

## 0. Background/Context:

There has been an ethical and cultural shift: Global issues, like climate change, political unrest and pandemics - along with rapid technological advancements such as the internet & social media - have modernised information sharing and communication.

### Everything

can be shared, commented upon, and contested.

### Everyone

is a distributor of news, an expert on an issue, or an arbiter of opinion.

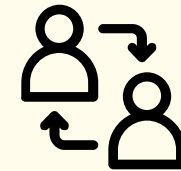


This democratisation of knowledge is powerful: we are in the "Information Age", and have more access to information than any before.

However, this equally reflects a demand to redesign outdated models of science communication, in order to better meet the current needs of society.

## 1. The role & responsibility of the researcher is changing...

In our post-truth, post-expert, information saturated world of the 21<sup>st</sup> century, the exchange of scientific information is far more nuanced than simply providing a didactic presentation of knowledge.

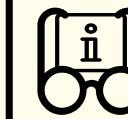


Science communication now focusses:

- ✓ More on fostering accessible knowledge exchange
- ⊗ Less on addressing assumed deficits of knowledge

## SCIENCE, SITUATED WITHIN SOCIETY.

## 2. The anatomy of good research translation.

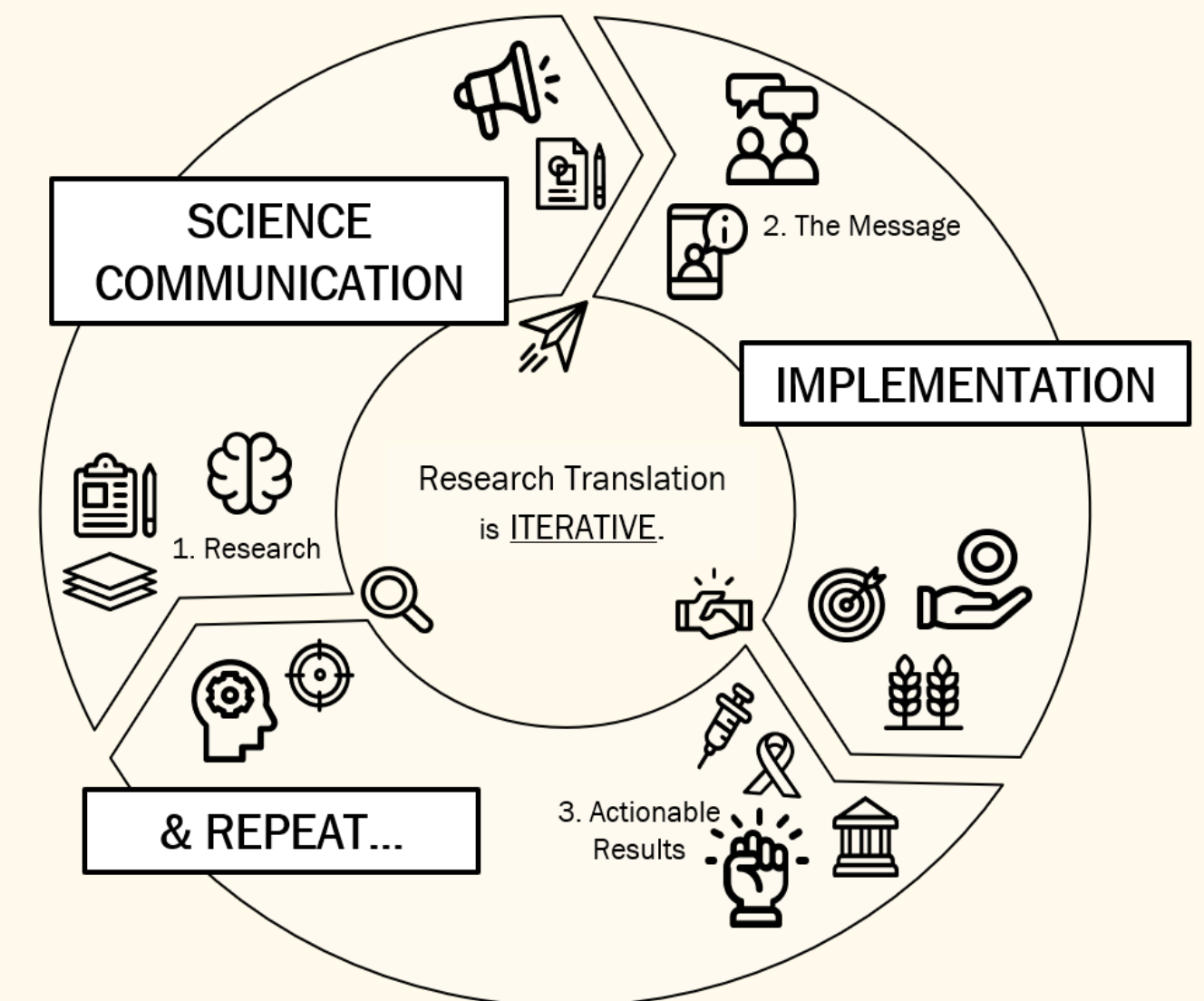


First, let's define the key terms...

**Research Translation** encompasses both Science Communication & Implementation by engaging the public on scientific findings, and transforming them into actionable outcomes (e.g., interventions, policy, etc).

**Science Communication** distills research into a clear, digestible message.

**Implementation** translates the message into practice.



Science Communication determines the quality & fidelity of the research translation process and its outcomes.

Sometimes, it constitutes the entire process. So, Science Communication can standalone in research translation.

## 3. Putting this all together: how to practice ethical science communication.

### Compelling

Information is constantly competing for our attention. Without a compelling message, research can easily be overlooked.

We need to minimise the mental labour for the audience to 'get' a message's importance.

Highlighting the personal & current relevance of your research can capture and sustain the audience's attention.

- How does your research relate to current societal values? (Contextualise)
- What are the implications of the research you are communicating? (Justify)
- Is what you are communicating relevant to the issues the public are concerned about? (Frame)
- Is the medium you have selected the best way to present your information? (Mode)

### Understandable

Science should work to close the cultural gap in our use of language.

This means reducing the mental load.

- Define key terms at first point of introduction.
- Avoid jargon & acronyms, unless universally understood.
- Use the active voice.
- Vary sentence length to enhance intuitive pacing, but keep most sentences under 30 words.
- Keep each paragraph centred around one key idea.
- Contextualise your data i.e., percentages, ratios, comparisons, trends, relatable units.
- Use visual aids.

### Accurate

Accessible language does not mean using inaccurate word choices in our messaging.

We must remain faithful to our research and ensure transparency.

- Report on sources & citations clearly (i.e use hyperlinks & straightforward citations to encourage follow up if reader is interested).
- Avoid superlatives and hyperboles.
- Refrain from value judgements.
- Avoid causative language or words that imply certainty (e.g. 'prove' or 'proven'). Replace with 'evidence'; 'indicates'; 'suggests' instead.
- Avoid using 'significant' outside of its scientific meaning. Replace with 'large', 'substantial', or 'meaningful' instead.
- Do not overstate evidence quality.

## 4. Summary.

Too often, good research exists in the ivory-tower vacuum.

Science Communication involves:

- distilling complex information into accessible language & formats;
- Iterative co-design and co-production with the general public;
- various media to bridge the gap between scientists & the public.



The three gatekeepers of ethical science communication hinges on whether a message is compelling, understandable, & accurate.