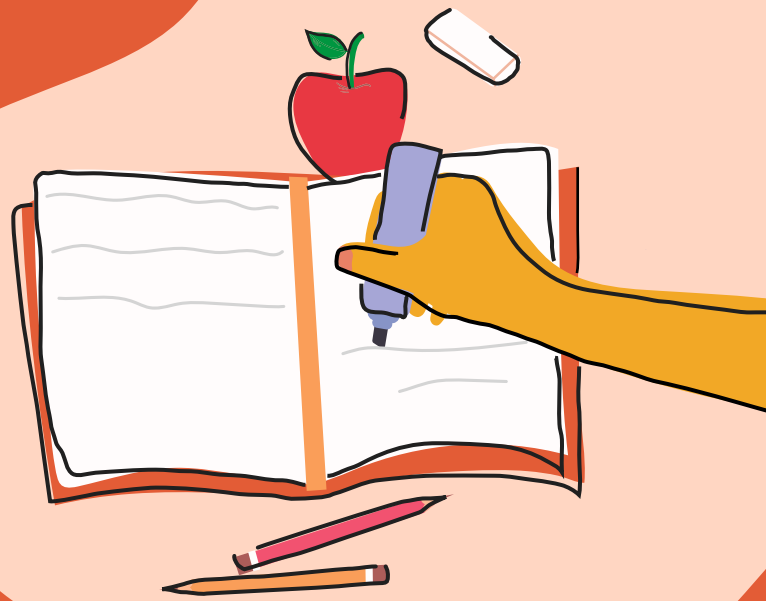
Food Stories

Facilitator's Guide

Companion to the Exercises Toolbox of Storytelling for Food Science Communication



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Introduction

This guide aims to equip facilitators, like university teachers or trainers, that are interested in holding a session on the use of storytelling for food science communication. The guide includes exercises to equip food scientists with the necessary skills to effectively communicate their research to a broader audience using storytelling techniques.

The guide consists of a range of exercises that cover key elements of storytelling, along with a “Learn more about storytelling and science communication” section to address common questions and concerns related to storytelling in food science communication. The guide also includes suggested combinations of exercises, provides examples of completed exercises for a group setting and offers additional resources to dig deeper in certain subjects.

This Facilitator’s Guide and the **Toolbox of Exercises** associated with it (which contains the same exercises and corresponding examples, but geared towards individual learners) have been developed by the Erasmus+ project FOODSTORIES. The project aims to empower food researchers towards more effective science communication using storytelling techniques. **For more information about the project, please visit our Website.**

How to use this document

You can choose to follow the exercises in order, from the fundamentals to the more detailed learnings, or check the overview in the next pages to navigate which specific elements or techniques of storytelling you want to focus on or improve. In the section “Possible combinations of exercises” you can find further ideas on exercises to try depending on the expertise level of your participants, while in the instructions of some of the exercises you will find suggestions for specific use cases (box “Try this for”).

Disclaimer

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Some of the materials in this Facilitator’s Guide are inspired from exercises commonly used in communication and other fields. When the source of the exercise is known (individual or organisation) you will find a clear mention of them. If you plan to use any of these exercises, please also give credit to the author appropriately.

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Setting up your training session/class

This section gives you some basic information and general tips to organise a session using the exercises in this guide. Once you have selected the exercises you will be using, read their instructions carefully for additional required material and specific suggestions.

Facilitator

It is recommended that you have previous experience as a science communicator. If you aren't an experienced science communicator or should you need more background information to familiarise yourself with storytelling, we strongly recommend the further readings and resources under the "Additional resources" section.

If hosting an in-person training or workshop, it is recommended that at least one other person joins the facilitator to support with the organizational and technical aspects such as setting up the venue, distributing materials, time-keeping, coordinating the groups of participants, etc. If the audience is large, additional support might be necessary. Unlike the facilitator, the supporting people do not have to be necessarily trained or be an expert in storytelling for food science communication, although some previous background can always be convenient.

Number of participants

There is no set number of participants for the group sessions. However, it is generally a good idea to limit the participants to a number that enables you to respond to the group's needs or, if necessary, to have more than one facilitator on board. For in-person sessions, we recommend you set a maximum number based on the space available so participants can comfortably work whilst divided into separate groups.

Workshop/class length

There is no set length for a workshop/class as the exercises presented are a set of resources, not a designed curriculum. We encourage facilitators to check the estimated times given on the list of exercises to choose the best combination, both in terms of time available and learning needs. In the next section you can also find suggested combinations of exercises based on either expertise level or amount of time available.

Exercises length

Please note that the times given for each exercise are minimum and can be altered depending on how much time you would like to invest in each activity. This is especially important in a group setting, when more time might be required to allow for discussion and general engagement between participants.

Facilitators should also consider extending the time allocated to each exercise based on the type of feedback, more or less exhaustive, that they would like to provide to participants.

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Online setting

All the exercises can be adapted to an online setting, either by following the instructions for individual learners you can find in the toolbox (e.g. a facilitator guides participants in the use of the individual format of the exercises) or the group versions in this guide (e.g. by creating breakout rooms for the pairs/small groups recommended in most exercises).

In an online setting, be mindful of additional steps or materials you might need in preparation of the session, starting from choosing the most suitable platform and setting up your station (you might need two screens). Prior to the session, run a technical test to ensure that all the features required work, for example break-out rooms, sharing presentations or videos (connect computer audio if needed), chat and/or polls with participants, etc. Estimate enough buffer time to allow for the necessary technical adjustments (people joining and testing their devices, entering or leaving break-out rooms, etc.), to let the people introduce themselves, for coffee breaks and to address any last-minute issue. For some exercises, you might want to prepare some messages to broadcast to participants in breakout room for smooth timekeeping (e.g., “five minutes left”, “switch couples” or “move to the next part of the exercise”).

Make the audience aware of the importance of having a stable connection on the day of the session. Share with them materials they might need for the exercises, such as their descriptions or links to additional resources they might need. This is especially recommended if participants are joining break-out rooms, as checking on them might be more difficult then.

If hosting an online training or workshop based on the exercises, it is beneficial to have two other people join the facilitator. One person will support with the organizational and technical aspects such as managing the conference platform, checking the chat for questions, supporting participants with any technical issue, time-keeping, setting up and managing break-out rooms, sending links or sharing materials to participants, etc. Unlike the facilitator, this person does not have to be necessarily trained or be an expert in storytelling for food science communication, although some previous background will always be helpful. The other supporting person should be more familiar with the topics covered, although not necessarily to the same extent as the facilitator, so they can both help with some of the above-mentioned aspects while also be able to provide basic guidance to participants regarding the exercises. This person could even work as a back-up participant and take part in some of the activities, for example if the numbers of people in the break-out rooms is unsuitable for the correct delivery of the exercises. If the audience is large, more of these supporting people might be necessary.

Prior to the workshop/class

- Check that you have all the materials needed and that the links in the exercises you have chosen are working. The materials needed are specified for each exercise.
- Familiarise yourself with the exercises. You can try them yourself or with the help of colleagues to preempt any issues that might arise and/or to figure out examples you can share with your participants.
- Prepare an introduction on science communication and storytelling to start the workshop, including the goals of the session. You can take inspiration from the section “Learn more about storytelling and science communication” or use the template at the end of this section.
- Either share with the participants, the individual instructions for the exercises you have selected or create slides to visually support the workshop.
- Read the section “Learn more about storytelling and science communication” thoroughly to be able to answer some of the questions participants might have, especially if you have little experience with storytelling for science communication.
- After the session, you can share the Toolbox of exercises with your participants so that if they wish to continue practicing their storytelling techniques for science communication, they can do the individual exercises on their own.

Template to start a workshop

Below you will find a suggested introduction for a workshop covering a variety of storytelling elements. Customize this introduction to align with the specific objectives and flow of your workshop, but remember that the goal is to set the stage, manage expectations, and get participants excited to dive into the content.

Suggested introduction for a workshop

Good morning everyone, and welcome to our workshop on science communication and storytelling.

My name is _____ and I'll be facilitating our session today.

The goal of this workshop is to help you develop the skills and techniques to effectively communicate complex scientific ideas to a general audience through the power of storytelling. Over the next few hours, we'll cover:

- The key principles of science communication and why storytelling is such an important tool
- Tips and best practices for crafting engaging stories that bring your research to life
- Opportunities to apply what you've learned through interactive exercises
- _____

By the end of our time together, you'll have a toolkit of storytelling skills that you can use to share your work in a way that captivates and inspires your audience.

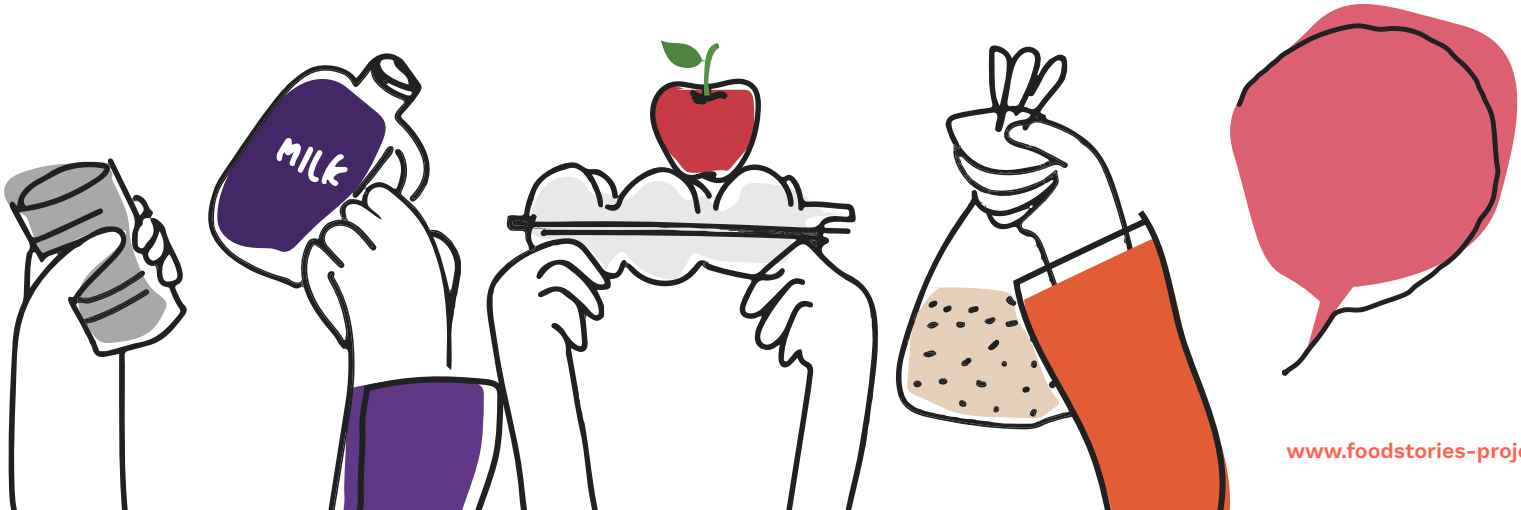
To kick things off, let's start by reviewing the section "Learn more about storytelling and science communication" in the workshop materials. This will give us a shared understanding of the key concepts we'll be exploring today. Then we'll dive into our first session on the fundamentals of science communication.

Please feel free to ask questions at any time. I'm here to support you in getting the most out of this workshop. With that, let's get started!

Template to start a Workshop

Overview of the exercises | Foundations

Exercise	You will learn to	Minimum Time	Page(s) Facilitator's Guide	Page(s) Toolbox
FOUNDATIONS				
1. KEY MESSAGES				
1A. HALF-LIFE	Refine the purpose of your research by focusing on brief and comprehensive communication, avoiding jargon. Learn to clarify the core message and focus of your communication to give the audience a deeper understanding of the concept and remove confusion.	**30 min**	**19**	**15**
1B. MESSAGE BOX		**30 min**	**20**	**16**
2. KNOW YOUR AUDIENCE(S)				
2A. WHO IS YOUR AUDIENCE?	Recognise audiences' differing beliefs, values, needs, motivations and values. Find common ground for connection and understanding with your audiences.	**25 min**	**22**	**18**
2B. EMPATHISING WITH YOUR AUDIENCE		**30 min**	**25**	**21**



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Overview of the exercises | Building your story

Exercise	You will learn to	Minimum Time	Page(s) Facilitator's Guide	Page(s) Toolbox
BUILDING YOUR STORY				
3. THE ABT OF YOUR STORY				
	Gain an understanding of how to define and implement a narrative structure.	**25 min**	**28**	**25**
4. CHARACTER DEVELOPMENT				
4A. CHARACTER INTERVIEWS	Strengthen your ability to craft a character profile to make an engaging character that appeals to different audiences.	**20 min**	**30**	**27**
4B. UNDERSTANDING YOURSELF AS A CHARACTER		**25 min**	**31**	**29**
4C. CREATING A NON-HUMAN CHARACTER		**40 min**	**32**	**30**
5. DEVELOPING YOUR NARRATIVE STRUCTURE				
	Explore different ways you can structure a narrative when creating your story.	**30 min**	**33**	**33**

Overview of the exercises | Strengthening your story

Exercise	You will learn to	Minimum Time	Page(s) Facilitator's Guide	Page(s) Toolbox
STRENGTHENING YOUR STORY				
6. NARRATIVE VOICE				
	Develop the skill to use different voices and evoke audience's emotions.	**30 min**	**36**	**37**
7. EMOTIONAL CONNECTION				
	Understand the importance of establishing an emotional connection with your audience.	**35 min**	**37**	**38**
8. CREATING A COMPELLING OPENING				
	Understand how to use a hook to spark audience's curiosity.	**30 min**	**39**	**41**
9. CREATE AN ANALOGY FOR A COMPLEX CONCEPT				
	Recognize the impact of a good analogy or metaphor and how it can engage audiences by enhancing their understanding.	**30 min**	**41**	**44**
10. WORK ON YOUR JARGON				
10A. DEJARGONISER	Make your communication more accessible and relatable to your target audience by using the appropriate amount of technical jargon.	**25 min**	**42**	**47**
10B. UPGOER CHALLENGE		**20 min**	**43**	**48**
11. CREATE A #BETTERPOSTER: VISUAL STORYTELLING				
	Improve the impact and understandability of your story by representing ideas through visual storytelling.	**30 min**	**44**	**50**

Overview of the exercises | Maintaining scientific integrity

Exercise	You will learn to	Minimum Time	Page(s) Facilitator's Guide	Page(s) Toolbox
MAINTAINING SCIENTIFIC INTEGRITY				
12. EMBEDDING DATA INTO YOUR STORYTELLING				
	Make data relatable to different audiences.	**40 min**	**46**	**53**
13. MISINFORMATION MASHUP: A SCIENCE MEDIA CHALLENGE				
	Identify characteristics of misleading science content in media.	**25 min**	**48**	**55**
14. COMMUNICATING RISK IN FOOD SCIENCE				
	Recognize potential pitfalls in communication surrounding new food technology or other novelties in the food domain.	**30 min**	**50**	**58**

Possible combinations of exercises

Depending on the level of expertise of the participants of your workshop/class, your goals and time available, you might want to either follow the exercises in order, from the fundamentals to the more detailed learnings, or check the table in the previous pages to navigate which ones are most interesting for the techniques and elements of storytelling you want to focus on. You can adapt the timings and content based on your own requirements.

Based on expertise level

Below you will find two combinations of exercises you could follow depending on your participant's previous experience with storytelling and science communication. We recommend the following two tracks:

BEGINNERS	ADVANCED
1A. HALF-LIFE OR 1B. KEY MESSAGE	3. THE ABT OF YOUR STORY
2A. WHO IS YOUR AUDIENCE?	5. NARRATIVE STRUCTURE
3. THE ABT OF YOUR STORY	4C. CREATING A NON-HUMAN CHARACTER
4B. UNDERSTANDING YOURSELF AS A CHARACTER	10 A/B JARGON
8. CREATE A COMPELLING ANALOGY	12. EMBEDDING DATA
13. MISINFORMATION MASHUP	11. CREATING A BETTER POSTER

Possible combinations of exercises

Based on time available

In case you have very limited time (1 to 2 hours), you might want to try one of the combinations below. Keep in mind that we only recommend this if you, as a facilitator, are already familiar with science communication and storytelling so you can support the participants giving context and answering any questions that otherwise would have been tackled by other exercises.

Clarify your message

1a. Half-life exercise
1b. The message box

Create your story structure

3. The ABT of your story
4a. Character interview
5. Developing your narrative structure

Engage your audience

8. Creating a compelling opening
9. Create an analogy for a complex concept
10a. Dejargoniser

Experimenting with visual storytelling

13. Embedding data into your storytelling
11. Create a #better poster: visual storytelling

Possible combinations of exercises

In case you are planning to organise a longer course, we recommend the following structure based on 4 x 1 hour workshops.

A Course in Storytelling for Science Communication			
WORKSHOP 1	WORKSHOP 2	WORKSHOP 3	WORKSHOP 4
1A. HALF-LIFE	5. DEVELOPING YOUR NARRATIVE STRUCTURE	6. NARRATIVE VOICE	10A. DEJARGONISER
1B. MESSAGE BOX	4A. CHARACTER INTERVIEWS	8. CREATING A COMPELLING OPENING	10B. UPGOER CHALLENGE
2A. WHO IS YOUR AUDIENCE?	4B. UNDERSTANDING YOURSELF AS A CHARACTER	9. CREATE AN ANALOGY FOR A COMPLEX CONCEPT	13. MISINFORMATION MASHUP: A SCIENCE MEDIA CHALLENGE
3. THE ABT OF YOUR STORY	4C. CREATING A NON-HUMAN CHARACTER	12. EMBEDDING DATA INTO YOUR STORYTELLING	14. COMMUNICATING RISK IN FOOD SCIENCE
2B. EMPATHISING WITH YOUR AUDIENCE	7. EMOTIONAL CONNECTION		11. CREATE A #BETTERPOSTER: VISUAL STORYTELLING

Quality Criteria

The exercises presented in this guide have been selected based on the following storytelling and science communications quality criteria. These criteria were originally developed for the FOODSTORIES, **"Storytelling in Food Science Communication - best Practices Collection",** to ensure the case studies presented in it serve as high-quality examples of ethical science communication initiatives that incorporate storytelling elements. In some of the exercises we refer to the FOODSTORIES Best Practices Collection as a supplement source of examples for when participants do not have other research topics to write about.

Each exercise pertains to one or more of these predetermined storytelling quality criteria and/or science communication quality criteria.

In other words, the learning objectives of each exercise addresses these criteria to provide a more holistic understanding of storytelling in science communication.

By grounding the exercises in the project's quality criteria, the aim is to ensure a consistent, comprehensive approach to developing practical storytelling skills for effective science communication.

STORYTELLING QUALITY CRITERIA

BEGINNING/MIDDLE/END

The story is structured following the classical Aristotelian tripartition: beginning/middle/end.

PROTAGONIST/CHARACTER

The story presents one or more protagonist/character.

DIFFICULTIES/CONFLICT

The protagonist/character is involved in an initial situation and needs to overcome difficulties, emerging barriers or face conflict.

RESOLUTION/MORAL

The story shows a final resolution/moral.

SCIENCE COMMUNICATION QUALITY CRITERIA

Source: www.questproject.eu

TRUSTWORTHINESS AND SCIENTIFIC RIGOR

SCIENTIFIC

Communication is based on reliable, rigorous scientific information and sources. References to scientific sources are added.

FACTUAL

Communication is accurate, objective and fact-checked.

BALANCED

Comments by independent experts are provided to key claims. Voices of key stakeholders are represented.

TRANSPARENT

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

PRESENTATION AND STYLE

CLEAR

The language is simple and accessible. Communication has a clear focus and outlines key messages.

COHERENT AND CONTEXTUAL

Communication provides a wider context for topics. Communication is coherent in its structure and style.

SPELLBINDING

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

INTERACTING WITH THE AUDIENCE

Communication involves the audience in a dialogue and treats them respectfully.

CONNECTION WITH SOCIETY

PURPOSEFUL AND TARGETED

Communication has a clearly defined objective, is knowledgeable about its audience and is tailored to reach the target groups.

IMPACTFUL

Communication generates changes in the society and its individuals.

RELATABLE

Communication addresses real-life questions and problems and relates scientific results to the everyday lives of people.

RESPONSIBLE

Communication is socially or politically conscious and follows ethical standards.

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Exercises

Foundations

Exercises

1. Key Messages

1a. Half-life exercise

Total duration: 30 mins
15 mins for the activity and
10 mins for the discussion

This exercise can be done in written form in a group setting. However, if possible, we recommend switching to its spoken interactive form in a group/classroom setting, by following these instructions on the right.

Learning objectives

1. Learn to focus on the key ideas for your research/topic.
2. Learn how to refine complex topics for a non-specialist audience.

Necessary materials/resources

If in written form: access to the **website** or pen and paper and a timer.

If in spoken form: a timer.

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Instructions

1. Introduce the activity to the group. Explain that this is an exercise to help participants practice distilling their research or a topic from their field into a clear, simple message. A key message is a core idea or takeaway that you want your audience to remember after hearing or reading your story.
2. Divide the participants into pairs. Suggest that the pairs not be made of people who work closely together, as the exercise works best when the other person is not familiar with the research/topic.
3. Instruct the participants to decide who will go first. The first participant will have 90 seconds to explain their research or topic to their partner, as if talking to someone outside their field (e.g. a family member or someone they know from the gym).
4. Start a 90-second timer and have the first participant begin. Encourage them to not overthink it and just explain what comes naturally. Give a 15-second warning before time is up.
5. Once the 90 seconds are up, set a 45-second timer. The same participant will now have to explain their research/topic again, but this time in half the time.
6. Repeat step 5, this time setting a 20-second timer.
7. Ask the listening partner to briefly summarize back to the speaking partner the key idea they took away from the final, 20-second round.
8. Switch roles and have the other participant go through the same process.
9. After both partners have completed the exercise, facilitate a brief discussion. Ask participants what they learned about distilling their message, and how the time constraints affected what they chose to focus on.

TIP BOX

Especially if the session is online and the participants are in break-out rooms, as a facilitator you can prepare to discuss some of the most common issues that can arise during this exercise. For example, some students might speak faster or raise their voice volume, out of anxiety, or gesticulate profusely, using body language to compensate for the shorter time available.

10. Explain that the goal is to arrive at a refined, simple key message that can serve as the foundation for communicating their research or topic to a non-expert audience.

Exercises

1b. The Message Box

(Created by Compass)

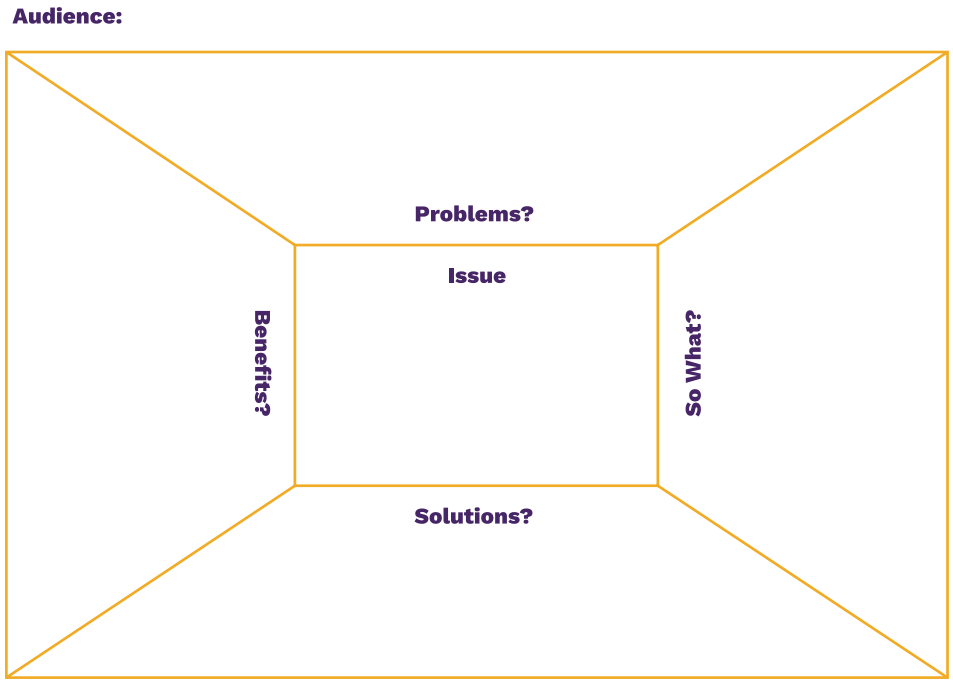
Total duration: 30 mins
20 mins for the activity and 10 mins for the discussion

Learning objectives

1. Learn to clarify the core message and focus of your communication - when a clear take home message is established it gives the audience a deeper understanding of the concept, cutting through the jargon and removing confusion.
2. Increase engagement by developing a strong message that quickly draws in the audience.
3. Clearly articulate the main idea or message you want to convey through your science storytelling.

Necessary materials/resources

- **Message Box Workbook.**
- If necessary, some paper and pens.

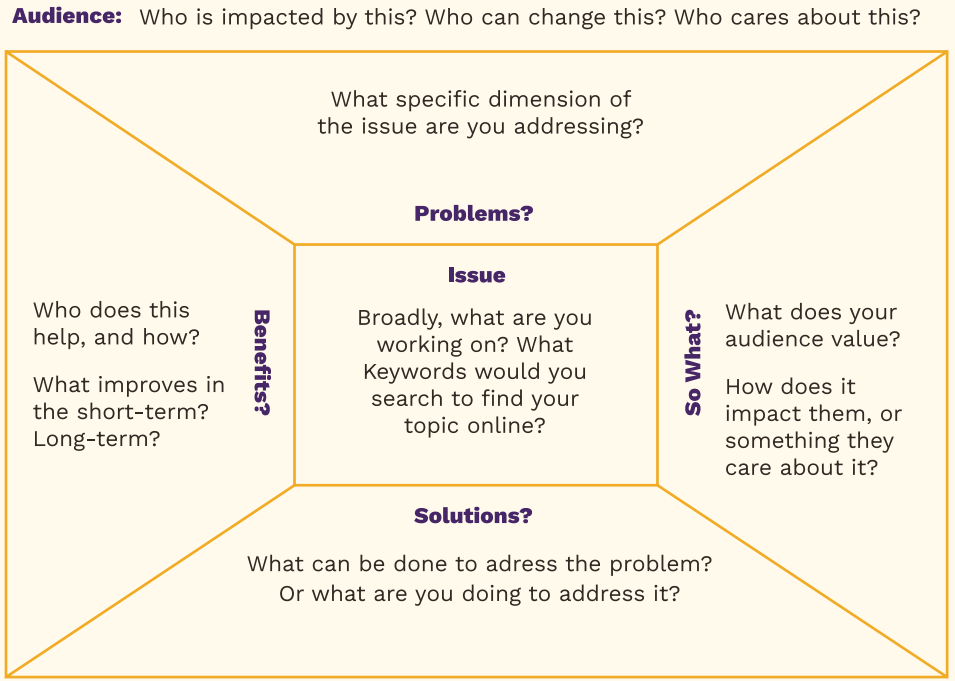


Download the Message Box template here

Exercises

Instructions

1. **Before the session:** familiarize yourself with The Message Box. Read from page 4 to 6 of the Message Box Workbook for a quick introduction to the concept.
2. Introduce the Message Box tool and its purpose - a tool to help researchers identify the most important aspects of their research to communicate to their chosen audience, distilling complex findings into a clear and compelling core message.
3. Provide copies of the Message Box template or project it onto a screen for the group to see.
4. Instruct participants to select a recent research project, study, or science topic they would like to work on.
5. Give participants time to individually fill out the Message Box, starting with the target audience.
6. Once participants have completed their Message Boxes, organize them into small groups of 3-4 people. If all participants are working on the same topic, you can have them choose different target audiences to address in their Message Boxes. This will demonstrate how the content needs to be tailored for different audiences. Alternatively, you can assign each group one of the best practice cases from the **FOODSTORIES collection** and have them work on those.
7. Within the groups, have participants share and discuss their Message Boxes. Encourage them to provide feedback on clarity, focus, and relevance to the target audience.
8. After the group discussions, facilitate a broader discussion with the entire group. Ask participants to share their key learnings and insights about the Message Box process.
9. Emphasize that the Message Box is an iterative tool, and that participants should continue refining their messages based on feedback and changing needs.



Message Box template with guiding questions.

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Exercises

2. Know your Audience(s)

2a. Who is your audience?

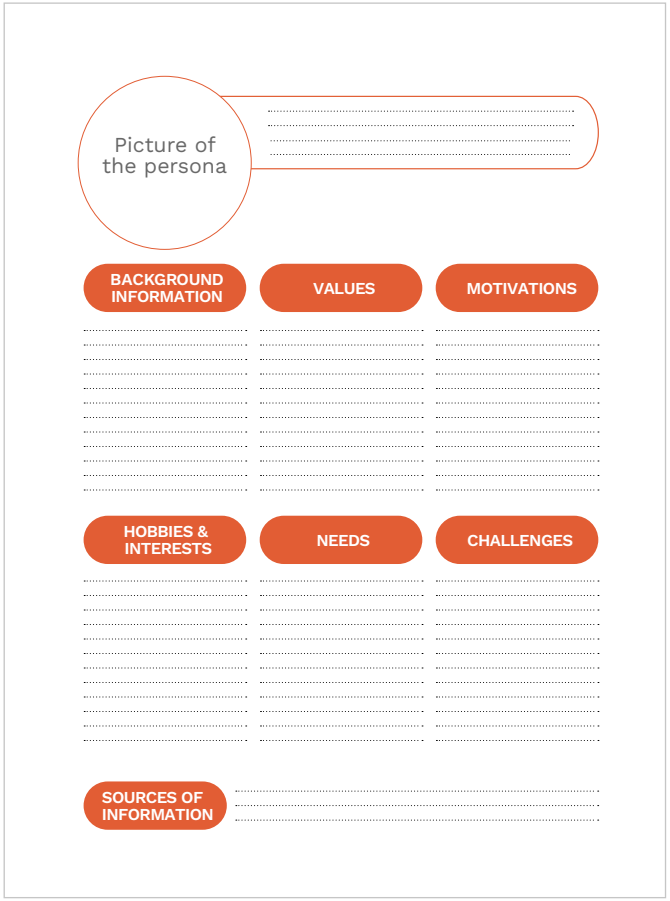
Total duration: 20 mins
10 mins for the activity and 10 mins for the discussion

Learning objectives

1. Gain insight into how defining and analyzing your target audience can enhance the impact and relevance of your messages.
2. Learn how to make communication more effective by choosing the right language and level of complexity for your audience.
3. Recognize that audiences often have diverse beliefs, values, needs, motivations, and perspectives. Develop the ability to offer insights that account for these differences, allowing you to communicate more effectively and establish stronger connections.

Necessary materials/resources

- Ideally, the Message Box filled from the previous exercise.
- **Persona template**.
- If necessary, some paper and pens.



Download the persona template here

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Exercises

Instructions

1. Introduce the exercise and its purpose: explain the concept of “persona” and the purpose of this exercise - to help participants to understand their audience’s perspectives, emotions, and needs, which will be crucial for effective science communication.
2. Divide the participants into small groups of 3-4 people. Provide each group with a copy of the persona template or project it on a screen for them to copy down.
3. Ask participants to reflect on the purpose of their science communication efforts. Are they aiming to inform, inspire, educate, or advocate? When they finish communicating, do they want the audience to go “Wow”, “Ick”, or “I need to take action”? Clarifying your goals will help you identify the appropriate target audience.
4. Once their purpose is clear, ask participants to imagine walking into a room and seeing one to three people representing their target audience(s). Who are they? The first step is to give each persona a name: each person represents one type of target audience (e.g., young consumers, the elderly, scientists, stakeholders, etc.).
5. Ask participants to start filling out the persona template answering the questions below for each of the named target audiences:
   - Background information: What is their age? Their gender? Their education and professional background? Their nationality/ location?
   - Hobbies & Interests: Why are they reading/ engaging? Are they interested in the specific food science field or science in general? What other hobbies and interests do they have?
   - Knowledge level: What is their level of knowledge in the subject matter? Are they familiar with scientific concepts and terminologies related to the field?
   - Communication preferences: What kind of information presentation do they prefer? Do they appreciate visuals (e.g., graphs, charts, diagrams) to aid in understanding complex concepts? Do they prefer written communications, or videos and audio? Are they comfortable with English or do they prefer their native language? Which channels and platforms do they normally use?

TIP BOX

If until now they have thought of their audience as “everybody that is not in my field”, you can suggest they start by identifying broad categories of potential audiences. For example, health enthusiasts, or science-minded young people, etc. Defining a target audience is an iterative process – it may start broadly and become more specific as the researcher gathers more information and feedback!

Continues in the next page

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Exercises

6. In case you find it necessary, you can share the following examples:

   - **Persona 1:** Ahmed, a health-conscious young consumer.
     - Background: Ahmed is a 28-year-old male living in a major city. He has a college degree and works in the marketing industry.
     - Hobbies & Interests: Ahmed is very interested in health and wellness. He enjoys reading about the latest nutrition and food trends. He also likes to cook and experiment with new recipes.
     - Knowledge level: Ahmed has a general understanding of scientific concepts but is not deeply familiar with technical food science terminology.
     - Communication preferences: Ahmed prefers visually engaging content like infographics and short videos. He primarily consumes content on social media platforms like Instagram and TikTok.
   - **Persona 2:** Emma, a retired homemaker interested in nutrition.
     - Background: Emma is a 68-year-old female retiree. She has a high school education and lives in a small town.
     - Hobbies & Interests: Emma enjoys cooking and is interested in learning about healthy eating and nutrition. She is an active member of her local community center.
     - Knowledge level: Emma has a basic understanding of nutrition but is not familiar with advanced food science concepts.
     - Communication preferences: Emma prefers clear, easy-to-understand information presented in a conversational tone. She enjoys learning through interactive workshops and community events.
7. Once the groups have completed the persona descriptions, facilitate a discussion by asking each group to share their personas and key insights about their target audiences. Encourage the other groups to ask questions and provide feedback.
8. Emphasize the importance of understanding your audience's needs, interests, and communication preferences to tailor your science communication effectively. Different audiences should impact your narrative structure, level of complexity and technical jargon, character presence, narrative voice, etc.
9. If time allows, suggest that participants try to find someone who could represent one of their personas and interview them, as described in the last step of the toolbox instructions.

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Exercises

2b. Empathising with your audience

Total duration: 30 mins
20 mins for the activity and 10 mins for the discussion

Learning objectives

1. Gain understanding of how to bridge the gap between facts and perception.
2. Understand how to find common ground for connection and understanding of audiences.

Necessary materials/resources

- **Template empathy map**.
- If necessary, some paper and pens.

TRY THIS FOR

Preparing for a live interview or any other situation where it is likely you will receive difficult questions or for any story tackling either a controversial theme or vulnerable group.

Instructions

1. Introduce the purpose of this exercise - to help participants understand their audience's perspectives, feelings, and concerns, especially when dealing with controversial topics or vulnerable groups. Mention that this will involve using an empathy map to explore the audience's perspectives.

Download the Empathy map here

Continues in the next page

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Exercises

2. Instruct the participants to individually reflect on the following questions, considering the personas they created in the previous exercise or their target audience in general:
    - What have they heard about the topic? From whom? Do they wholeheartedly believe these things or are they just part of a bigger value/ group identity?
    - Is there a valid reason they might distrust science? Are their feelings and fears dismissed by those communicating facts?
    - What are their concerns? Have they had or heard about any personal experiences that contradict the facts and evidence you are trying to convey?
3. Introduce the empathy map exercise:
    - Explain that the next step is to use an empathy map to further understand the perspectives and emotions of their target audience(s).
    - If you have printed copies of the empathy map template, distribute them to the participants. Alternatively, project the template onto a screen.
4. Ask participants to fill the empathy map to visualize their target audiences' perspectives and emotions. Remind them that the aim is to get to know their target audiences, to see where they are coming from and what they feel and think.
    - What do they see? (Observations and environment)
    - What do they hear? (Influences and conversations)
    - What do they say and do? (Behaviours and communication)
    - What do they think and feel? (Beliefs and emotions)
    - What are their needs and wants? (Goals and desires)
5. Once the participants have completed their empathy maps, organize them into small groups of 3-4 participants.
6. In their groups, have the participants share their empathy maps and discuss the insights they gained about their audience's thoughts, feelings, and needs. What value/concern do they share that could help them to connect emotionally? Encourage them to discuss the challenges and opportunities they've identified in connecting with their target audience(s).
7. Facilitate a group discussion by asking questions such as:
    - What common themes or concerns emerged across the different empathy maps?
    - How can understanding your audiences' perspectives help you connect with them emotionally?
    - What are some strategies you can use to address your audience's fears or concerns?
8. Wrap up the exercise:
    - Summarize the key takeaways and emphasize the importance of understanding and empathizing with the target audience for effective science communication.
    - Emphasize the importance of adopting a two-way dialogue approach to science communication, where you seek to understand and empathize with your audience, rather than just delivering information.

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Building your story

Exercises

3. The ABT of your story

(Created by Randy Olson)

Total duration: 25 mins
15 mins for the activity and 10 mins for the discussion

Learning objectives

1. Gain an understanding of how to define and implement a narrative structure.
2. Develop your ability to use ABT when constructing a story.
3. Learn how to critically evaluate the narrative structure of storytelling cases.

Necessary materials/resources

- **ABT reference card**
- **Video Introductory video to the ABT (3 minutes)**. If video is unavailable, you can use the following **resource.**

Instructions

1. Start the session by introducing the ABT framework. The ABT Narrative Template is a tool developed by Randy Olson, a researcher turned Hollywood screenwriter, to organize the narrative structure of any story/idea into a single sentence using three connector words: *and* (A, the set up/agreement), *but* (B, the contradiction or problem), and *therefore* (T, the consequence or solution). This exercise will help participants develop their narrative intuition and clearly articulate the main idea or message they want to convey through their science storytelling. Emphasize how it can be a useful tool for crafting concise and compelling research stories.
2. If possible, watch together the following **2-minute video introducing the ABT structure**.
3. Instruct participants to select a study they have been involved in or a science topic they would like to create a story about. Alternatively, they can choose one of the following cases from the **FOODSTORIES Best Practices Collection:** Beta Bugs (pg. 21), Teaching science through stories (pg.30), or What is your kitchen crime? (pg.78). If participants have completed the previous exercises on the Message Box and target audience, advise them to use the same topic.

Continues in the next page

Exercises

4. Give the group time to summarize their research in a few sentences using the ABT structure. Encourage them to start with the “And” statement to provide context, followed by the “But” statement to introduce a challenge or problem, and conclude with the “Therefore” statement to present the core message or solution.

_____ and _____ but _____
therefore _____.

5. Once participants have their ABTs written, ask them to pair up or form small groups to share and provide feedback to each other, helping to further polish their messages.
6. If time allows, ask participants to share their ABTs with the whole group and give some feedback. Here are some common mistakes:
    - The context (A) and the problem (B) not being in direct connection.
    - Context being distributed among the three parts of the ABT, instead of restricted to the first section (A).
    - The problem being included in the first section (A) instead of in the second (B).
    - The solution (T) not being in direct contact with the problem (B).

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Exercises

4. Character development

1. Strengthen your ability to craft a character profile that resonates with your audience.
2. Gain insight into how to integrate the character into the narrative by their actions and challenges.
3. Understand the role of the character and how you can make the character relatable and engaging.

4a. Character interviews

Total duration: 20 mins
10 mins for the activity and
10 mins for the discussion

Necessary materials/resources

- Timer (optional).

TRY THIS FOR

When you are thinking of creating a character-driven story that doesn't have you as the main character.

Instructions

1. Explain the purpose of the character interview exercise to the group, emphasizing how it can help develop more engaging and relatable research stories. By conducting fictional interviews with characters in their stories, participants can uncover new layers of depth and authenticity that will resonate with their audience.
2. Instruct participants to identify a character within their research story that they would like to explore further.
3. Divide the participants into pairs and ask them to designate one participant in each pair as the interviewer and the other as the interviewee.
4. Provide the interview questions that participants can use as a starting point, such as:
    - How does the character feel about the current challenges or issues the research addresses?
    - What personal experiences or encounters shaped their passion for the subject matter?
    - How do they envision the future impact of the research?
    - What obstacles, struggles, or problems does the character encounter in the research project?
5. Encourage the interviewee to answer the questions in the first person, channelling the character's unique voice, personality, and worldview. Advise the interviewer to use the "yes, and..." approach to delve deeper into the character's motivations and experiences.
6. Set a timer for the interviews, allowing a predetermined amount of time for each pair to complete the exercise.
7. Once the time is up, instruct the pairs to switch roles and repeat the exercise.
8. Emphasize that the insights gained from these character interviews can be used to enhance the development of the characters within the larger research story.

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Exercises

4b. Understanding yourself as a character

Total duration: 30 mins
20 mins for the activity and
10 mins for the discussion

TRY THIS FOR

A character-driven story where you are an active character in the story.

Instructions

1. Explain the purpose of this exercise: to help participants step outside their own perspectives and explore themselves as characters in a story. By donning the lens of an impartial observer, participants can uncover new depths to their personal narrative and make their storytelling more engaging.
2. Divide the participants into pairs or small groups. Instruct them to take turns describing a person they know well, focusing on the individual's mannerisms, peculiarities, and unique characteristics. Encourage them to be honest and respectful in their descriptions.
3. Next, have the participants turn their gaze inward and imagine how the person they just described would see them. Ask them to identify their own quirks, idiosyncrasies, and peculiarities, and to embrace the things that make them unique. These could include both details from their personal life, or their work as researchers. Explain that this step helps participants recognize and articulate the traits that make them relatable characters in a story. These details from their personal lives or their work as researchers can be used to give their target audience a sneak peek into the world of research and the people in it.
4. Once the participants have identified their personal traits, bring the group back together. Facilitate a discussion on how these insights can be woven into the stories they tell about their research.
5. Optional: Encourage the participants to apply this exercise through the lens of their research subject, such as an animal, plant, or inanimate object. Suggest that they write about their research subject, and then have the research subject write about them.
6. Conclude the exercise by emphasizing the importance of embracing the unique elements of one's own character and using them to create compelling narratives around their research.

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Exercises

4c. Creating a non-human character

Total duration: 25 mins
15 mins for the activity and
10 mins for the discussion

Necessary materials/resources

- Pen and paper.

TRY THIS FOR

A character-driven story where one or more of your characters are non-human. This could be especially useful for visual storytelling (infographics, videos, posters, etc.).

Instructions

1. Explain the purpose of this exercise: to help participants create a non-human character that can effectively communicate the science behind their research to a target audience.
2. Ask them to choose a central component, concept or phenomenon from their research as the basis for their non-human character. This could be a molecule, a theory, or any other non-human character. For example, if they are studying the sustainability of legumes, the legume can become their character.
3. Guide participants to consider their character's type and role. These are some pointers you can use:
    - Consider the type of character you want to create - Is it an exciting new food? Or a macro, staple nutrient? Is it the wise old DNA structure? A helpful breakthrough?
    - Determine the character's role and how it will fit into the overall narrative you want to build around your research.
    - Keep in mind your target audience and how the character can effectively communicate the science behind your work.
4. Divide the participants in pairs and have them develop their character's attributes, motivation, goals, strengths, and weaknesses, using the following prompts:
    - Use personification to assign human traits and behaviours to your non-human character. For example: 'The moon seemed to glare at me through the window'.
    - Explore anthropomorphism by portraying your character as behaving or appearing human-like. For example: 'the moon, a large round faced being'.
    - Develop the characters' attributes, motivation and goals.
    - Identify the characters' strengths and weaknesses, and how these will influence the story.
    - Explore how the character can help explain or explore the science behind your research.
5. Optional: Ask participants to create an antagonist character to complement their main non-human character.
6. Ask each pair to present their main character and antagonist (if step 5 was done) and facilitate a discussion on the effectiveness of the characters in communicating science.
7. Conclude the exercise by emphasizing the importance of using creative and engaging characters to convey complex scientific concepts to a target audience.

Exercises

5. Developing your narrative structure

Total duration: 30 mins
20 mins for the activity and 10 mins for the discussion

Learning objectives

1. Learn how to use storytelling elements to enhance the audience's comprehension and engagement with your science story.
2. Acquire a deeper understanding of the different structuring models and when it is appropriate to use them.
3. Learn how to create a storyboard for a research story through the narrative structure.

Necessary materials/resources

- **Storyboard template.**

TRY THIS FOR

When you are thinking of developing a full-fledged story for an article or spoken setting.

Instructions

1. Start by explaining to the group some of the different narrative structures that could be used to tell a science story:
   - The Hero's journey: This narrative structure follows a protagonist's journey through different stages, including a call to adventure, challenges and obstacles, and a resolution. The setup establishes the context and introduces the main characters and their goals. The confrontation presents the challenges and conflicts faced by the characters. The resolution brings a conclusion to the story.
   - In Medias Res: This approach starts the story in the middle of the action rather than beginning with exposition or setup. An in medias res narrative plunges the readers directly into a pivotal moment or conflict, capturing their attention right away and making them eager to learn how the characters arrived at this critical juncture.
   - Personal narrative: This structure involves incorporating personal experiences and anecdotes into your research story.
2. You can provide an example of how each narrative structure could be applied to a research story to help participants better understand how to adapt the structures to their own work. Here are some examples, but feel free to come up with your own:

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Exercises

- Hero's Journey: Think about how you can adapt this structure to your research story by casting yourself or another researcher as the protagonist on a journey, facing challenges and obstacles before ultimately making a breakthrough discovery.
- In Media Res: Consider beginning your research story with an intriguing or surprising finding, and then provide the necessary context and explanation afterward. An interesting starting point is a moment where the protagonist is facing a tough choice.
- Personal narrative: Start by sharing a personal story or experience that led you to embark on the research journey or influenced your interest in the topic. Connect your personal narrative to the broader context of your research, explaining how it shaped your approach, motivations, or perspectives. Use your personal experiences to engage the audience emotionally and make your research story relatable and human centred.

3. Once you've explained the structures, have the participants work individually to write a skeleton of their story using each of the four structures.
4. Divide participants in pairs or small groups and invite them to present their different skeletons to each other and ask for feedback. Encourage discussion on which structure might work best for their research story and the message they want to convey.
5. Ask participants to individually create a simple storyboard to outline the main sections or chapters of their story based on the chosen narrative structure. Remind them that they don't need to draw; they can just describe the sections/chapters in writing.
6. Have them share their storyboards in pairs/groups and give each other feedback to further refine and improve their research story's structure and effectiveness.
7. If time allows, ask participants to share their storyboards with the whole group and initiate a group discussion.

Download storyboard template here

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Strengthening your story

Exercises

6. Narrative Voice

Total duration: 30 mins
15 mins for the activity and 15 mins for the discussion

Learning objectives

1. Explore different narrative voices in storytelling.
2. Develop the skill to use different voices and evoke audience's emotions.
3. Learn how to evaluate different narrative voices in storytelling and critically assess the impact it will have on the audience.

TRY THIS FOR

A new take on any story you are used to talk about your research.

Instructions

1. Start by guiding the participants through the following questions:
   - What emotions or impressions do you want to evoke in your audience? Do you want to convey a sense of authority and expertise, or do you prefer a more conversational and approachable tone?
   - Are there any specific characters or individuals involved in your research that could contribute to the narrative voice and become a narrator?
2. Once the participants have reflected on these questions, explain what a narrative voice is and have them experiment with different narrative voices by rewriting sections of their science stories using the options provided:
   - First-person narrative: Use "I" or "we" to convey a personal or intimate experience. This can help create a sense of connection and authenticity.
   - Third-person narrative: Use "he," "she," or "they" to provide an objective viewpoint. This can lend a more authoritative or informative tone.
   - Multiple voices (for advanced science communicators): Incorporate different perspectives within your storytelling to present a well-rounded view of the topic. This can involve including quotes or anecdotes from researchers, participants, or experts.
3. Organize the participants into pairs or small groups. Instruct them to take turns reading aloud their different narrative voice versions and providing feedback to each other on how the tone, engagement, and clarity of the storytelling are affected. Encourage the participants to consider the impact of each narrative voice on their target audience and how it might enhance or hinder the understanding and engagement of the audience.
4. Conclude the exercise by having the participants reflect on their observations and choose the narrative voice that best serves their science story.

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Exercises

7. Emotional connection

Total duration: 35 mins
20 mins for the activity and 15 mins for the discussion

Learning objectives

1. Understand the importance of establishing an emotional connection with your audience.
2. Increase your ability to map out an emotional journey when creating your storyboard template.
3. Gain knowledge of the various sensory descriptions and how they create greater engagement.

Necessary materials/resources

- Storyboard created in exercise 7.

TRY THIS FOR

Any settings in which you want to connect with your audience more deeply, such as in those with live audiences.

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Instructions

1. Ask the participants to take out their storyboards from Exercise 5 or provide them with a science story they are familiar with.

Title of the scene	Title of the scene	Title of the scene
Emotion/s	Emotion/s	Emotion/s
Sensory descriptions	Sensory descriptions	Sensory descriptions
Title of the scene	Title of the scene	Title of the scene
Emotion/s	Emotion/s	Emotion/s
Sensory descriptions	Sensory descriptions	Sensory descriptions

Download template of Storyboard with emotional connection here

Continues in the next page

Exercises

2. Instruct them to divide the story into rough scenes. For each scene, the participants should identify and write down the core emotions they want their audience to experience, such as curiosity, awe, empathy, concern, or inspiration. Encourage them to consider if they want the audience to feel surprised, disappointment, sympathy, shock, or disgust as they go through the scene. The objective is to map out the emotional journey they want their audience to take from the beginning to the end of the story.
3. Once the participants have completed this task, facilitate a group discussion. Encourage them to reflect on their choices and consider the ethical implications of using storytelling to establish emotional connections, especially when it comes to the risk of obscuring perspectives by oversimplifying complex scientific issues.
4. Instruct the participants to engage their audiences' senses by incorporating vivid sensory descriptions into their storytelling. For each scene, ask them to consider where they can add the following sensory details:
    - **Visual:** Describe the colours, shapes, and visual details related to the research or the environment.
    - **Auditory:** Use sound-related imagery to evoke emotions or create a sense of atmosphere.
    - **Tactile:** Describe textures, temperatures, or physical sensations that might be relevant to the research or the experiences.
    - **Olfactory:** Evoke scents or smells that can transport the audience into the story or create a sensory connection to the research.
    - **Gustatory:** If applicable, describe tastes or flavours that are relevant to the research or the experiences.
5. After completing this exercise, encourage the participants to share their storyboards with the group and discuss the emotional and sensorial elements they have incorporated.

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Exercises

8. Creating a compelling opening

Total duration: 30 mins
20 mins for the activity and 10 mins for the discussion

Learning objectives

1. Understand how to use a hook to spark audience's curiosity.
2. Gain clarity on where the story is set by giving a brief background which conveys the relevance of your topic.
3. Learn how to identify the main character and use it in your storytelling.

Necessary materials/resources

- You might want to create a simple slide with the suggested opening ideas to project on a big screen so that participants can consult them during the exercise.

Instructions

1. Instruct the participants to choose a science story they are familiar with or that they prepared for the previous exercises.
2. Explain different techniques they can use to create a compelling opening, including but not limited to:
    - Framing your topic as a "What if": Use the power of imagination and emotion by framing your scientific topic as a "What if" question. This invites the audience to consider possibilities and elicits a stronger emotional response. The question could be, for example, about the results of your research ("What if XX existed?", such as "What if scientists developed a product that did X?") or the absence of whatever you are researching ("What if XX didn't exist?").
    - Rule of 3: This principle is based on the idea that a trio of entities is more satisfying for the human brain, its combination of brevity and rhythm making the content more memorable. Think about common phrases such as "veni, vidi, vici", speeches such as "Government of the people, by the people, for the people", or slogans such as "Faster, Higher, Stronger". To use it, identify three key points/findings/elements from your food science research and play around with them to make the title snappy.
    - Rule of 3, comedy version: In comedy, this rule is used slightly differently by creating an expectation with the first two words/concepts and then using the third to break the pattern and create an unexpected twist that captures the audience's attention and creates intrigue.

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Exercises

To use it, identify three key points or findings from your food science research, two should create the expectation of a pattern, and the third should break it. For example, “I study bread, vegetables, and astronauts”, or “This is a story about two scientists, a lab rat, and a rock star”.

- Use the “AB” of ABT (see exercise 3): Start with the present situation (AND) and the challenge/problem (BUT) to immediately set the scene for your audience. For example, “Some dairy farmers have long observed that music impacts the mood, AND in turn the milk production, of their herd BUT until now we didn’t know why and how this happened”.

3. Encourage the participants to write at least 5-10 opening sentences or paragraphs for their chosen science story.
4. Remind the participants that some audiences will only read the opening paragraph, so they need to balance accessibility and scientific accuracy to avoid sensationalizing their research.
5. Once the participants have written their openings, have them exchange the three openings they like the most with another person in the group. Instruct the participants not to provide any information about the research topic or aim. The goal is to understand how others might react to just the opening sentence.
6. Ask the participants who received the openings to write down any emotions or reasons why they like or dislike each of the openings and choose which one they find more compelling.
7. Have the participants return the openings to their original writers and give them a few minutes to discuss the feedback.
8. Repeat steps 6 and 7, but this time have the participants exchange their openings with a different person in the group.
9. Emphasize to the participants that the feedback they receive may be contradictory, as judgment is subjective. Remind them that knowing their target audience is crucial, as it will influence how the message is received.

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Exercises

9. Create an analogy for a complex concept

(Created by Marlit Hayslett for a Lifeology course)

Total duration: 30 mins
20 mins for the activity and 10 mins for the discussion

Learning objectives

1. Recognize the impact of a good analogy or metaphor and how it can engage audiences by enhancing their understanding.
2. Learn how to identify key characteristics of effective analogies.
3. Gain the ability to turn complex concepts into everyday examples.
4. Learn how to appropriately link phenomena to something relatable within the human scale to increase the engagement and impact of your communication.

Necessary materials/resources

- You might want to create a simple slide with the steps to project on a big screen so that participants can consult it during the exercise.

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Instructions

1. Introduce the exercise and its purpose to the group. Explain that creating effective analogies is a useful skill for communicating complex scientific concepts to non-expert audiences, and that you will be presenting a framework created by **Marlit Hayslett** for a **Lifeology course on creating analogies** that they can use when they are trying to come up with a new one but are not sure how.
2. If necessary, have the document of the framework ready to be shared for further guidance.
3. Ask participants to identify a scientific topic or concept they find challenging to explain to a non-expert audience.
4. Instruct participants to specify their target audience, including a few details about their profile (e.g., a young person in their 20s interested in the science behind coffee). You can explain, for example, that certain sport analogies will only be relevant in countries where the sport is really popular.
5. Have participants define 3-5 key characteristics of their complex concept that are crucial for the audience to understand. Emphasize that they should focus on the most important characteristics to communicate.
6. Instruct the participants to choose an everyday item or process that shares similar characteristics with their concept. Encourage them to consider multiple options and evaluate how well each analogy aligns with the concept.
7. Ask the participants to check that their everyday item/process aligns with the complex concept at different levels. Refer to the Lifeology course for examples.
8. Invite participants to pair up or work in small groups to present their analogies and receive feedback from their peers and encourage them to identify any potential misrepresentations or limitations of the analogies and discuss ways to refine them.
9. Optional: If the group is from the same field, suggest creating a “metaphor bank” to share effective analogies for commonly encountered concepts.
10. Wrap up the exercise by emphasizing the importance of tailoring analogies to the target audience and continuously refining them based on feedback.

Exercises

10. Working on your jargon

Learning objectives

1. Develop your ability to provide the audience with appropriate context and definitions.
2. Learn how to put jargon into suitable terms and analogies.
3. Learn how to make your communication more accessible by using the appropriate amount of technical jargon thus making your science relatable to your target audience.

Necessary materials/resources

- Internet connection.
- Access to a computer by each participant.

10a. Dejargoniser

Total duration: 25 mins
15 mins for the activity and 10 mins for the discussion

TRY THIS FOR

Making sure a speech or written article for a non-expert audience is free of as much jargon as possible.

Instructions

1. Introduce the Dejargoniser tool and explain its purpose: to help researchers adapt their vocabulary for a variety of audiences by identifying jargon and technical terms.
2. Instruct the participants to visit the **Dejargoniser website**.
3. Ask participants to select a scientific concept related to food science or their own research that they consider complex and type the concept into the text box of the tool. Explain that mid-frequency words will appear in orange, and jargon will appear in red and that they should aim to not have red (jargon words) below 5 per cent.
4. Ask participants to share their initial scores. You can write them out on a blackboard and calculate the group's average.
5. Ask them to work on their texts again to try to reduce the jargon and repeat step 4.
6. Facilitate a group discussion:
   - Discuss which words the participants did not expect to be highlighted as jargon or technical terms.
   - Explore the challenges the participants faced in explaining these words using more common language.
   - Encourage the participants to share strategies they used or plan to use to reduce jargon in their scientific communication.
7. Wrap up the exercise by emphasizing the importance of continuously evaluating and improving the accessibility of scientific communication, using tools like the Dejargoniser as a starting point.

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Exercises

10b. UpGoer challenge

Total duration: 20 mins
15 mins for the activity and 5 mins for the discussion

TRY THIS FOR

Any setting where your audience is young, has limited English or to challenge your coworkers!

Instructions

1. Introduce the UpGoer challenge to the group. Explain that the goal is to explain complex concepts using only the most common and accessible words, as a way to challenge themselves to communicate jargon-free.
2. Instruct the participants to:
   - Open the **UpGoer5 Text Editor.**
   - Select a complex scientific concept related to food science
   - Try to explain the concept using only the 1,000 most common words in English
   - Click “Send” to see which words are not part of the 1,000 most used
   - Refine the explanation, removing jargon where possible, until they are satisfied
3. Make it a competition by asking participants to try explaining the same concept. Have the group vote on the best explanation.
4. Debrief by discussing the challenges and insights gained from this exercise.

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Exercises

11. Create a #betterposter: visual storytelling

(Created by Mike Morrison)

TRY THIS FOR

A scientific conference or thesis presentation.

Total duration: 40 mins
30 mins for the activity and 10 mins for the discussion

Learning objectives

1. Learn how to create a visual narrative that effectively communicates complex scientific concepts.
2. Improve the impact of your science communication initiative and increase the understandability of your content by representing information, ideas, or phenomena through visual storytelling.

Necessary materials/resources

- Video explaining the #betterposter concept in-depth (20 minutes).
- Short video for the activity (3 minutes).
- #betterposter template.

Instructions

1. Introduce the concept of the #betterposter and the importance of visual storytelling in science communication.
2. If possible, project the 3-minute video introducing the template.
3. Optional: Watch the 20-minute video on the #betterposter together and ask the participants to write down every time they identify the storytelling elements used. Have a group discussion based on the identified elements.
4. Have participants:
   - Reflect on a research project or topic they would like to present on an academic poster.
   - Download the online template or prepare pen, markers, and paper (A2 size recommended).
5. Project the #betterposter template and ask participants to create their own, if necessary rewatching the video on their own devices (remember to share the link with them).
6. Divide participants into small groups and ask them to present their posters, seeking feedback from others to identify strengths and areas for improvement. Remember to emphasize that the goal is not just to follow the template, but to apply the key principles of the #betterposter (clear hierarchy, minimal text, effective visuals) to create engaging and effective scientific posters.
7. Circulate among the groups, providing guidance and encouraging them to adapt the design to their specific audience, goals, and content.
8. Facilitate a mock poster session where participants present their #betterposter designs to the larger group. Encourage constructive feedback and discussion on the challenges and insights.

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Maintaining scientific integrity

Exercises

12. Embedding data into your storytelling

TRY THIS FOR

A social media reel, a longer video, or a podcast episode.

Total duration: 40 mins
30 mins for the activity and 10 mins for the discussion

Learning objectives

1. Incorporate relevant data points into a clear and informative story.
2. Learn how to make data relatable to different audiences.
3. Understand how to engage audiences using different ways to present data on different media.

Necessary materials/resources

- **Video Script Template.**

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Instructions

1. Begin by introducing the topic and context to the group. Explain that you will be guiding them through an exercise on effectively incorporating data into engaging science communication, with a focus on short social media videos. Emphasize that this exercise can also be adapted for other formats like podcasts.
2. Divide the participants into small groups of 3-4 people and provide them with the script template.
3. Ask the groups to:
    - Choose a topic to create a 1-minute video script for a social media platform like Instagram or TikTok. If the group has their own research, they can use that. If not, they can select a specific article they could base themselves on.
    - Decide on their target audience - e.g. young adults interested in fitness, older adults looking to incorporate more plant-based proteins.
    - Identify 1-2 key data points they want to highlight in their video script.
4. Give the groups 20-25 minutes to work on their video scripts. Remind them to:
    - Weave their data points into a compelling narrative. Encourage the use of metaphors, analogies or humour to make complex concepts relatable.
    - Consider what visuals would best complement the script and data they want to present.

Continues in the next page

Exercises

5. Reconvene the larger group and have each team share their video script. After each presentation, facilitate a brief discussion:
   - What data points did they choose to highlight and why?
   - How effectively did they integrate the data into the narrative?
   - What creative techniques did they use to make the information memorable?
6. Wrap up by reinforcing the key learnings:
   - The importance of embedding relevant data into engaging science communication
   - Strategies for making complex information relatable through storytelling
   - Considerations around audience, format and visual aids
   - Encourage the participants to continue experimenting with these techniques in their own science communication efforts. Provide any additional resources or examples that could further inspire them.

Description	Time	Narration	Visuals
OPENING HOOK	0-5s	[Grab attention with a thought-provoking question or statement] e.g. “Want superhero strength from eating a delicious bar?”	[Dynamic visuals to captivate viewers’ interest]
PROBLEM IDENTIFICATION	5-15s	[Highlight a common pain point or challenge] ‘’Different protein requirements in different life stages.”	[Visuals depicting the identified problem]
DATA	15-25s	[Introduce your product or service as the solution] ‘’ Introduce the product/ concept of amino acids as the building blocks of protein.”	[Show a teaser of the solution, hinting at benefits]
KEY FEATURES HIGHLIGHT	25-35s	[Highlight the key features that set your solution apart]	[Visually showcase the features with animated graphics]
DATA HERO	35-45s	[Provide a brief overview of how the solution works] Why is this bar better than others?	[Mention any statistics you have; how do you present this data? Infographics, percentages, animation, bar charts?]
BENEFITS AND VALUE PROPOSITION	45-55s	[Articulate the benefits the consumer will gain] ‘What is the bar good for?”	[Visuals demonstrating positive outcomes and advantages]
CALL TO ACTION	55-60s	[Encourage a specific action, such as a sign-up or trial]	[Display a clear call-to-action and relevant visuals]

Download the video script template here

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Exercises

13. Misinformation mashup: a science media challenge

Total duration: 25 mins
10 mins for the activity and 15 mins for the discussion

Learning objectives

1. Identify characteristics of misleading science content in media.
2. Develop strategies to differentiate fact from fiction in science communication.
3. Craft clear and concise science messages for media platforms.

Necessary materials/resources

- Internet access, pen and paper.

Instructions

1. Select a range of recent media articles on food science topics, ideally listing some examples of sensationalized headlines versus research findings.
2. Explain the importance of accurate science communication and the risks of misinformation. Misinformation, defined as the act of giving wrong information about something, is a pervasive challenge across all scientific fields, including food science. Ensuring that research stories do not leave room for misinformation or misconceptions is crucial. Unchecked, these can promote views misaligned with scientific evidence, potentially causing offense or backlash against researchers, their work, or the industry.
3. Discuss the definitions of sensationalized language, missing context, anecdotal focus, and other relevant terms. By actively monitoring how science stories are received, participants can identify and address characteristics of misleading or sensationalized content. This will help avoid these pitfalls when writing for media outlets or other public-facing communication channels.
4. Break the group into pairs. Each pair will choose a recent media article about a food science topic that might be sensationalizing research findings. You can ask participants to find their own articles or offer a few they can choose from. Provide examples of previous sensationalized headlines versus research findings to guide their selection.

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Exercises

5. Ask each pair to read their chosen article and analyse its headline and content. You can use the following questions for guidance:
    - Is this fact or fiction?
    - Sensationalized language: Does the headline use exaggerated claims or trigger words (e.g., “miracle cure”, “shocking discovery”)?
    - Missing context: Does the headline provide enough information to understand the research?
    - Focus on anecdotes: Does the headline rely on personal stories without also providing scientific evidence?
    - Author credentials: Who wrote the article? Are they a scientist qualified to discuss the topic?
    - Sources cited: Does the article cite reputable scientific journals or rely on anonymous sources?
    - Evidence presented: Does the article support its claims with data and research findings?
    - Balance and objectivity: Does the article present a balanced view of the topic or promote a particular agenda?
    - Missing information: Is there any information you think should be included?
6. Ask each pair to locate the original scientific paper that the media article is based on.
7. Once they have located the paper, ask them to craft a new, more factual headline and article that accurately represents the research findings and their implications while staying engaging for a general audience. Alternatively, pairs can write a new short article based directly on the paper, ensuring the content is jargon-free, engaging, and targeted at a general audience.
8. Reconvene the larger group and have each pair present their new headline and article to the class.
9. Facilitate a class discussion on the risks associated with each pair’s topic:
    - Do they think potential risks are addressed and communicated?
    - If they were the target audience, would they change their attitude or behaviour based on the presentation/article? Is there another way they think the risk could be more effectively communicated?
    - Summarize key takeaways about identifying and correcting misinformation.
    - Emphasize the importance of critical analysis and accurate representation in science communication

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Exercises

14. Communicating risk in food science

Total duration: 40 mins
25 mins for the activity and 15 mins for the discussion

Learning objectives

1. Learn to recognize potential pitfalls in communication surrounding a new food technology or other novelty in food domain.
2. Identify and prioritise stakeholder concerns by focusing on a target audience and learn to craft concise and targeted messages to address those concerns.
3. Understand the importance of choosing the right communication channel to reach your target audience effectively.

Necessary materials/resources

- Pen, paper and laptop or phone.

Instructions

1. Introduce the exercise and its aim: guiding participants through a structured approach to identifying potential communication risks, developing targeted messages, and integrating them into storytelling.
2. Explain the importance of effective risk communication and its role in building trust.
3. Break the group into pairs. Ask each pair to choose a topic to communicate about, either their own research or a topic they understand well.
4. Ask the pairs to put themselves in their audience's shoes and brainstorm 4-5 risks related to their topic. If necessary, you can provide the following example based on the topic's nutritional profile and completeness of the plant-based protein for guidance:
    - Potential concerns about the nutritional profile and completeness of the plant-based protein compared to animal-based protein.
    - Questions around the processing methods used to create the plant-based protein and whether any additives or chemicals are involved.
    - Worries from consumers about the availability and affordability of the plant-based protein compared to traditional meat-based options.
    - Uncertainties around the environmental impact and sustainability of large-scale production of plant-based proteins.
    - Regulatory challenges and approval processes that could delay the market introduction of the plant-based protein.

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Exercises

5. Once they have identified the main risks, ask pairs to choose the two biggest concerns they think consumers would have about their chosen topic. Following the previous example about nutritional profile and completeness of the plant-based protein, there could be processing methods and additives used.
6. For each concern, ask them to write down two clear and concise messages that address it directly, focusing on the benefits for consumers and keeping the language simple and easy to understand. Following the previous example, below two examples you could show for guidance:
    - “Our plant-based protein is formulated to provide a complete amino acid profile and essential vitamins and minerals comparable to traditional animal-based proteins.”
    - “Enjoy the protein benefits you need with the added sustainability of a plant-based option.”
7. Ask pairs to pick one channel (social media, website, public forum) and briefly explain why it might be suitable for reaching consumers with their messages.
8. Optional: ask pairs to look up real-world examples of communication strategies for similar topics and compare them to their own messages:
    - Are they addressing common consumer concerns directly and transparently?
    - Are they aligning the messaging with the target audience and their values?
9. Once concerns and messages are clearly defined, ask pairs to decide how they would embed these into their story. Here are some pointers you can give participants:
    - Major concerns should be addressed upfront in the introduction to establish trust.
    - Smaller issues can be weaved throughout the story.
    - Alternatively, risk can be positioned as a character in the story.
10. Each pair presents their work to the class.
11. Facilitate a class discussion on the risks associated with each pair’s topic:
    - Do they think potential risks are addressed and communicated?
    - If they were the target audience, would they change their attitude or behaviour based on the presentation/ article? Is there another way they think the risk could be more effectively communicated?
    - Summarize key takeaways about effective risk communication and its role in building trust.
    - Emphasize that by proactively addressing consumer concerns, participants can build trust and effectively share the value of their food science research across various fields. While storytelling may not always be suitable in crisis situations, when used correctly, it can be a powerful tool for changing attitudes and behaviours.

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Learn more about storytelling and science communication

What is science communication?

Science communication refers to the practice of informing, educating, and engaging a non-expert audience with scientific information, discoveries, and concepts. The goal of science communication is to **increase scientific literacy and awareness, as well as to foster dialogue and understanding between the scientific community and the general public.**

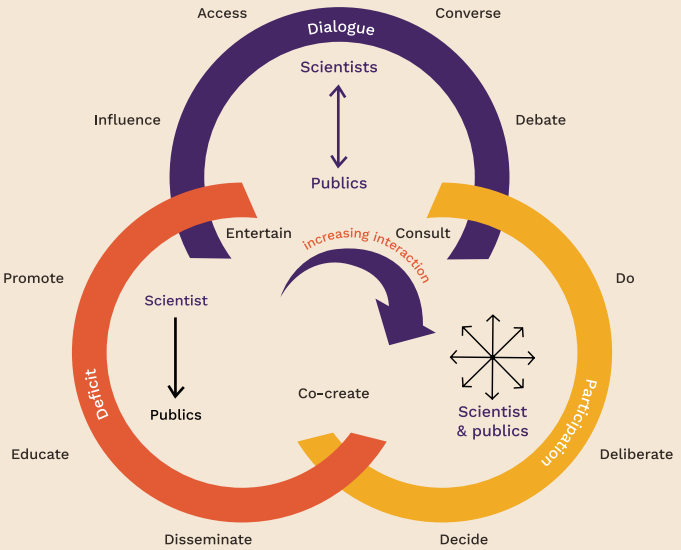
Science communication can take many forms, such as:

- popular science writing and journalism
- public lectures and presentations
- science museums and exhibits
- social media and online content
- workshops and outreach events

Effective science communication involves translating complex technical information into accessible and engaging formats for non-expert audiences. This **requires an understanding of the target audience's existing knowledge, interests, and concerns.** Thus, science communication is generally understood to be based on three main models:

- Deficit Model: represents a one-way dissemination of information, where the public is seen as lacking knowledge and needing to be persuaded or "filled in" on scientific innovations and issues. This approach assumes the public is inherently hostile or ignorant, and that providing more information will lead to greater acceptance of new scientific developments.
- Dialogue Model: envisions a two-way interaction, where science takes into account the diverse needs and perspectives of the public. Through engagement and consultation, they can provide valuable input and feedback on scientific topics, shaping the direction of research and discourse.
- Participation Model: goes a step further, involving the public as an active, three-way partner with the scientific establishment. Here, the public plays a role in framing the agenda, negotiating the meanings and implications of science, and collaboratively shaping the issues at hand.

These models represent an evolution in how we conceptualize the relationship between science and the public, moving from a top-down, deficit-driven approach to one of meaningful dialogue and shared participation. Effective science communicators often draw on a combination of these models, adapting their approach to the specific context and audience.



Credits: **Rethinking science communication models in practice**

What is storytelling?

For this toolbox, in the context of science communication, we refer to storytelling as the **art of crafting a compelling narrative around scientific concepts, discoveries, or processes.** Thus, the goal of storytelling in science communication is to make complex, technical information more engaging and accessible to the audience, while still preserving the accuracy and integrity of the science.

Storytelling often includes the following elements:

- Relatable characters
- Dramatic plot points
- Vivid descriptions
- Emotional appeals
- Metaphors and analogies

What can make storytelling, like any other art form, rather difficult is the fact that there is not a singular answer to how one should do it. There might be as many ways to write a story as there are stories in the world. For this reason, storytelling remains an ill-defined term that is attached to many different approaches. However, even small, strategic additions of narrative devices can enhance the accessibility and impact of scientific communication.

Are “narrative” and “story” the same thing?

What exactly is narrative, and how does it differ from story? **Narrative is how we choose to tell a story.** We apply different narratives to the same story all the time. A narrative structure might simply describe the scientific process of developing a new vaccine, while the specific story could be about the challenges a research team faced and how they overcame them. An easy way to remember the difference between story and narrative is that you can have multiple narratives to tell the same story. For example, you can have a narrative that reshuffles the order of the events in a story (e.g., starting from the middle or end) as a device to make it more interesting. Or a narrative can use different points of view (of the protagonist, antagonist, neutral person) to tell the same story.

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Why use storytelling in science communication?

Storytelling is a powerful tool for making complex scientific information more accessible and engaging for public audiences. **Stories activate emotional centres in the brain, making the content more memorable and impactful by grounding technical concepts in relatable, real-world examples and narratives.** This helps lay audiences better comprehend and retain the facts.

Good communication is particularly important in an age of information overload and scientific misinformation. Stories can cut through the noise, making essential scientific knowledge more understandable and relevant to diverse public audiences. By humanising research and its societal implications, storytelling can foster greater public interest, trust, and engagement with the scientific process.

Yet, as with all forms of science communication, **it's critical that the storytelling remains grounded in sound, verifiable evidence.** The balance between engaging narratives and scientific rigor is nuanced, but essential for maintaining public trust. In the end, the appropriate level of storytelling or the applicable storytelling techniques one might utilise will depend on the context.

Is using storytelling ethically sound in science communication?

Storytelling differs from traditional, didactic science communication by incorporating narrative elements like characters, emotions, and relatable examples to convey complex concepts. This focus on engaging and connecting with the audience on an emotional level can make the information more accessible and impactful. However, researchers must be vigilant to ensure that storytelling techniques do not introduce inaccuracies, oversimplifications, or logical fallacies. **Storytelling in science communication is ethically sound when it accurately represents scientific information and does not compromise scientific integrity.** The balance between compelling narratives and scientific rigor is crucial.

Examples of effective, ethical storytelling in science can be found in the **FOODSTORIES Best Practices Collection**, which highlights case studies where researchers successfully used storytelling to illuminate their work without compromising its integrity.

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How can I use storytelling when communicating science?

Not all the exercises presented in this toolbox will be relevant to your specific situation or needs. However, it is generally a good idea to start your storytelling journey by asking yourself questions, such as:

- What is the key message I am trying to convey?
- How complex is the information and what would be the consequences of misrepresenting something?
- Who is my target audience? What is their level of expertise?
- Through what channel or medium am I reaching my target audience (e.g., short text on social media, an article, a video, etc.)?

These types of questions can help you determine which exercises are the most useful to you. Always remember that **there is no single "right" way to tell stories about science**. Effective approaches will depend on the specific content, target audience, and communication channels involved. Researchers should begin by clearly identifying their key messages and the level of complexity required by their audience, then strategically select storytelling techniques aligned with their goals and constraints.

Do I need to use all the storytelling elements and techniques for a successful story?

No, even small, strategic additions of narrative devices can enhance the accessibility and impact of scientific communication. Storytelling is not only about creating a complete storyline from scratch, but also about transforming information into narratives, which may take countless forms. It is not necessary to adopt a full-fledged, fictional storytelling approach. Storytelling is a vast continuum, and researchers can selectively incorporate various narrative techniques and elements based on their specific needs and constraints.

For instance, a researcher could open a technical report with a brief anecdote that humanises the research topic and its real-world implications. Or they could help the audience visualise the scientific process by weaving descriptive details and sensory language into an explanation of their methodology.

FOODSTORIES Best Pratices Collection includes several cases using selective storytelling elements, rather than a comprehensive narrative structure, to great effect.

The key is to start small and experiment with different storytelling techniques. As you gain more experience with the approach, you can gradually expand your use of narrative elements and become more confident.

What are the benefits of using storytelling to communicate your science?

1. Humanising research: Stories provide a human context to scientific endeavours, helping the audience connect with the people behind the work and understand its real-world impacts. This can foster greater empathy, trust and interest in the research. On **FOODSTORIES Best Practices Collection**, for example, the "PhD Stories" case strengthens the human side by asking speakers to talk about their passions and interests while presenting their research topics.
2. Improving accessibility: Narrative techniques can simplify complex concepts and technical language, making scientific information more comprehensible for lay audiences. Stories also tap into universal human experiences, providing relatable frames of reference.
3. Enhancing memorability: Research has shown that people are more likely to remember information presented in a narrative format. The emotional resonance and vivid imagery of stories helps the content stick in an audience's mind.
4. Inspiring action: Compelling stories can galvanise interest, understanding and even behaviour change around scientific issues. Narratives that highlight the personal or societal implications of research findings may motivate the public to get involved or support related initiatives.

Our **FOODSTORIES Best Practices Collection** features several case studies that illustrate these benefits in action. For example, "The secrets of your food" shows the process of farm to fork in a relatable and clear way for the audience to engage and remember, and "Teaching Science Through Stories" makes science relatable to children by using popular stories, such as Jack and the Beanstalk and Red Riding Hood.

Doesn’t storytelling distort science?

Maintaining scientific accuracy and integrity is paramount when incorporating storytelling techniques. This is why researchers must thoroughly understand the concepts they are communicating and fact-check information. It’s critical to consult subject matter experts, especially for sensitive topics that may carry strong emotional resonance or ideological baggage.

Ultimately, storytelling in science communication is about simplifying information for accessibility while retaining the essential scientific integrity. It is a fine line to walk, but it helps to always present scientific findings within the appropriate context, avoiding unsubstantiated claims. Careful language choices, such as using an active voice and selecting words precisely, can also help preserve scientific rigour. With practice, researchers can develop the skills to craft engaging narratives that captivate audiences while remaining firmly grounded in verifiable evidence.

Below some specific tips:

- Avoid sensationalism or exaggeration that goes beyond the evidence.
- Ensure the narrative arc does not gloss over important nuances or caveats.
- Maintain a clear distinction between objective facts and interpretive elements.
- Don’t let the storytelling detract from the core scientific message you’re trying to convey.

Our **FOODSTORIES Best Practices Collection** provides several examples of how researchers have successfully navigated this balance. In a “Pint of Science” event, for instance, a researcher on Bioinformatic was able to **distil findings about biomarkers** into a relatable narrative that highlighted the human side and real-world applications, without oversimplifying the underlying technical details.

Is storytelling not suitable or too simplistic for technical or specialised fields of science?

While the complexity of the subject may require more careful translation and simplification, storytelling techniques can still be effectively applied to make information in technical or specialised scientific fields more accessible and engaging for broader public audiences.

The key is for researchers to deeply understand their subject, identify the core concepts and messages they want to convey, and then carefully select the most appropriate storytelling techniques to bring those ideas to life. This may involve breaking down complex processes, using analogies and metaphors, or emphasizing the human element of the research. With practice and experimentation, scientists in any field can learn to wield the power of storytelling to enhance the audience understanding and engagement with their work.

What kind of language should be used in storytelling?

The guiding principle is clarity and accessibility over literary flourish. You do not need a high-level vocabulary or beautifully crafted prose to tell an effective story. In fact, some of the most impactful narratives ever told, like those of Ernest Hemingway, were written using relatively straightforward, high-school level English.

That said, certain language choices can greatly impact the effectiveness of your storytelling. Here are some tips:

- Use an active voice: Sentences constructed in the active voice (e.g. “The researcher discovered...” vs. “The discovery was made...”) tend to be more concise, vivid and engaging.
- Select words carefully: Choose precise, descriptive language that paints a clear picture for the audience. Avoid overly technical jargon or flowery language that could obscure meaning.
- Consider narrative voice: Decide whether a first-person, third-person, or other narrative perspective will best serve your storytelling goals and connect with your target audience.
- Incorporate sensory details: Weave in descriptive details that allow the audience to visualise, hear, smell or otherwise experience the scenes and events you are describing.
- Emphasise the human element: for example, on Beta Bugs (pg.20), from our **FOODSTORIES best practice collection**, Lindy’s character is the main driver of the story’s narrative. Instead of explaining the work in a general / factual way, it is explained from the characters perspective, which adds an emotional connection.

TIP BOX

For more background knowledge, check out the following section “Additional resources”.

Additional resources

Here you will find additional resources to familiarise yourself with storytelling and science communication.

Books and Journals

- Bloomfield, E.F. (2024) **Science V. Story: Narrative Strategies for Science Communicators. University of California Press.**
- D. Jones, M. and Anderson Crow, D. (2017) 'How can we use the "science of stories" to produce persuasive scientific stories?', Palgrave Communications, 3(1), p. 53. Available at: https://doi.org/10.1057/s41599-017-0047-7.
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- Jamieson, K.H., Kahan, D.M. and Scheufele, D.A. (eds) (2017) **The Oxford Handbook of the Science of Science Communication. Oxford University Press.**
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- Molthan-Hill, P. et al. (eds) (2020) **Storytelling for Sustainability in Higher Education: An Educator's Handbook. 1st edn. Abingdon, Oxon ; New York, NY : Routledge, 2020.: Routledge.**

Online Resources

- **Ethical Storytelling Resources**
- **Journal of Science Communication (JCOM)**
- Podcast: **Science Will Win: Live from SXSW - Scientific Storytelling: The Audio Advantage**
- **Sci Comm Society**
- **Science Communication Toolkit: Telling the Story of Science**
- **Storytelling for Nonprofits**
- Webinar: **Storytelling as a tool in science and science communication**
- **Risk know-how** on risk communication

Sci Comm Models

- Kelly, A. (2020) **How Scientists Communicate: Dispatches from the Frontiers of Knowledge. 1st edn. Oxford University PressNew York.**
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- Wendo, C. (ed.) (2022) **Science Communication Skills for Journalists: A Resource Book for Universities in Africa.** GB: CABI.

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Is narrative and story the same thing?

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Is Storytelling ethical?

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- Matei, S.A. and Hunter, L. (2021) **'Data storytelling is not storytelling with data: A framework for storytelling in science communication and data journalism', The Information Society,** 37(5), pp. 312–322.

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- Cormick, C. (2019) **'Who doesn't love a good story? — What neuroscience tells about how we respond to narratives', Journal of Science Communication**, 18(05), p. Y01.
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Food Science and Science Communication

Facilitator's Guide

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