



SIMONA CERRATO | 13 JANUARY 2022

SCIENTIFIC COMMUNICATION TECHNIQUES: YOUR COMMUNICATION PROJECT

WRAP UP

OCTOBER - DECEMBER 201

NO COMMUNICATION



NO RESEARCH



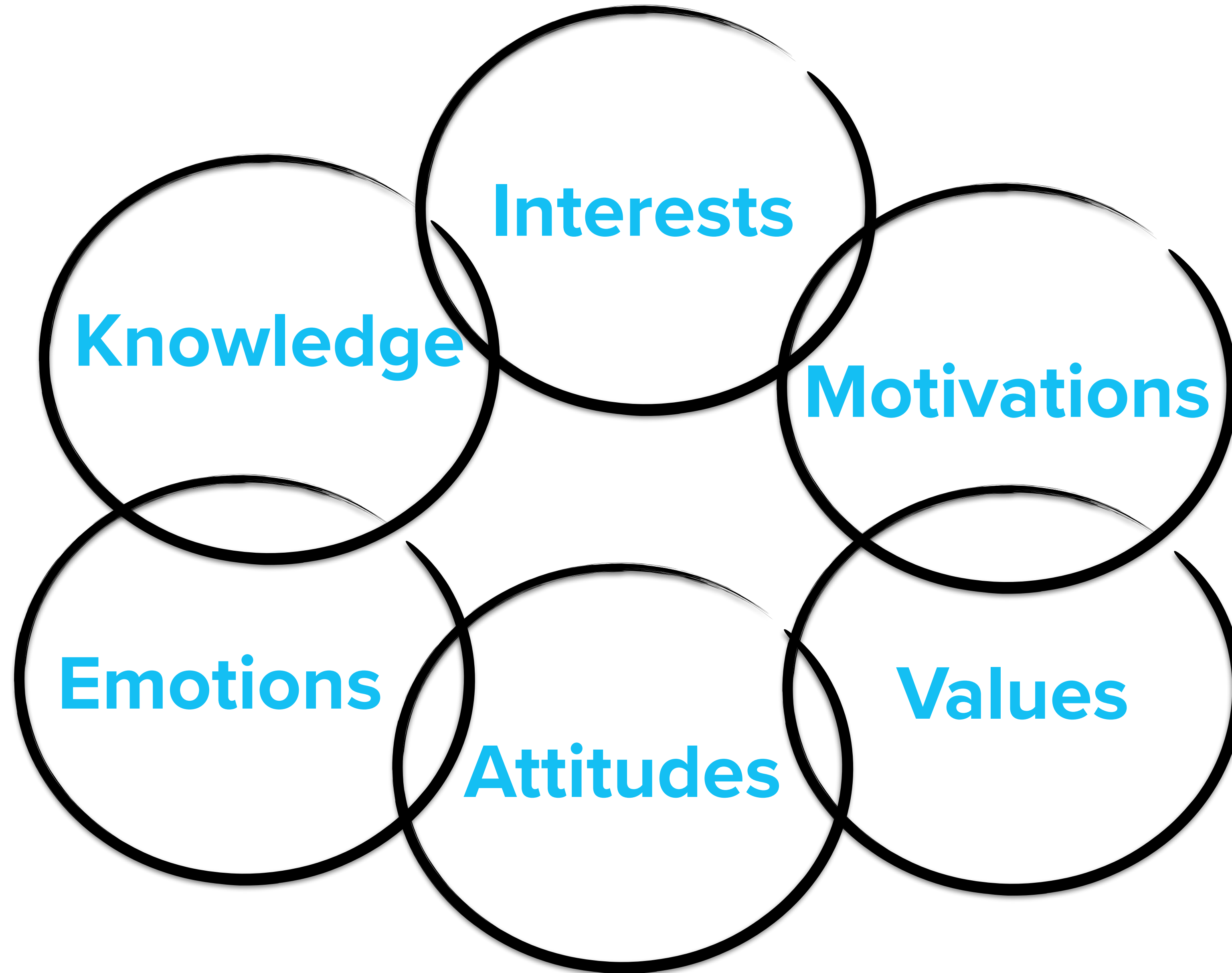
TODAY'S SCIENCE

**CONTEXTUALIZED / APPLIED
TRANSDISCIPLINARY
DIFFUSED
UNKNOWN
UNCERTAIN
AMBIGUOUS**

**CONTROVERSIAL AND COMPLEX ISSUES
NEEDS NEW APPROACHES AND TOOLS**

THREE MODELS

	Deficit	Dialogue	Participation
Main Focus	Public ignorance and technical education	Dialogue, engagement, transparency, building trust	Direction, quality and need for sociotechnical change
Key Issues	Communicating science, informing debate, getting the facts straight	Re-establishing public confidence, building consensus, encouraging debate, addressing uncertainty	Setting science and technology in wider cultural context, enhancing reflexivity and critical analysis
Communication style	One-way, top-down	Two-way, bottom-up	Multiple stakeholders, multiple frameworks
Model of scientific governance	Science-led, 'science' and 'politics' kept apart	Transparent, responsive to public opinion, accountable	Open to contested problem definitions, beyond government alone, addressing societal concerns and priorities
Sociotechnical challenge	Maintaining rationality, encouraging scientific progress and expert independence	Establishing broad societal consensus	Viewing heterogeneity, conditionality and disagreement as a societal resource
Overall perspective	Focusing on science	Focusing on communication and engagement	Focusing on scientific / political cultures
Emphasis	Content	Context	Content and Context
Aims	Transferring knowledge	Discussing implications of research	Setting the aims, shaping the agenda of research
Ideological contexts	Scientism; Technocracy; Rhetoric of the knowledge economy	Social responsibility; Culture	Civic science; Democracy



Knowledge

Interests

Motivations

Emotions

Attitudes

Values

TRUST

Who is the public?
Or, better, who are the publics?



**TO WHOM AM I COMMUNICATING?
HOW WILL MY MESSAGE BE
UNDERSTOOD?
RECEIVED?
INTERPRETED?
WILL MY PUBLIC BE INTERESTED?**

SCHOOLS

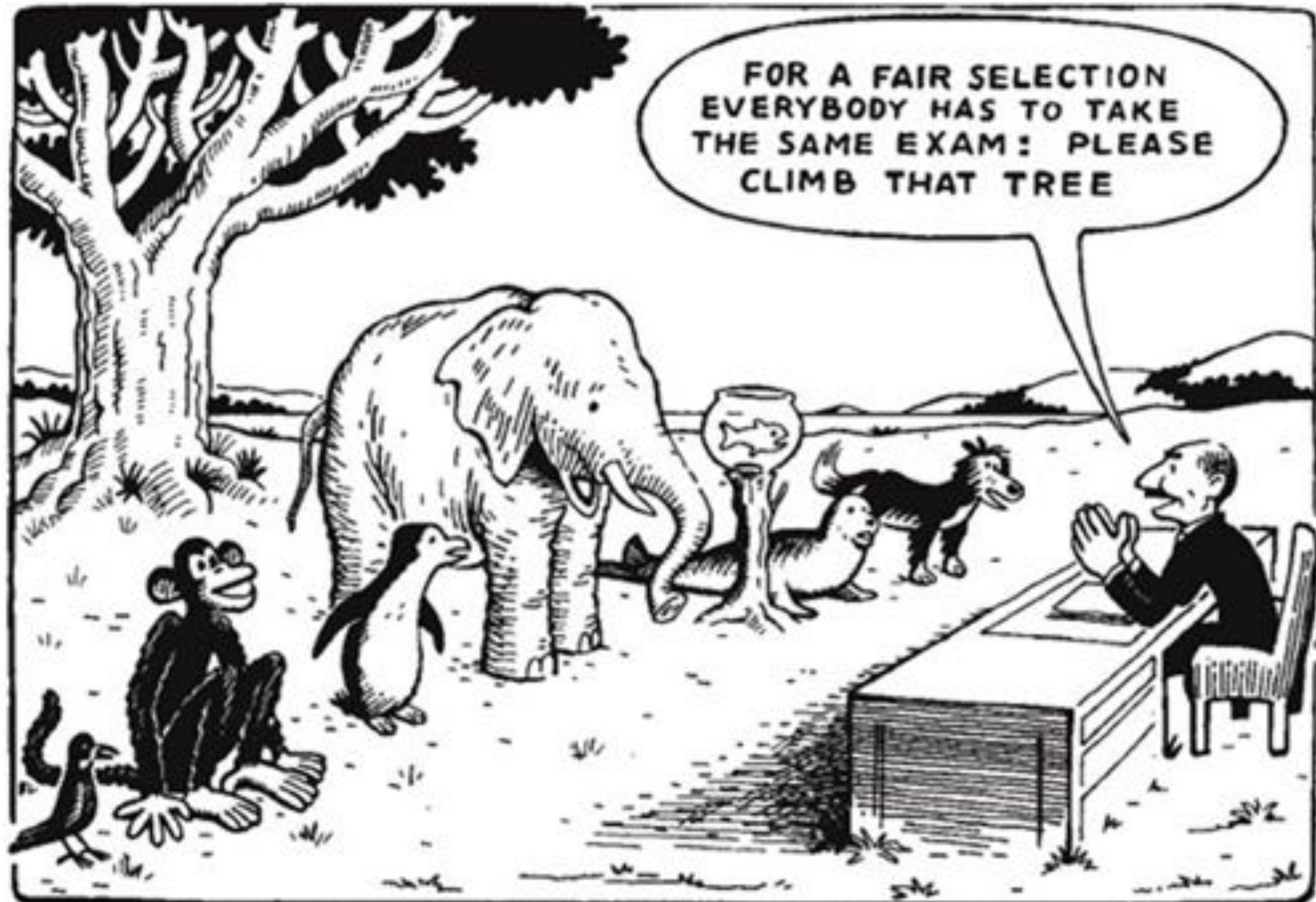
Formal and informal learning

Formal	Informal
Guided by the teacher	Guided by the learners
Dependent on the type of school and class	Diverse and various environments
Programmed and structured	Occasional and unpredictable
Compulsory	Free
Progressive	Non linear
Based in verbalization and acquisition of a vocabulary	Based on experiences, hands-on, laboratories
Few unexpected results	Many unexpected results
Social aspects not crucial	Social aspects crucial
Time not chosen by the learners	Time chosen by the learners
Evaluated and certified	Not evaluated nor certified

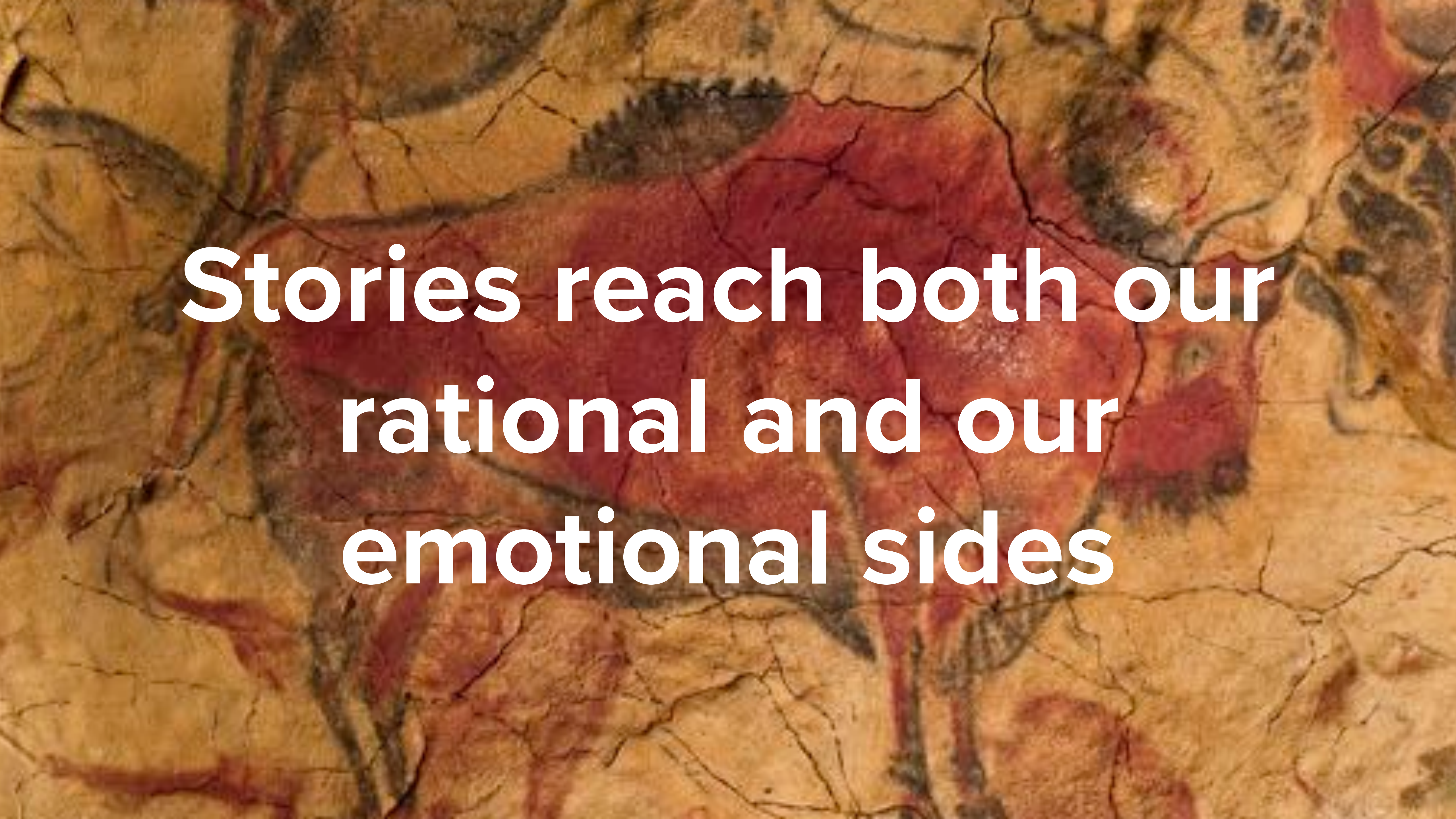


OPEN SCHOOLING

FOR A FAIR SELECTION
EVERYBODY HAS TO TAKE
THE SAME EXAM: PLEASE
CLIMB THAT TREE

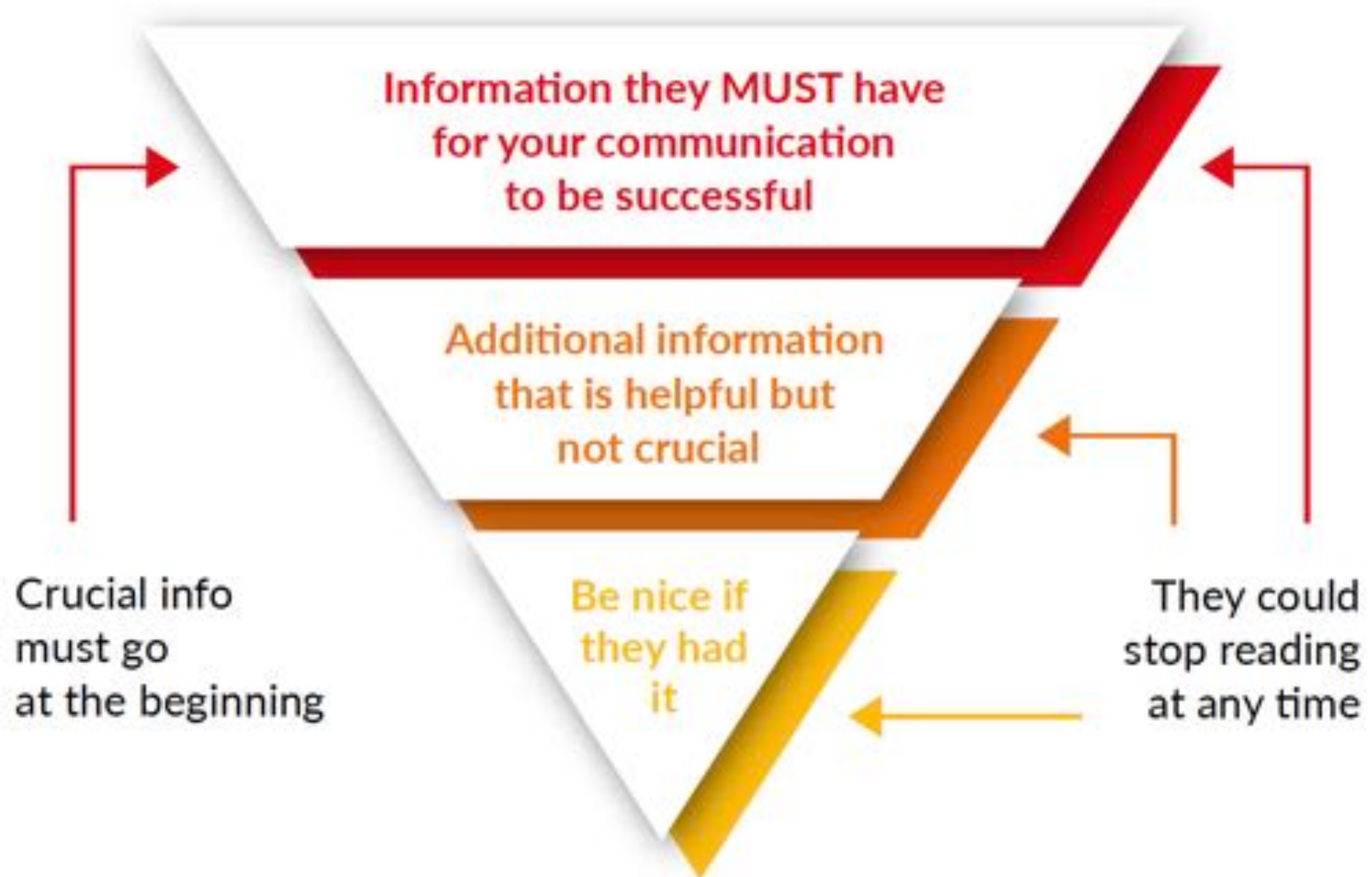


TELLING SCIENCE STORIES

The background is a piece of marbled paper with a complex, organic pattern. The colors range from light tan and beige to deep, dark reds and near-black tones. The pattern consists of irregular, vein-like shapes and spots, creating a rich, textured appearance. A prominent, irregular red shape is centered in the upper half of the image, partially overlapping the text.

**Stories reach both our
rational and our
emotional sides**

The inverted pyramid



FOUR QUESTIONS

why...

what...

who...

when and where...

**SCIENCE IS NOT FOR
ALL**

**CAN SCIENCE BE A TOOL FOR
SOCIAL INCLUSION?**

80%

ref. Department of Culture Media and Sport's Taking Part survey, 2017

920%

CAN WE DO SOMETHING?

CAN WE DO SOMETHING?

1 → OBSERVE

2 → MEASURE

3 → ACT

1 → OBSERVE

- how would you describe yourself?



2 → MEASURE

- Science literacy (“what you know”)
- Attitudes and values (“how you think”)
- Out of school behaviors (“what you do”)
- Science at home (“who you know”)





3 → ACT

**SHARE YOUR PASSION FOR
SCIENCE**

DID IT WORK?

“NO ONE WANTS TO TRAVEL A LONG DISTANCE, SPEND A LOT OF MONEY AND SOMEHOW END UP IN THE WRONG PLACE. EVALUATING YOUR COMMUNICATIONS ALONG THE WAY CAN HELP YOU TO STAY ON COURSE AND REACH YOUR DESTINATION”

**ARE WE THERE YET? A COMMUNICATION EVALUATION GUIDE,
THE COMMUNICATIONS NETWORK, 2008, [HTTPS://WWW.LUMINAFOUNDATION.ORG/FILES/RESOURCES/
AREWETHEREYET.PDF](https://www.luminafoundation.org/files/resources/arewethereyet.pdf)**

EVALUATION STAGES - MUSEUM OF LONDON

FRONT END EVALUATION

when: before a project begins

why: finding out what people want, know, think or expect

example | developing an exhibition: finding out the best means of communicating with teachers, or discovering what preconceived ideas people have about the theme for an exhibition which is to be developed.



EVALUATION STAGES - MUSEUM OF LONDON

FORMATIVE EVALUATION

when: during the process

why: to step back and look at something afresh to ensure that it is as good as you can make it

example | developing an exhibition: mock-ups of interactive exhibits to see if they work properly and achieve their learning objectives, sending a draft of a publication to teachers for comments or piloting text panels with a group of visitors



EVALUATION STAGES - MUSEUM OF LONDON

SUMMATIVE EVALUATION

when: after the process

why: to find out at the end of a project whether it met its original objectives, and if not, why not

example | developing an exhibition: include asking pupils what they thought about a workshop they participated in, asking visitors to fill in a questionnaire after their visit or observing what visitors do in an exhibition



OUR EVALUATION

1. First of all, as I would like to **become a teacher**, I hope that after this course I will be able to communicate the discipline of science **correctly** with students of different ages, with the aim of making them understand the **importance of sharing** opinions in this specific field but not only.

I also would like to become more **conscious** about which are the main techniques used nowadays to communicate.

2. From this course I hope to learn how to **speak in front of an audience**, to **share** information (especially in science fields, such as mathematics), the way to approach and get the attention. I hope that all this will also be useful for the teaching profession, especially to make a possible class **active and participating**, but also for myself to have more **confidence and awareness**.

OUR EVALUATION

3. I am not interested in becoming a teacher, rather I would like to work in the Analytics Department of an organization or start-up; but I am a **Public Discourse enthusiast**, and I would like to know more about Science Communication and how to **actively take part to the conversation**. Also, even when working in an office, I know that I will be asked to share my discoveries and insights with people coming from different departments and it is important to avoid misunderstandings and

learn how to **proper communicate** with each other in order to make significant **improvements in the workplace** or in the business strategy and to make well informed decisions.

So, after looking at the program on Moodle, I am expecting to learn more about the **language** and the **tools** of science communication, about what makes science controversial and what the **ethical implications** are, how we can embrace diversity and work for **inclusivity** and **participation**.

OUR EVALUATION

4. I hope this course will give me the opportunity to think about the **meaning and the purpose of communication**, especially science communication; I hope to learn how to distinguish between a poor and a **good** (science) **communication**; and last but not least I wish to learn how to communicate in a correct and effective way, in particular for what concerns the **teacher's role** in students' education to science.

5. I hope that this course will make me **aware** of the importance of **teaching mathematics** and **sharing my passion** with others so that they enjoy studying it instead of thinking that it is useless and not too interesting. I think that this course will make me more **open-minded and flexible** than I am now.

Reading the program, I'm interested in **women** in mathematics because I see that there are a lot of prejudices every time I tell someone that i'm graduated in mathematics. I'm ready to learn good **methods and techniques** to apply when I'll be a teacher in terms of being enthusiastic and entertaining.

OUR EVALUATION

6. Credo che questo corso fondamentale mi darà una **prospettiva** più chiara su cosa sia e come nella pratica funzioni la divulgazione scientifica, fornendomi al contempo, anche solo vedendo i **metodi didattici** stessi che lei adopera a lezione, qualche spunto su cosa sia “**efficace**” per intrattenere un pubblico e veicolare un contenuto. Da ultimo, ma evidentemente non meno importante, mi ha sinceramente attratto il suo percorso formativo/lavorativo,

la divulgazione scientifica mi piace, voglio che abbia un **ruolo nella mia vita**, devo solo stabilire quale, e non so, sono fiducioso che lei potrà darmi qualche buon consiglio.

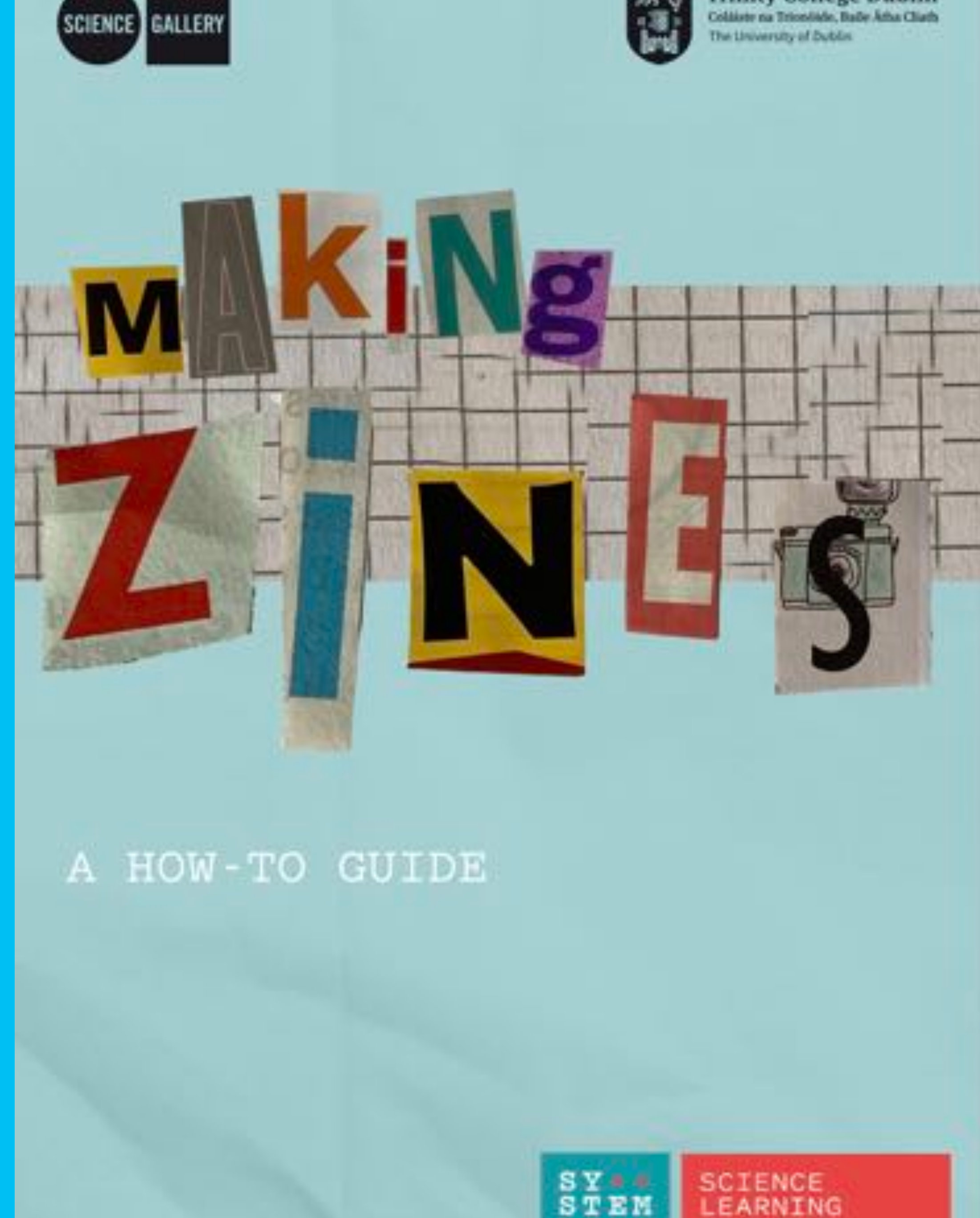
OUR EVALUATION

7. Ho riflettuto sulla domanda che ci ha posto a lezione e penso che, grazie al corso, riuscirò a **migliorare l'efficacia** delle mie abilità comunicative ed espositive. Di potermi **esprimere** in maniera più chiara.

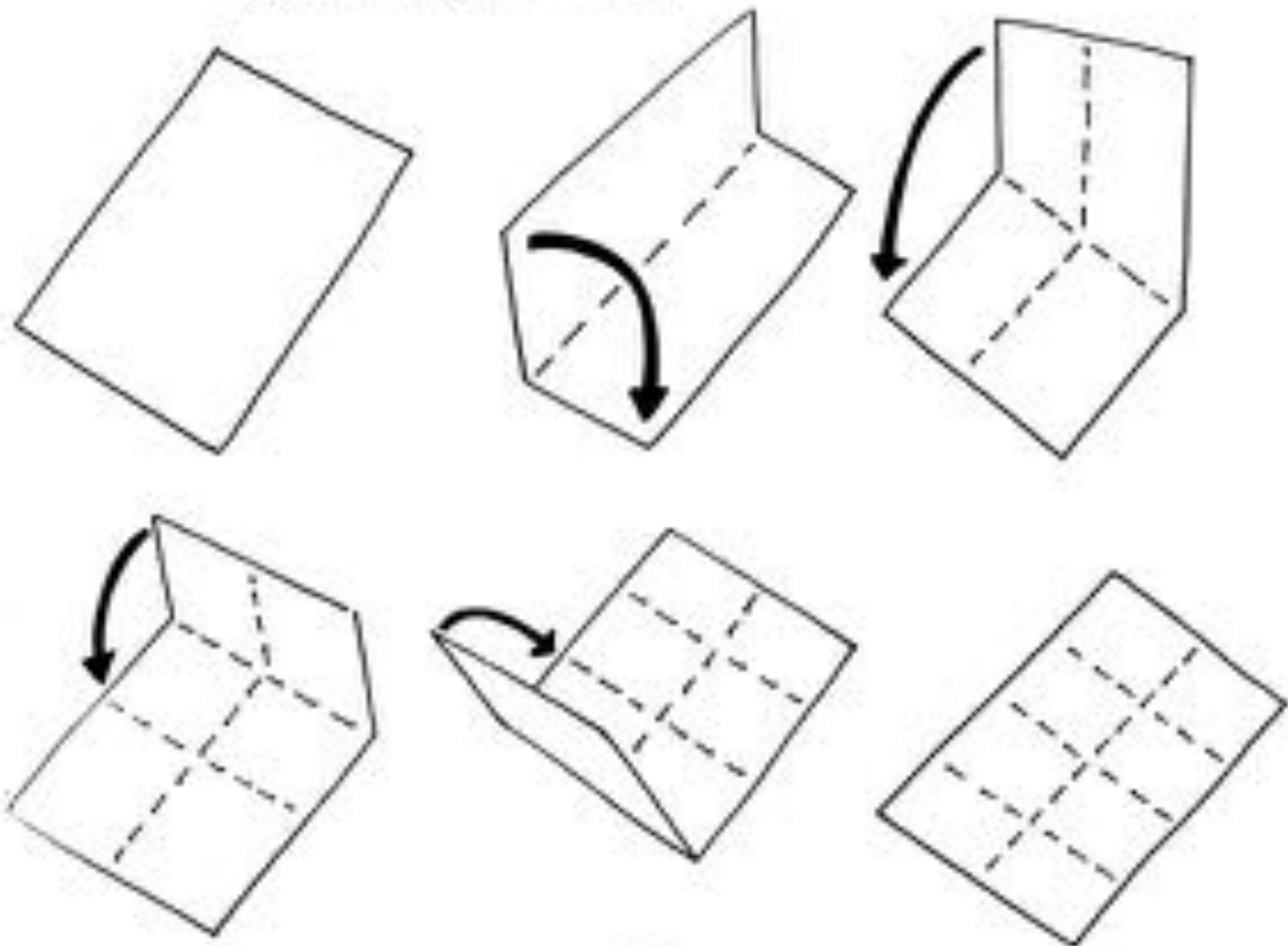
8. Innanzitutto spero di migliorare le mie **capacità comunicative**. Poi sono interessato principalmente agli aspetti **didattici** e di come esprimere un concetto nel modo più **semplice e chiaro** possibile. Quindi quali sono le varie **metodologia** per trasmettere tali idee e come utilizzarle.

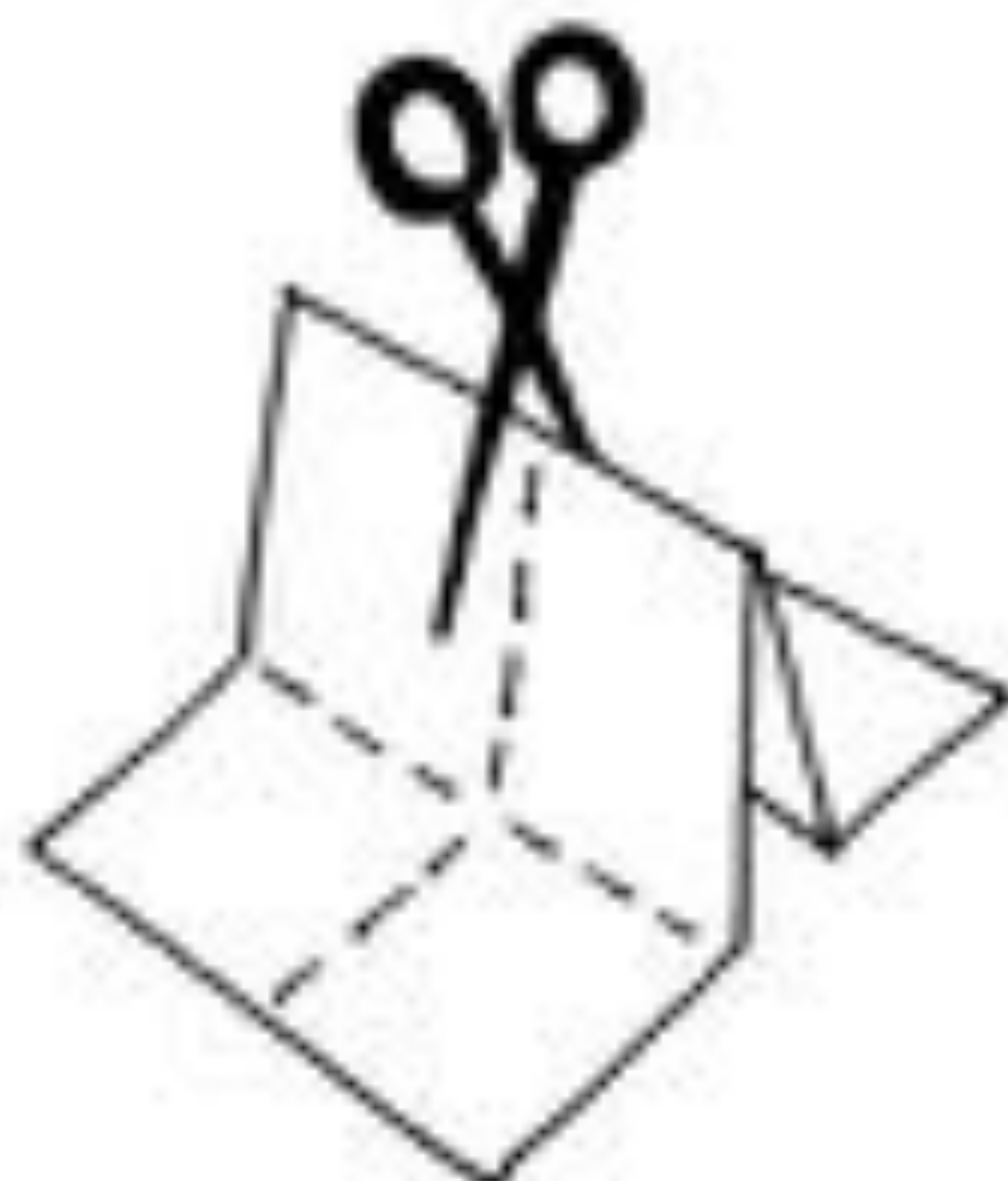
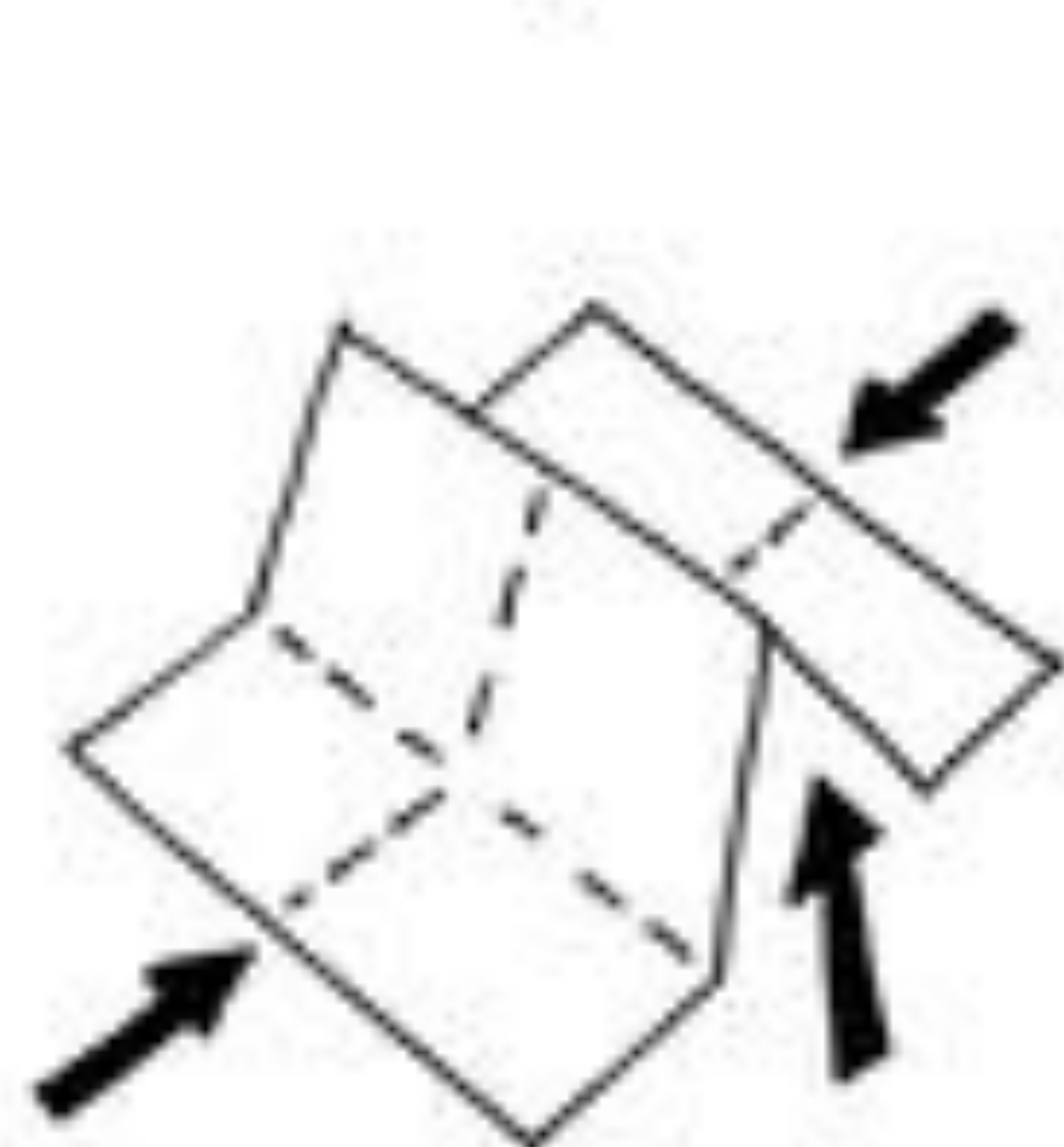
CREATIVE CONCLUSION

- paper
- scissor
- colors
- pens
- anything taken from your memories, experiences, emotions, learning, thinking



How to fold a zine





By www.tellatale.org.uk