



DEFINITIONS FOR SCIENCE COMMUNICATION

CREATIVE RESEARCH AND
SCIENCE COMMUNICATION

04/03/26

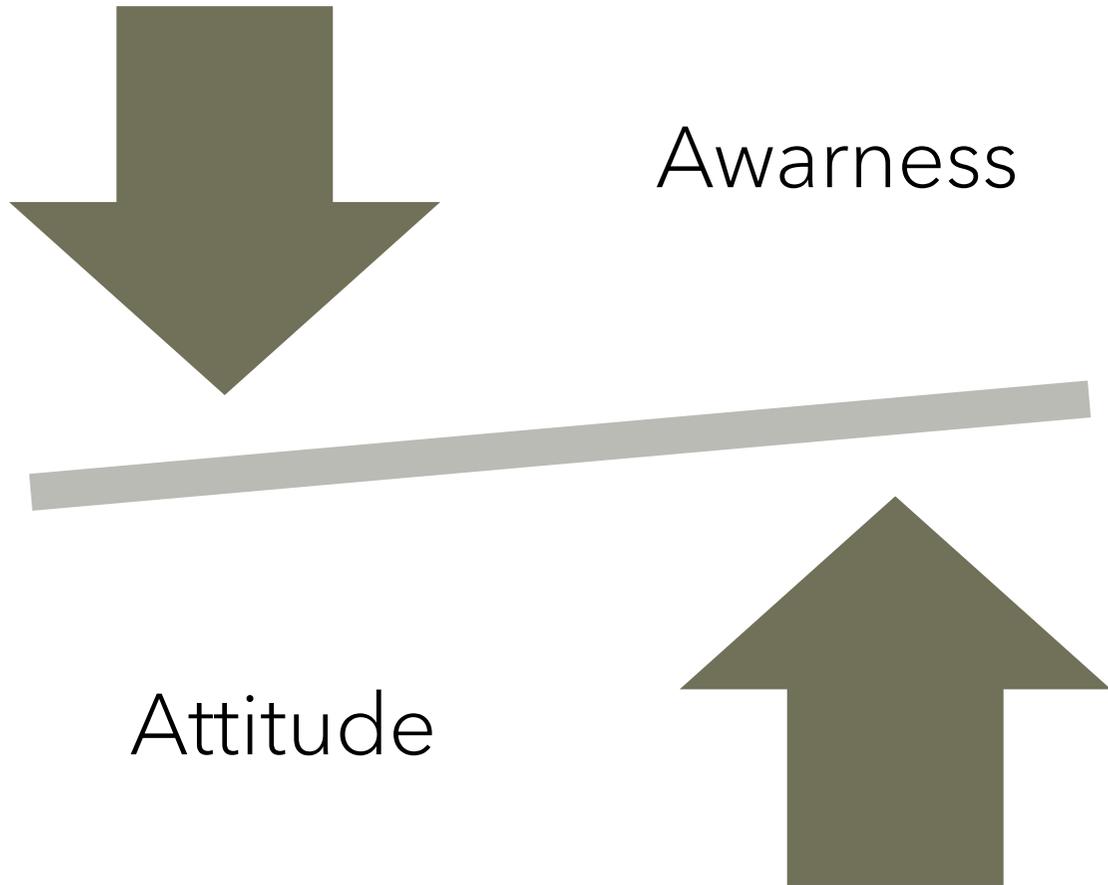
The AEIOU Model of Science Communication

- **Awareness**: Making people conscious of scientific topics.
- **Enjoyment**: Encouraging positive affective responses to science.
- **Interest**: Motivating voluntary engagement with science.
- **Opinion-forming**: Shaping and changing public attitudes toward science.
- **Understanding**: Promoting knowledge of scientific concepts, processes, and societal impacts.

Wu, L. Y., Wu, S. P., & Chang, C.-Y. (2019). Merging Science Education into Communication: Developing and Validating a Scale for Science Edu-Communication Utilizing Awareness, Enjoyment, Interest, Opinion formation, and Understanding Dimensions (SEC-AEIOU). *Sustainability*, 11(17), 4551. <https://doi.org/10.3390/su11174551>

What is Public Awareness of Science (PAS)?

Public awareness of science (PAwS) is everything relating to the awareness, attitudes, behaviors, opinions, and activities that comprise the relations between the general public or lay society as a whole to scientific knowledge and organization.



Awareness

Attitude

ANALYSE THE TWO INFOGRAPHIC RELATED TO PUBLIC ATTITUDE TOWARD SCIENCE AND TECHNOLOGY



<https://moodle2.units.it/mod/resource/view.php?id=436022>



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What is Public Understanding of Science (PUS)?

All encompassing term that refers to a relationship between the general public and the scientific community regarding scientific knowledge, literacy, awareness, attitudes, and behaviors (Juan et al. [2014](#)).

The Public Understanding of Science

A COMPARATIVE ANALYSIS OF DURANT ET AL. (1989) AND ZIMAN (1991)

Context analysis



Understanding science is crucial for an informed society.



Durant et al. (1989) studied public knowledge and attitudes towards science.



Ziman (1991) analyzed how science is perceived and communicated.

Key Findings from Durant et al. (1989)



Surveys revealed widespread scientific ignorance.



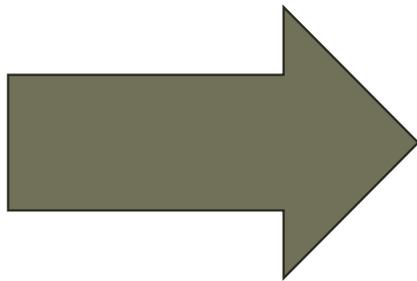
Many people lack basic knowledge of science (e.g., Earth orbiting the Sun).



Public interest in science is high, but self-perceived knowledge is low.



A knowledge gap exists between scientists and the public.



Ziman's Perspective (1991)



The 'deficit model' (lack of knowledge) is an inadequate explanation.



Scientific knowledge is shaped by media, education, and social factors.



Science is not a fixed entity—definitions vary among experts and the public.

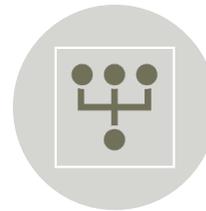


Trust in science is influenced by credibility and perceived bias.

Comparing Both Perspectives



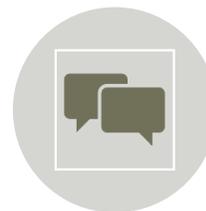
Durant et al. focused on measurable scientific literacy gaps.



Ziman emphasized the complexity of how people understand and use science.



Both studies agree that improving public understanding is essential.



Science communication should address both knowledge and social trust.

Challenges in Science Communication

01

Misinformation and media distortion affect public understanding.

02

Scientific debates (e.g., climate change, vaccines) cause public confusion.

03

Gender and social background influence scientific interest and engagement.

04

There is a need for clear and transparent science communication.

Solutions and Future Directions



Improve science education with a focus on critical thinking.



Engage the public through media and interactive science programs.



Build trust by making scientific processes more transparent.



Further research is needed on how people integrate science into daily life.

Conclusion



Public understanding of science is a complex issue.



Knowledge gaps exist but so do issues of trust and perception.



Both factual knowledge and social engagement are necessary.



Scientists, educators, and policymakers must work together to improve science literacy.

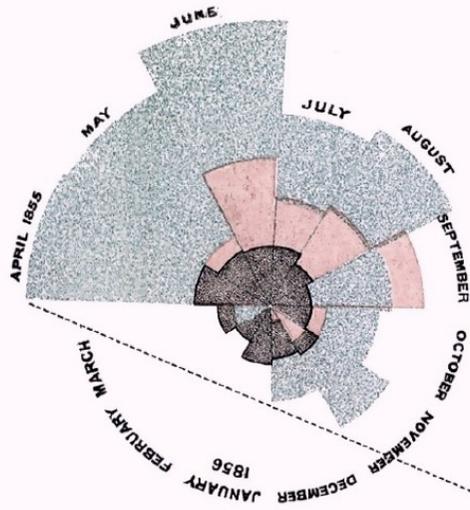
What is Scientific Literacy?

- Your author name
- Write informative titles and abstracts
- Multi-authored outputs
- Cross-disciplinary research
- Build communication and dissemination plans
- Put any output to the open web



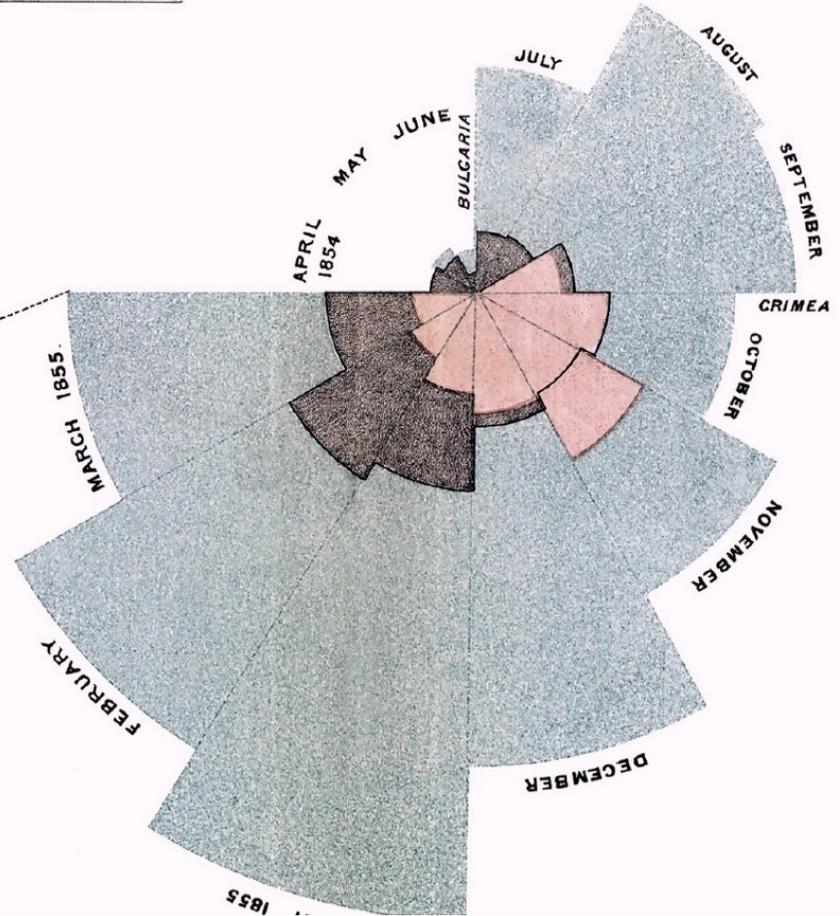
https://issuu.com/amymollett/docs/phds_preparing_for_impact_final

2.
APRIL 1855 TO MARCH 1856.



IN THE ARMY IN THE EAST.

1.
APRIL 1854 TO MARCH 1855.



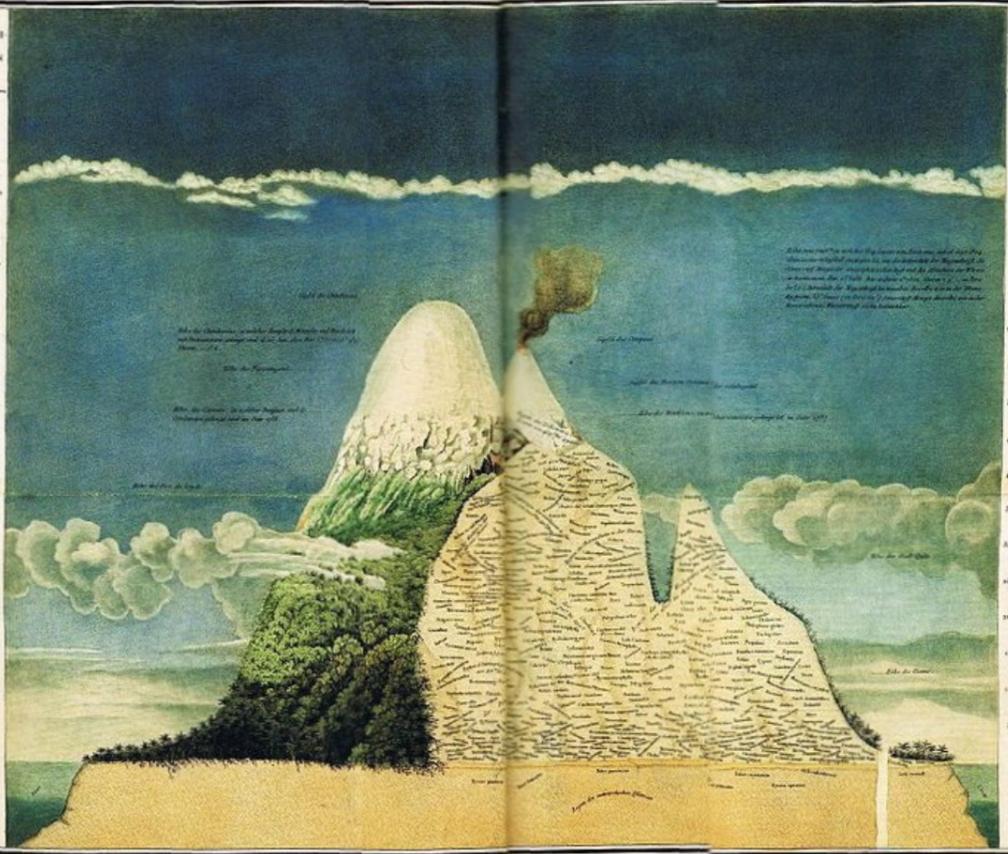
The Areas of the blue, red, & black wedges are each measured from the centre as the common vertex.

The blue wedges measured from the centre of the circle represent area for area the deaths from Preventible or Mitigable Zymotic diseases, the red wedges measured from the centre the deaths from wounds, & the black wedges measured from the centre the deaths from all other causes.

The black line across the red triangle in Nov: 1854 marks the boundary of the deaths from all other causes during the month.

In October 1854, & April 1855, the black area coincides with the red; in January & February 1855, the blue coincides with the black.

HÖHEN- MESSUNGEN in verschiedenen Wärdigkeiten	CULTUR DER LÄNDER nach den Ergebnissen der Reisen	ANWANDUNG DER RECHNUNG in den verschiedenen Ebenen der Erde	TOPO- GRAPHIE in den verschiedenen Ebenen der Erde	GEOGNOSTISCHE ANWENDUNG DER TOPO- GRAPHIE	WISSEN UND KUNST DER TOPO- GRAPHIE
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Geographie der Pflanzen in den Tropen-Ländern;

AXIOMATA SIVE LEGES MOTUS

Lex. I.

Corpus omne perseverare in statu suo quiescendi vel movendi uniformiter in directum, nisi quatenus a viribus impressis cogitur statum illum mutare.

Projectilia perseverant in motibus suis nisi quatenus a resisten-
tia aeris retardantur & vi gravitatis impelluntur deorsum.
Trochus, cujus partes cohærendo perpetuo retrahunt sese
a motibus rectilineis, non cessat rotari nisi quatenus ab aere re-
tardatur. Majora autem Planetarum & Cometarum corpora mo-
tus suos & progressivos & circulares in spatiis minus resistentibus
factos conservant diutius.

Lex. II.

*Mutationem motus proportionalem esse vi motrici impressæ, & fieri se-
cundum lineam rectam qua vis illa imprimitur.*

Si vis aliqua motum quemvis generet, dupla duplum, tripla tri-
plum generabit, sive simul & semel, sive gradatim & successive im-
pressa fuerit. Et hic motus quoniam in eandem semper plagam
cum vi generatrice determinatur. Si corpus antea movebatur, mo-

Lex. III.

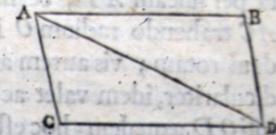
*Actioni contrariam semper & æqualem esse reactionem: sive corporum
duorum actiones in se mutuo semper esse æquales & in partes contra-
rias dirigi.*

Quicquid premit vel trahit alterum, tantumdem ab eo premitur
vel trahitur. Siquis lapidem digito premit, premitur & hujus
digitus a lapide. Si equus lapidem funi allegatum trahit, retrahit-
tur etiam & equus æqualiter in lapidem: nam funis utrinq; distentus
eodem relaxandi se conatu urgebit Equum versus lapidem, ac la-
pidem versus equum, tantumq; impediet progressum unius quan-
tum promovet progressum alterius. Si corpus aliquod in corpus
aliud impingens, motum ejus vi sua quomodocunq; mutaverit, i-
dem quoque vicissim in motu proprio eandem mutationem in par-
tem contrariam vi alterius (ob æqualitatem pressionis mutua) sub-
iicit. His actionibus æquales fiunt mutationes non velocitatum
sed motuum, (scilicet in corporibus non aliunde impeditis.) Mu-
tationes enim velocitatum, in contrarias itidem partes factæ, quia
motus æqualiter mutantur, sunt corporibus reciproce proportio-
nales.

Corol. I.

*Corpus viribus conjunctis diagonalem parallelogrammi eodem tempore
describere, quo latera separat.*

Si corpus dato tempore, vi sola *M*,
ferretur ab *A* ad *B*, & vi sola *N*, ab
A ad *C*, compleatur parallelogram-
mum *ABDC*, & vi utraq; feretur id
eodem tempore ab *A* ad *D*. Nam



quoniam vis *N* agit secundum lineam
AC ipsi *BD* parallelam, hæc vis nihil mutabit velocitatem acce-

Key Participants in Science Communication

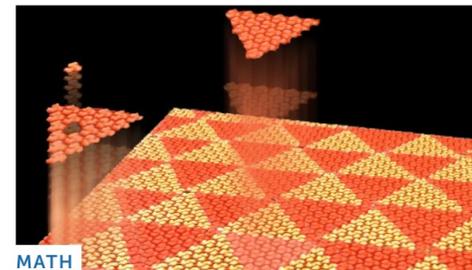
- **Scientists**: Share research with different audiences.
- **Mediators**: Journalists, educators, museum staff, etc.
- **Decision-makers**: Policymakers and industry leaders.
- **General public**: Citizens, students, and non-experts.

SCIENCE CENTRE, MUSEUMS AND EXHIBITIONS





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Latest publications

📅 Mar 04, 2025

Book Review

Reviewed book: "The Science Media Interface: on the Relation Between Internal and External Science Communication"

by [Laura Moorhead](#)

The Science Media Interface explores how scientists and their institutions orient their research and publication criteria and processes towards those of journalists and media organizations as a way to gain public attention. The editors present an impressive range of methods, from bibliometrics, an adaptation of the Delphi method, ethnography, mixed-methods analysis, and the path analysis method.

📄 Volume 34, Issue 01, 2025

JCOM metrics

2023 CiteScore: 3.4

2023 Impact Factor: 2.0 (Q2)

Call for papers

Announcing a special issue on "Transitions in Science Communication: Continuity and Change"

Review article

Stakeholder-engaged research: a multidisciplinary historical analysis

Abstract

The involvement of stakeholders in research – from design, production and communication to use – is recognised as essential to producing impactful research. However, approaches to involving stakeholders in research vary greatly between different fields. This article conducts a multidisciplinary historical analysis of stakeholder-engaged research to offer an integrated perspective on engagement practices across disciplines. It identifies common influences, objectives, trends and challenges, proposing frameworks to support interdisciplinary analysis and understanding. The analysis identifies interconnected approaches that could benefit from mutual learning and exchange. Approaches emerging from sociopolitical movements orient around objectives of empowerment and emancipation, those responding to complexity tend to focus on producing better research that solves societal problems, while accountability-driven approaches

Authors

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IDENTIFIERS

DOI: <https://doi.org/10.14324/RFA.08.1.06>

WHAT IS SCIENCE COMMUNICATION?

GIVE YOUR DEFINITION

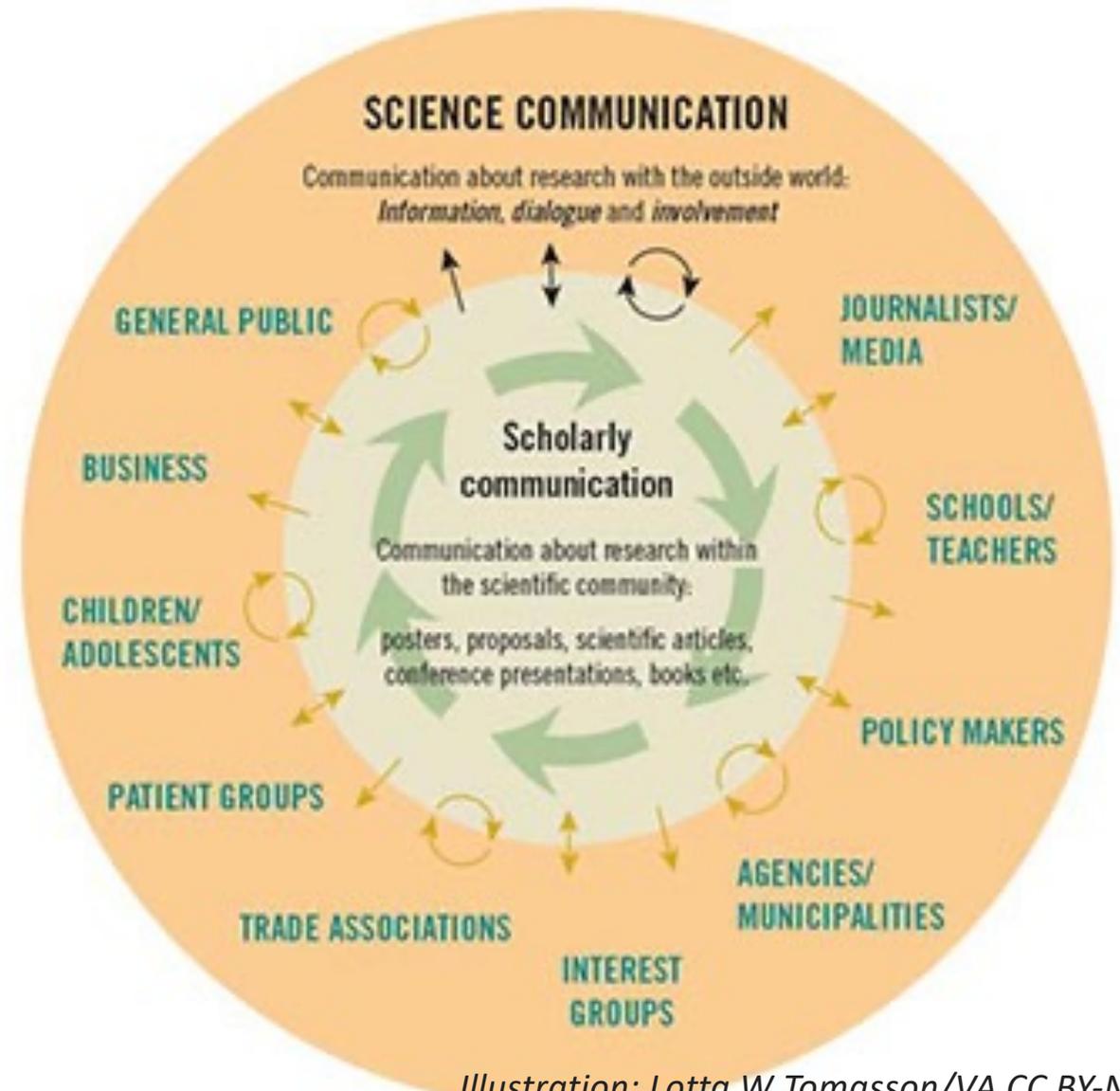


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The Importance of Science Communication



Builds a scientific culture that integrates science into society.



Helps address misinformation and builds trust.



Encourages participation in scientific decision-making.



Ensures science remains relevant and accessible.

Science Communication in Practice

- **Formal Approaches**: Science education, training programs.
- **Informal Approaches**: Museums, TV programs, podcasts.
- **Dialogue-Based Approaches**: Public discussions, citizen science.

Models of Science Communication

- Deficit Model: Assumes the public lacks scientific knowledge and needs education.
- Contextual Model: Recognizes public engagement as a two-way process.
- Mountain-Climbing Analogy: Science communication helps individuals 'climb' toward scientific literacy.

Which model best fits your perspective on science communication?