

# r4d

programme



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GUIDELINE

## How to communicate research successfully in three minutes

*Tools and tips*

**Pitching means explaining an idea in a short and convincing way. It is the traditional means of film directors and start-ups to find investors. Scientists increasingly use pitching to communicate complex research to a broader audience. This guideline was developed by a science journalist and a communication coach. It provides tools and tips for successful pitching.**

Imagine you are asked to explain your research in three minutes. As a scientist, you are used to start with the research questions, explain theory, derive hypotheses and illustrate your methodology. If you already have results, they come at the very end. However, there are more promising ways to communicate science.



### Tool No.1 – *Having a plan*

Before you start you need a plan and ask yourself some questions. The most important question is: Who is the audience that you want to reach? Expert colleagues, policy makers, lay persons? Depending on the knowledge level of your audience you use language differently. Avoid technical terms in general but specifically when addressing a lay public. Consider your audience's expectations and realities: What interests them and what is familiar to them? What are their hopes and fears? If you succeed in linking your presentation to the reality of your target audience, you have already gained a lot.

The second question to be clear about from the beginning is: What should the people take with them at the end of your presentation?

- Should they understand how x leads to y?
- Should they understand what causes z?
- Should they become curious about your research field?
- Should they get an understanding of your research approach?
- Should they understand the relevance of your research?

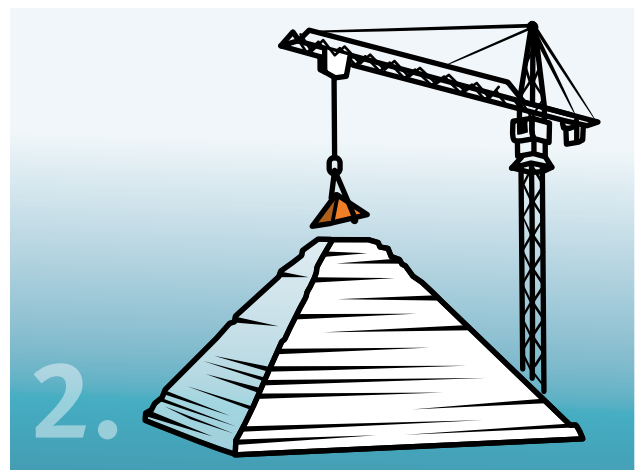
Kathrin Puhan, consultant in communication strategy, strongly recommends teamwork and collegial coaching during the planning process: "You might be slower in the group, but the results are definitely of better quality", she knows from experience.

### Tool No.2 – *Constructing a pyramid*

The pyramid principle is simple and unconsciously familiar to all of us. Imagine, there is a fire in your house. Do you scream: "Someone forgot the candle, the window was open and the curtain caught fire. Now the whole kitchen is on fire!?" Most likely not. You just scream: "The kitchen is on fire!" Because this is the key sentence.

All news work like this. The most important information – in science usually the result respectively the relevance of the result for society – has to come first. This does not make the rest boring. A good key sentence captivates attention and makes curious to learn more. News journalists and lawyers are familiar with using the pyramid principle to convey information and construct their argumentation. You start at the top with your key message and get broader towards the bottom by adding details. Even if you had to stop in the middle, your audience would still take something with them.

This structuring is known as the Minto Pyramid Principle, named after Barbara Minto. Pyramid construction adapts the way we think. The human brain tries to classify loose information and put it into context. By starting with a key message your audience can easier follow the logical argumentation. The brain can absorb and assemble the subsequent information more effectively and efficiently. There is ample theory available on why the pyramid principle works and how. For practice, the simple rule 'from WHAT to WHY to HOW' is useful. Working with post-it notes is useful for constructing a pyramid.





### Tool No. 3 – *Telling a story*

We all have heard many scientific lectures. Those presentations that you can vividly remember came probably across as a story. A story

- works linearly,
- is personalized,
- creates images in our head and awakens feelings.

Stories can transport research results in an elegant and efficient way. The logical process allows the audience to follow easily. Personal information about the researcher or stories of ‘trial and error’ make a narrative authentic and lively. Many inspiring examples of storytelling in science can be found on TED Medicine Talks and TEDx Talks. Stephen Hawking’s daughter Lucy tells how her father explained black holes to children. He did it so vividly and adapted to their reality (“like being wrapped up in spaghetti”), that they were captivated, even though he could only communicate very slowly through a computer.

The great thing about a story is that it activates the same brain areas as personal experience. This is because we are social beings, learning from each other by listening. Therefore your audience is more involved hearing a story than when you use logical and objective facts only. It can also easier remember the information. To be clear: Science is and remains rational. This is the basis of its credibility. A story must neither surpass nor distort reality. But it can also appeal to the hearts and not only to the brains.



### Tool No. 4 – *Having a good start*

The first and the last impression are particularly important and ideally fit together. If you can capture the interest of your audience in the beginning, you are on a good path. It begins with the title. Keep it short and bold and use powerful and meaningful words. Maybe you can make a reference to a topical discussion or to the place where you perform. Think about what your audience has in common. For live performances you may bring something tangible; like a traffic accident researcher that came on stage with a bicycle helmet on his head or a scientist doing research on malaria that had a big mosquito printed on her T-shirt. Be creative and try something out. End your presentation without new information providing room for processing, perhaps repeating the most important aspects and with a clear closing.



### Tool No. 5 – *Using your body language*

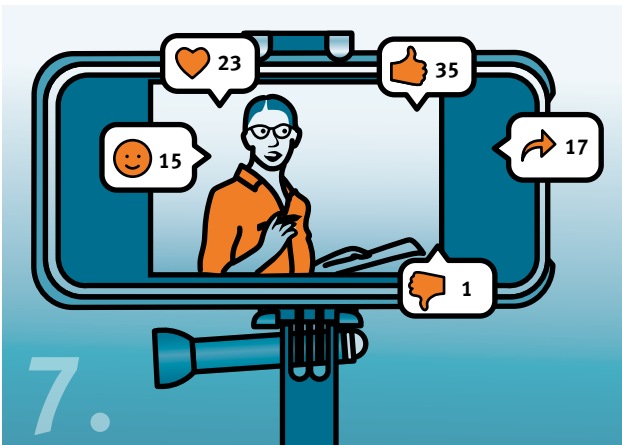
Whether live or on camera: Be authentic. Do not try to play an entertainer if you are not. Being prepared makes you confident. A friendly, open face, a smile wins sympathy. Good to know that feelings and body language work both ways. If you do not feel like smiling, you can press a pencil between your teeth. It pulls up the corners of your mouth. If you maintain this posture for two minutes, you will have to grin and feel better. More tricks and insights about body language can be found in a TED talk by Amy Cuddy.





## Tool No. 6 – *Pictures are secondary*

Language can illustrate very well. The shorter the phrase, the easier it is to understand. This applies especially to spoken language. Prefer meaningful words to diffuse concepts, concrete terms to abstract ones. Once you know your message, you consider how to get it across: with free speech, underlined by icons on a wall board or infographics? Avoid the use of powerpoint slides and use pictures only if they support your message. Less is more.



## Tool No. 7 – *Filming*

With a smartphone you have everything you need to produce a video-clip of your presentation. Record indoors against a calm, neutral background. Outside ambient noise disturbs. Best is to let someone else film you, positioning the camera at your eye level. Keep the upper part of the body still and sometimes show your hands. Do not gesticulate wildly, but for example use your fingers for counting.

Marie-Luise Matthys recorded a 3-minute-pitch about her PhD thesis. Filming took her some time getting used to. Her key to success was to approach it playfully. "I started to try it out, to see how it works when I exaggerate the gestures." She made the experience that the preparation, filming and cutting of a video is a multiple of the final film length. But a video can be disseminated in the internet and through social media to reach even more of your target audience.

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### FURTHER READING:

Minto, Barbara: *The Pyramid Principle: Logic in Writing and Thinking* (1987, reissued 2008)

### LINKS FOR YOUR INSPIRATION:

TED Medicine Talks:  
[www.tedmed.com/talks](http://www.tedmed.com/talks)

TEDx Talks:  
[www.youtube.com/user/TEDxTalks](http://www.youtube.com/user/TEDxTalks)

TED Talk by Lucy Hawking:  
[www.youtube.com/watch?v=E7K-qlQVpgE](http://www.youtube.com/watch?v=E7K-qlQVpgE)

Pitch by Marie-Luise Matthys:  
[www.youtube.com/watch?v=kDNQWkuiwnE&feature=youtu.be](http://www.youtube.com/watch?v=kDNQWkuiwnE&feature=youtu.be)

TED Talk by Amy Cuddy:  
[www.ted.com/talks/amy\\_cuddy\\_your\\_body\\_language\\_may\\_shape\\_who\\_you\\_are?language=de](http://www.ted.com/talks/amy_cuddy_your_body_language_may_shape_who_you_are?language=de)

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