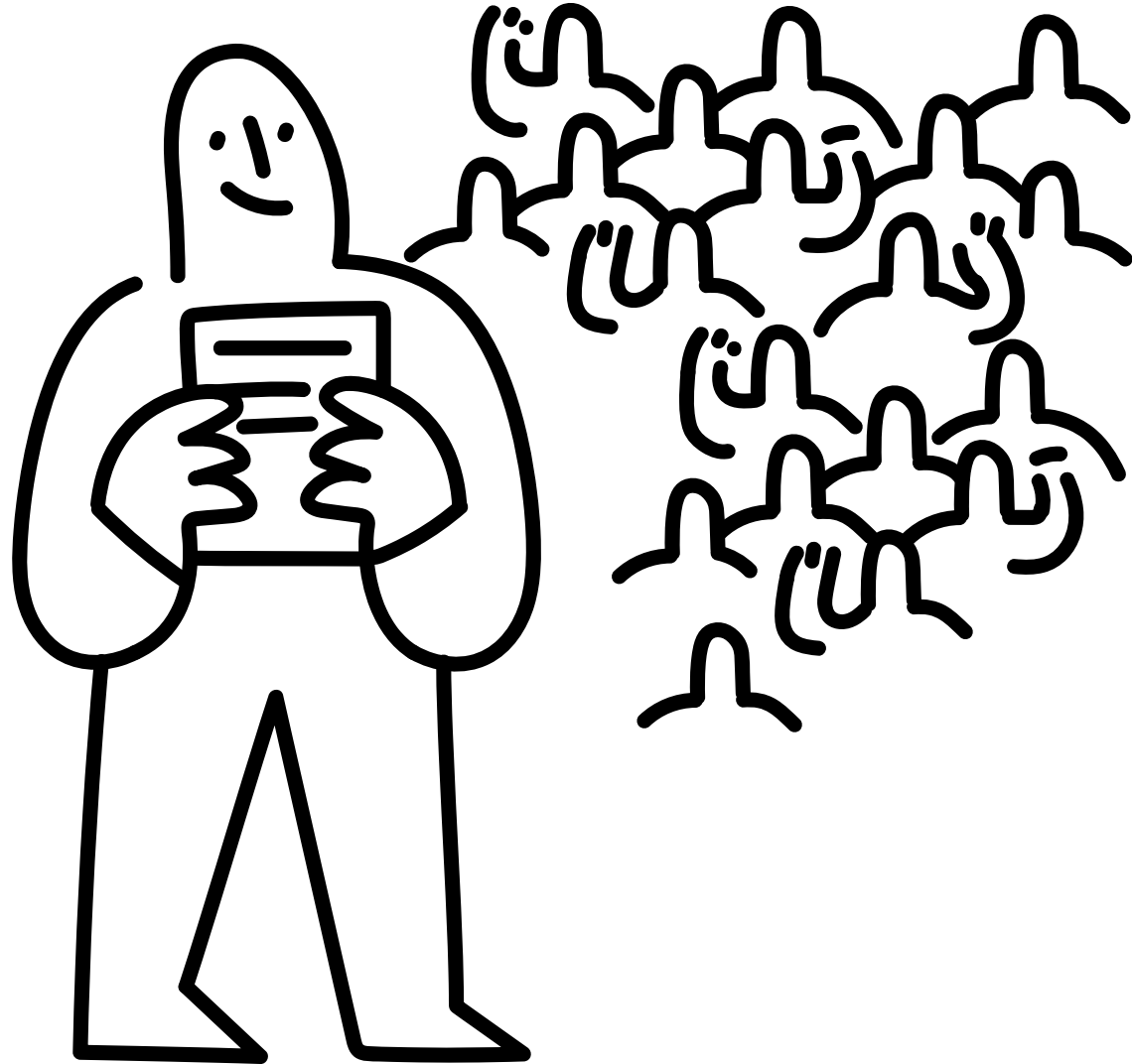
12. Did you set out strategies to deal with skepticism or distrust?

- The public is heterogeneous, with diverse views, concerns, expectations. Be prepared for and open to confrontation and address challenging comments or questions.
- Monitor confrontation, do not allow it to grow and overtake the key messages and objectives of the communication.
- Acknowledge the limits of science, uncertainties, and what is unknown.



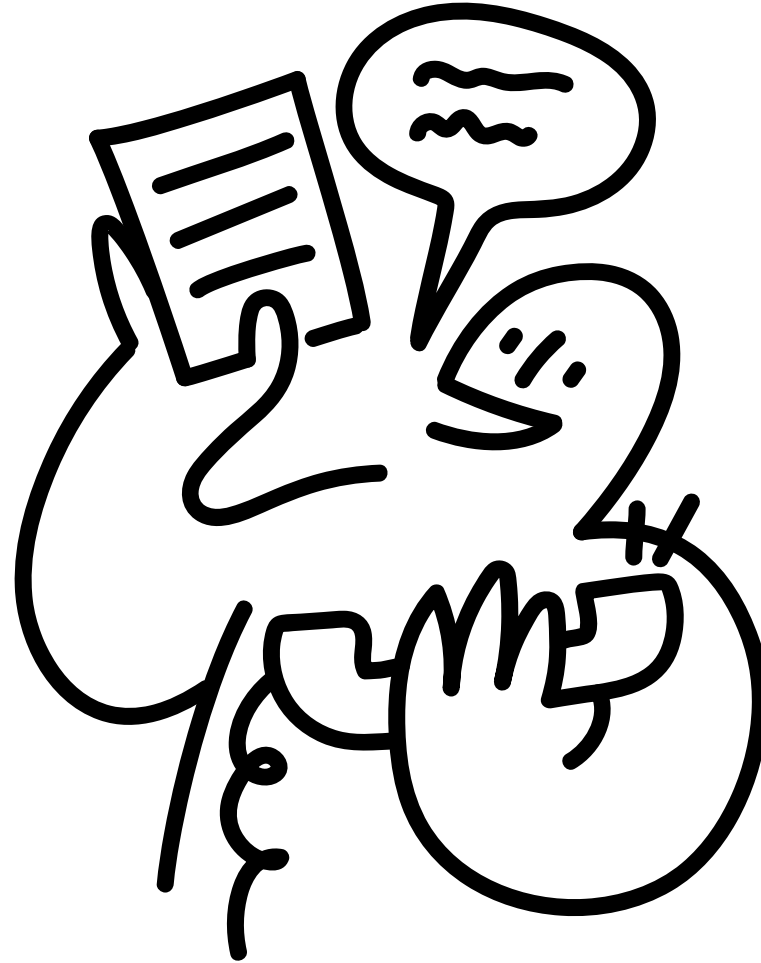
13. Did you practice your communication with non-experts?

- Rehearsing is a must. It is a key to successfully delivering a talk or a presentation.
- In rehearsing, ask for support from colleagues and friends, or relatives. Try getting support from a public that is as much as possible similar to the one that will be addressed in the actual talk or presentation.
- Similarly, a written piece will benefit from being edited by a person who has little or no familiarity with the theme.



14. Did you stay in touch with your communication [or press] officers?

- Most academies and research centres have an office to help scientists design and implement their outreach. Reach out to them to get support.
- Communication and press offices are especially helpful in dealing with the media.



Goal:

Letting students focus on one or more of the points, proposing solutions. This exercise could also be done as self-assessment.

Format:

Single or team work.

Duration:

30 minutes including the discussion.

Lecturer:

1. Suggest a possible communication scenario for a scientist. For example, an invitation to organize a 2-hour guided tour in their laboratory.
2. Propose 1 to 5 points from the list and let students answer how they would address those points.
3. Students elaborate their strategies and ideas.
4. Discussion on results.

Suggested exercise

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