

Justice, Equity, Diversity and Inclusion in Science Communication



WORKSHOP WORKBOOK



This workbook accompanies the GlobalSCAPE: Justice, equity, diversity and inclusion in Science Communication workshop and contains everything you will require to join in with the sessions.



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1. Overview



This workshop highlights the imbalance in different publics' access to and participation with science and aims to show how inclusive Science Communication practices have a key role in redressing that imbalance. It presents Science Communication as a major opportunity to balance the effort needed for different public's to take part in the 'science' conversation, whilst also bringing attention to some of the various in social injustices across the world that responsible Science Communication could take steps to address.

Who is this workshop for?

Science Communication practitioners, including journalists, scientists, educators, presenters, performers and other interested Science Communication professionals.

What is the overarching goal of this workshop?

To provide a space and resources for science communicators to reflect upon how diversity, equity and inclusion can be acknowledged and prioritised within their practices to promote social justice for all global citizens.

Why do we need this as science communicators?

There are large differences in societies' access and contribution to science across the world, for many complex reasons. To avoid continuing these imbalances, we need to prioritise practices that acknowledge and support our diverse global communities.

Workshop objectives

- 01.** For attendees to know what is meant by the terms justice, equity, diversity and inclusion (JEDI)
- 02.** For attendees to recognise the importance of prioritising JEDI in their Science Communication practices
- 03.** To develop attendees knowledge of how diverse and equitable practices can increase inclusion in Science Communication
- 04.** For attendees to consider how Science Communication can be used to address issues of social justice

Considerations about the workshop

This workshop is intended as an opportunity for science communicators from different regions of the world to see how issues of social justice, equity, diversity and inclusion can factor into their practices. It relies on providing links to some of the recent research and resources in the field, as well as on participants sharing their experiences with each other.

In this workshop we are all learners and each participant is considered as the expert in their own context. As such we encourage you to ask questions of each other and also be willing to share your own perspectives as much as possible to assist us all in reflecting upon our own practices alongside those of the global science communication community.

A short workshop is not enough to completely change our practices, and there are many fantastic workshops available for developing particular skills. Unfortunately some are more accessible than others, which is something we need to address together as a global community. This workshop is an opportunity to work towards that goal.

The intention is to plant the seeds for future growth, so many of the activities are just introductory. In practice they would require a longer, ongoing investment of time, including added reflection after subsequent Science Communication events.

We hope that you will download these open access resources and take time to adapt and expand on any of the activities in a way that feels most relevant to your specific contexts.

2. Justice, Equity, Diversity and Inclusion in Science Communication



PART 1

Prior to the session you may have received a link to fill out a pre-workshop survey. Please return this to the facilitator(s) at least three days before your first session so they have an idea of your particular needs and can tailor the workshop where appropriate.



2.1 Workshop Agenda – Part 1

Guide times	Section	Section lengths
09:00 – 09:10	Introduction	10m
09:10 – 09:25	Getting to know	15m
09:25 – 09:40	JEDI in Science Communication	15m
09:40 – 09:50	Science Communication and equity	10m
09:50 – 10:00	BREAK	10m

10:00 – 10:20	Considering diversity	20m
10:20 – 10:45	Audience profiles	25m
10:45 – 11:00	Reducing the gaps	15m
11:00	End Part 1	

2.2 Audience Profiles

There are many dimensions through which we can view diversity and it's important to establish just what we mean when we discuss diversity. Also, our views about diversity are very much affected by where we live, especially in regard to who we regard as minority or marginalised groups. So, in this activity you will have some time to consider the current state of diversity, from your perspective, in your region. Try to identify the MINORITY groups. Think about who is often NOT in the room or not catered for when you practice Science Communication.

The eventual aim is to **draft a profile of groups that you could target** that appear to have been overlooked, or underserved in your region.

- It might help to start by listing the people or characteristics that you do recognise as being in attendance, then identifying the range of potential characteristics that appear to be absent.
- A useful tip here is to look at national and regional census data which can provide a variety of details about people in your region/country.
- You can also explore national science surveys (if they have been conducted in your region) to learn about public attitudes to science in your region.
- In the most limited case, you could also just do a Wikipedia search for the demographics of people in your country.

You can use the template on the following page to note down your thoughts. There is also space for you to jot down any potential ideas on HOW you might target those groups, based on their particular characteristics. Remember that many traits are invisible so this is just based on what you have personally noticed. If you wanted to gain more accurate information you could consider using specific audience questionnaires.

Geographic groups (Where)	Demographic groups (Who they are)	Behavioural groups (What they do)	Cognitive groups (Why they do it)
<ul style="list-style-type: none"> • Country • Hemisphere • Latitude • Urban • Rural • City • Country ... 	<ul style="list-style-type: none"> • Age • Gender • Family life cycle • Race • Language • Ethnicity • Sexual orientation • Qualification • SES • Marital status • Employment • Religion • Income • Education ... 	<ul style="list-style-type: none"> • Activities(!) • Lifestyle(!) • Motivated by the same occasions (e.g. pandemic) • Usage (frequency of interaction) • Loyalty (support for science) • How science benefits them ... 	<ul style="list-style-type: none"> • Personality • Activities(!) • Lifestyle(!) • Social Status • Interests • Opinions • Attitudes • Values ...

How diverse are the people in the room?

First, write down your own profile

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	Present	Not present	How could we reach those that are 'not present'?
Geographic groups			
Demographic groups			
Demographic groups			
Cognitive groups			

3. Justice, Equity, Diversity and Inclusion in Science Communication



PART 2

3.1 Workshop Agenda – Part 2

Guide times	Section	Section lengths
13:00 – 13:10	Introduction to Part 2	10m
13:10 – 13:20	Seeking inclusion	10m
13:20 – 13:45	Inclusion through diversity	25m
13:45 – 13:55	Inclusive Science Communication	10m
13:55 – 14:05	BREAK	10m
14:05 – 14:20	A focus on Justice	15m
14:20 – 14:50	Science Communication for Social Justice	30m
14:50 – 15:00	Summary & Questions	10m
15:00	End Part 2	

3.2 Inclusion through Diversity

There are more ways to target diversity than just focussing on the people (e.g. audiences, scientists and communicators), although we are still ultimately concerned with the effects and influences of diversity upon people.

This activity explores how we can create more inclusive Science Communication experiences by embracing diversity in four main areas, although there are likely others that communicators could add to these. You will join a group to explore how we can be more diverse in our practices to provide experiences that are more inclusive of underserved audiences.

CHALLENGE:

Choose a specific underserved audience. Think of how you can provide diversity of producers, practitioners or places, to better appeal to that audience i.e. to be more inclusive of their specific needs and increase potential access.

Note

These areas often overlap.

Here are some questions you can consider for each area.

Main area	Questions to consider
PUBLICS Who are you hoping to communicate with?	<i>(You can take this from your audience profile)</i> <ul style="list-style-type: none"> • What are the groups that are missing from your audience? • What characteristics do they share? • What languages are common in the region?
PRODUCERS Which/whose knowledge do we include?	<ul style="list-style-type: none"> • How diverse are the scientist's characteristics? • What scientific fields do we shed light on? (Formal / Natural/ Applied/ Social sciences) • Frontier or textbook knowledge • Local knowledge and Indigenous ways of knowing
PRACTITIONERS Who mediates the messages to publics?	<ul style="list-style-type: none"> • How could different approaches (formats, models, framing...) be used to best reach the audience? • Do the practitioner's goals for communicating suit the audience and their needs? • What characteristics might suit the audience?
PLACES Where does the communication happen?	<ul style="list-style-type: none"> • Through which mediums do people prefer to access knowledge? (Print media, digital media, face-to-face, internet etc...) • Which locations are accessible to the desired community? • Where do they prefer to meet to share knowledge?

Here are some examples and on the following pages there are some templates that you can use to record your ideas.

MAIN AREA: PRODUCER			
Particular aspect	Action we could take	Who it could impact	How could it impact it them
An area of research (e.g.: Astronomy)	<ul style="list-style-type: none"> Report on new (frontier) discovery or established (textbook) ideas Set up observing sessions 	<ul style="list-style-type: none"> Youth Elderly Rural (dark skies areas) Those without access/resources 	<ul style="list-style-type: none"> Fuel their existing interests Provide access/ opportunities not usually available
Producer Profiles	<ul style="list-style-type: none"> Find scientists that are similar to the audience 	<ul style="list-style-type: none"> Minority groups Youth 	<ul style="list-style-type: none"> Provides role models Reduced biases
Local Farmers	<ul style="list-style-type: none"> Include their knowledge and experiences Involve (partner) for an activity 	<ul style="list-style-type: none"> Agricultural communities Farmers themselves 	<ul style="list-style-type: none"> Provide engagement that is 'closer' to their lifestyles Show how science can complement their activities

MAIN AREA: PLACES			
Particular aspect	Action we could take	Who it could impact	How could it impact it them
Social Media	<ul style="list-style-type: none"> Produce an Instagram campaign Set up a YouTube channel 	<ul style="list-style-type: none"> Youth Technology users Young professionals 	<ul style="list-style-type: none"> Provide direct engagement wherever they are Better cater for attention spans
Science Museum	<ul style="list-style-type: none"> Put on exhibition Plan guided visit 	<ul style="list-style-type: none"> Families Schools Those with subject interests 	<ul style="list-style-type: none"> Satisfy existing curiosity Provides a day out (pastime)

MAIN AREA:			
Particular aspect	Action we could take	Who it could impact	How could it impact it them

MAIN AREA:			
Particular aspect	Action we could take	Who it could impact	How could it impact it them

MAIN AREA:			
Particular aspect	Action we could take	Who it could impact	How could it impact it them

MAIN AREA:			
Particular aspect	Action we could take	Who it could impact	How could it impact it them

3.3 Science Communication for Social Justice

In groups, you will first watch a short video to learn more about a particular context of social justice. Then you will try to identify which type(s) of justice could be sought (i.e. distributive, procedural, restorative) within that context.

If you can think of any specific examples that you've come across or even that you think could be relevant to that context, go ahead and note them down to share with the rest of the group afterwards. There is a template on the following page to record your thoughts.

Can you think of any ways that the context of social justice could be addressed using Science Communication?

As a reminder, here are brief explanations of the three types of justice that could be sought.

DISTRIBUTIVE JUSTICE:

Fairness in how resources (and burdens) are shared.

- Here you could consider whether ANY person has the same chance of being a knowledge source, a participant in an activity, or a communicator of science.

PROCEDURAL JUSTICE:

Fairness in decision making. It's based on four pillars.

- **Voice:** listen to everyone's side of the story.
- **Respect:** treat people with dignity and respect
- **Neutrality:** decisions are unbiased and guided by consistent and transparent reasoning.
- **Trustworthiness:** decision maker conveyed trustworthy motives

RESTORATIVE JUSTICE:

Contact between the wrongdoer and the 'victim' to seek the social justice that feels right for the victim(s).

- This is centred on those receiving the injustice and can involve a mediated meeting with those deemed as causing the injustice. This relies on opening dialogue between the people most affected by the situation. The aim is for accountability, recognition of impact and repairing of relationships.

Each group will consider a different context of social justice (epistemic, climate, environmental, global). Please be prepared to share your thoughts with the rest of the group by briefly outlining the issue, suggesting the type of social justice that could be sought (distributive, procedural, restorative), and how Science Communication might be used to address it.

CONTEXT Epistemic (in)justice	Distributive Justice	Procedural Justice	Restorative Justice

CONTEXT Climate (in)justice	Distributive Justice	Procedural Justice	Restorative Justice

CONTEXT Environmental (in)justice	Distributive Justice	Procedural Justice	Restorative Justice

CONTEXT Global (in)justice	Distributive Justice	Procedural Justice	Restorative Justice

4. Notes



A large white rectangular area with horizontal dotted lines, intended for taking notes.

5. Additional Resources



01. **Concept of a minority: mandate definition**
<https://www.ohchr.org/en/special-procedures/sr-minority-issues/concept-minority-mandate-definition>
02. **Demographic Examples** (and links to other forms of segmentation)
<https://www.questionpro.com/blog/demographic-examples/>
03. **Inclusive Science Communication Starter Kit**
https://inclusivesciomm.org/wp-content/uploads/sites/1568/ISC-Starter-Kit_FINAL.pdf
04. **YESTEM** – Free tools and resources for equitable informal STEM learning
<https://yestem.org>
05. **Diversci** – practical tools that support your journey to a more diverse, inclusive and equitable organisation
<https://www.diversci.eu>
06. **Prejudice, discrimination, and stereotyping**
<https://nobaproject.com/modules/prejudice-discrimination-and-stereotyping>
07. **Intersectionality**
<https://www.intersectionaljustice.org/what-is-intersectionality>
08. **Global justice short video**
<https://www.youtube.com/watch?v=rt9D7wH1vRc>
09. **Epistemic injustice short video**
<https://www.youtube.com/watch?v=xB2QuLx9pMQ>
10. **Environmental justice short video**
https://www.youtube.com/watch?v=dREtXUij6_c
11. **Learn about environmental justice**
<https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>
12. **Climate justice short video**
<https://www.youtube.com/watch?v=Y3s58Ang5ql>
13. **Learn about climate justice**
https://www.mrfcj.org/pdf/Geography_of_Climate_Justice_Introductory_Resource.pdf

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