



Step Change

Training Materials

*Ready to Use Materials
for Citizen Science Initiatives*

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What is this document about?

This document at hand is a ready to use compilation of training materials dedicated for supporting citizen science initiatives. This output of the Step Change project is addressed to those interested in setting up citizen science projects, and aims to:



Step Change is a project focusing on Citizen Science, funded under the H2020 programme of the European Commission. The project is implementing five Citizen Science Initiatives (CSIs) in the fields of health, energy, and the environment. The CSIs tackle the topics of wildlife conservation in Slovenia, non-alcoholic fatty liver disease in the UK, energy communities in Germany, infectious disease outbreak preparedness in Italy, and off-grid renewable energy in rural Uganda. The goal of the project is to explore the potential of citizen science while formulating recommendations for better cementing this approach within research and innovation institutions.

To underpin the implementation of the CSIs, a set of support actions has been designed to facilitate transdisciplinary work, including training and mutual learning activities. Within this framework and building on the preliminary work conducted by Science for Change, which has mapped the training needs of the CSIs, the Centre for Social Innovation, in charge of the training and mutual learning portfolio, has compiled a targeted training scheme to tackle the main issues arisen during the scoping process and fill the expressed knowledge gaps.

The training schemes have been tested in a series of workshops, which have taken place in an online setting between November 2021 and February 2022. The workshops have been designed on the one hand to introduce and test different engagement methods to be applied all along the implementation of the CSIs, and on the other hand to offer train-the-trainer materials to be used by the CSIs while dealing with their specific target groups. The training sessions, tailored to the different needs of the CSIs, have been designed to support them in responsively and adaptively manage their teams throughout the project's timeline. The workshops featured a combined methodology mixing up theoretical inputs and practical exercises with reflection sessions.

This document contains a selection of the materials which have been used during the training sessions. The first section of the document presents:

different options for Opener Sessions Exercises to apply at the beginning of training sessions

In subsequent parts it contains theoretical elements tackled during the sessions, namely:

basic understandings of participatory approaches in general and citizen science in particular, the concept of working with “personas”

motivation of citizen scientists

communication about and within citizens science initiatives

It further contains:

an excerpt of the exercises which have been tested during the workshops, focusing on the topics of do’s and don’ts in citizen science

the method of personas

awareness raising on stereotypes

a communication assessment exercise

an exercise with “expert tables”

Finally:

examples of energizer exercises are given and described, as well as options for feedback exercises at the end of training sessions

Last but not least, the document contains:

a list of resources and further readings

1 Opener Sessions Exercises

Opener options

1.1 Look out of the Window

Topic: “Warm up, getting known to participants”

Procedure: This exercise is carried out with speakers’ view on ZOOM

Setting: Plenary session

Materials/tools needed: none

Time needed: 15 -20 minutes, depending on number of participants

Instruct participants: “*Look out of the window and tell us what you are seeing*”. Participants are called one after the other by the facilitator to tell (and perhaps to show as well) what they are seeing.



You can also let participants call the next person

1.2 Ice breaker questions on mentimeter

Topic: “Warm up, introducing participants and/or the topic”

Procedure: This exercise is carried out with the mentimeter webtool

Setting: Plenary session

Materials/tools needed: www.menti.com

Provide participants with link and code, access with computer or smartphone

Time needed: 5-10 minutes

Use slide format on menti.com ‘Word cloud’:

- Ask participants:
- “A thing you have recently learned”
- “Your expectations on the event”
- “Your interest in the topic”
- Etc.



Download and save results from mentimeter.com

1.3 Pin on map on mentimeter

Topic: “Warm up”

Procedure: Get participants to interact and get involved

Setting: Plenary session

Materials/tools needed: www.menti.com

Provide participants with link and code, access with computer or smartphone

Time needed: 5 minutes

Use slide format on menti.com ‘Pin on a map’:



Figure 1
mentimeter pin on map example

Ask participants: “Indicate where you are located at the moment”
Facilitator show screen and name the countries indicated



Download and save results from mentimeter.com

1.4 Honest answers

Topic: “Warm up”

Procedure: Get participants to interact and get involved

Setting: Plenary

Materials/tools needed: Post-its (or something similar to cover the camera)

Time needed: Depending on no. of participants
(approx. 30 sec/participant)

Use post-its to cover the camera and ask different questions – either personal ones (e.g., gender, age, background etc.), or related to the online-setting (e.g., “Have you ever spoken and you thought you were muted?”), or topic related (e.g., “Have you already participated in a CSI?”). Those participants who can answer the question with “yes” remove their post-it and make thus the result visible for all.



Take screenshots of results (after each question)

1.5 How are you feeling today?

Topic: “Warm up”

Procedure: Get participants to get active and involved

Setting: Plenary

Materials/tools needed: Cameras open

Time needed: (a few seconds)

“How are you feeling today?” Participants are asked to show how they are doing by changing the distance between themselves and the screen. The closer they get to the screen or the camera, the better they are feeling, the further away, the worse or more uncomfortable they are feeling.



Make a screenshot!

Power Point Input: Basic understandings of participation in general and citizen science in specific

This input provides information and definitions on basic principles of participatory processes and citizen science initiatives in particular. It shows the different degrees and levels of engagement and provides some useful hints for the different stages of the participation process.

Find the link for the PPTX presentation on slideshare [here](#).

2 Exercise: Do's and Don'ts in the Citizen Science Process

Topic: “Collection of recommendable and avoidable aspects of CSI processes”

Procedure: collection of aspects

Setting: small mixed groups exercise

Materials/tools needed: online - Miro board; physical - flipchart

Time needed: about 25 minutes

This exercise is to collect and discuss recommendable and avoidable aspects of CSI processes. Two or more small groups work on a collection of Do's and Don'ts concerning the implementation of a CSI. They write down one aspect per “card”/post-it on a Miro board. They collect and discuss necessities of a CSI (e.g.: allow different entrance points) as well as no go's (e.g.: overburden your participants) which

should be avoided.

A group Miro board could look as follows (see figure 2 below):

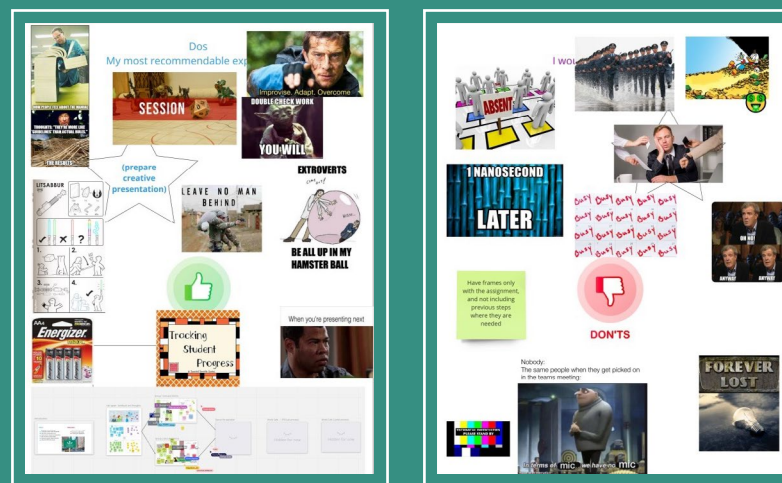


Figure 2 Dos and Don'ts results example

One rapporteur reports briefly to the plenary afterwards.

PowerPoint Input: Personas

Theoretical input on the concept of Personas (developed by American software designer Alan Cooper in the early 1980s¹) as a practical interaction design tool to depict groups of people, avoiding the biases and assumptions we all have when addressing others with our work.

Participants will learn about the history of the concept, what personas are and what not, why and when they are to be used, how personas are to be developed and the necessary elements to this end.

If they wish, participants may dig deeper into the topic by referring to the list of further materials collected by Shlomo Goltz².

Find the link for the PPTX presentation on slideshare [here](#).

3 Exercise: Personas

Topic: “CSIs get to know their expected participants”

Procedure: Group work per CSI-team

Setting: Break-out rooms

Materials/tools needed: Persona template, Miro board

Time needed: 30 minutes

Initially, participants will be asked in the plenary to think of all the people who might become participants in their citizen science initiatives, how they are typically categorized and how they think they should be

categorized. On a Miro board, they are to name each type of participant, then clustering and grouping them, eliminating duplicates as needed, followed by a short discussion whether there are too many or too few categories.

After that, the participants implementing the individual citizen science initiatives as a team will work together developing two provisional personas for their specific initiative filling in a template for each. A Word template with several copies of the template prepared for Step Change (see below) has been set up in advance for each CSI and the teams are provided with the document in the chat. For some 20 minutes, the teams are to brainstorm and work on an initial version of two personas according to the input received.

1. [https://en.wikipedia.org/wiki/Persona_\(user_experience\)](https://en.wikipedia.org/wiki/Persona_(user_experience))

2. <https://www.smashingmagazine.com/2014/08/a-closer-look-at-personas-part-1/#additional-resources>

Persona template

Descriptive Title:		Photo/Image
Name:	Age:	Gender:
Personal profile (education, job/income, children/care obligations, hobbies/interests, attitudes, personality etc.):		
Goals/ Motivations:	Skills/ Competencies:	Availability:
Frustrations/ Fears:	Needs:	

4 Exercise: Awareness Raising on Stereotypes

Topic: “Awareness raising with regard to stereotypes”

Procedure: Individuals make notes on a piece of paper

Setting: Individual exercise

Materials/tools needed: piece of paper size A5 or A4 and a pen for each participant

Time needed: About 10 minutes

This exercise is called “I am, but I am not”.

Each participant folds a piece of paper in half to create two separate columns. In the first column, they write “I Am”. In the second column, they write “I Am Not”. In between these two columns, they write the word “But”.

Participants fill in the first blank with some kind of common identifier, such as their gender, race, religion, or age, and the second with a common stereotype about that group which is not true of them (whether the stereotype is positive or negative). Everyone should write at least five statements in about 3-5 minutes. Allow participants to share their statements with the team and have an open and respectful discourse on stereotypes.

The final phrase will read “I am _____, but I am not _____.”

Examples:

I am ... a woman, but I am not a mother.

I am ... German, but I am not ... well organised.

I am	BUT	I am not

Figure 3
Template Awareness Raising

Power Point Input: Motivations of Citizen Scientists

This input provides information on motivations, interests and needs of citizen scientists and how to address them in a citizen science initiative. Furthermore, it provides some useful hints and ideas for recognition and rewarding of citizen scientists.

Find the link for the PPTX presentation on slideshare [here](#).

5 Exercise: Brainstorming on how and what to communicate

Topic: “Collection of experiences and ideas for communication”

Procedure: Plenary Brainstorming

Setting: Plenary, contributions of participants, moderator take notes on Miro board (or flip chart)

Materials/tools needed: Miro board / or flipchart

Time needed: 15 minutes

This exercise is to help thinking out of the box and collect as many options as possible. This collection should refresh and expand ideas and make use of the wisdom of the crowd. In a plenary setting, participants are asked to think about any idea for communication means for informing different target audiences and topics. Prepare Miro board, facilitator shares screen and notes the ideas that are called on the Miro board.

See further information [here](#) (Wikipedia article on Brainstorming).

Power Point Input: Communication of and within Citizen Science Initiatives

This input provides facts and figures on what to take into account within communication activities in addressing diverse needs of groups. Topics are language and visualisations, communication channels and main aspects to be considered.

Find the link for the PPTX presentation on slideshare [here](#).

6 Exercise: Communication Assessment

Topic: “Assessment of CSI Communication Items”

Procedure: Analysing examples of communication items

Setting: small mixed groups exercise

Materials/tools needed: online, Miro board; physical, flipchart

Time needed: about 35 – 45 minutes (depending on amount of examples)

This exercise is to analyse and learn from examples of existing communication items as applied by Citizen Science Initiatives. Trainees discuss in small groups examples according to a list of aspects which need to be considered. Together they evaluate the examples which of the aspects they consider good and useful and which they would rather avoid. In this way they learn for their own communication projects.

What to consider when analysing the communication items

- a) Type of message
 - Project vs. subject-specific vs. like message
- b) Approach
 - Generic vs. specific vs. combination of both
- c) Motivation of target group addressed
 - Intrinsic vs. extrinsic motivation
 - Self-directed vs. altruistic motivation
- d) Language
 - Level of education, mother tongue: plain language
 - Gender: inclusive/gender-neutral language
 - Selected vocabulary
 - visualisation supporting/instead of text (icon, graphic, pic)
- e) Accessibility / inclusiveness
 - Visual indicators of audio cues
 - Text equivalent of audio content, e.g. subtitles, captions or sign language
 - Alternative text with visuals
 - Readability (size, colour, contrast etc.)
 - pictures / graphics / illustrations / video or audio clips, charts
 - Representation of people (gender, age, race ...)
- f) features / particularities (SM or other)
 - short teaser, link to further reading / longer video etc.
 - #hashtags, direct messaging @...**
 - Length of message
 - image interesting/motivating for many or only for some target groups

Examples

Example 1: Twitter post hackAIR

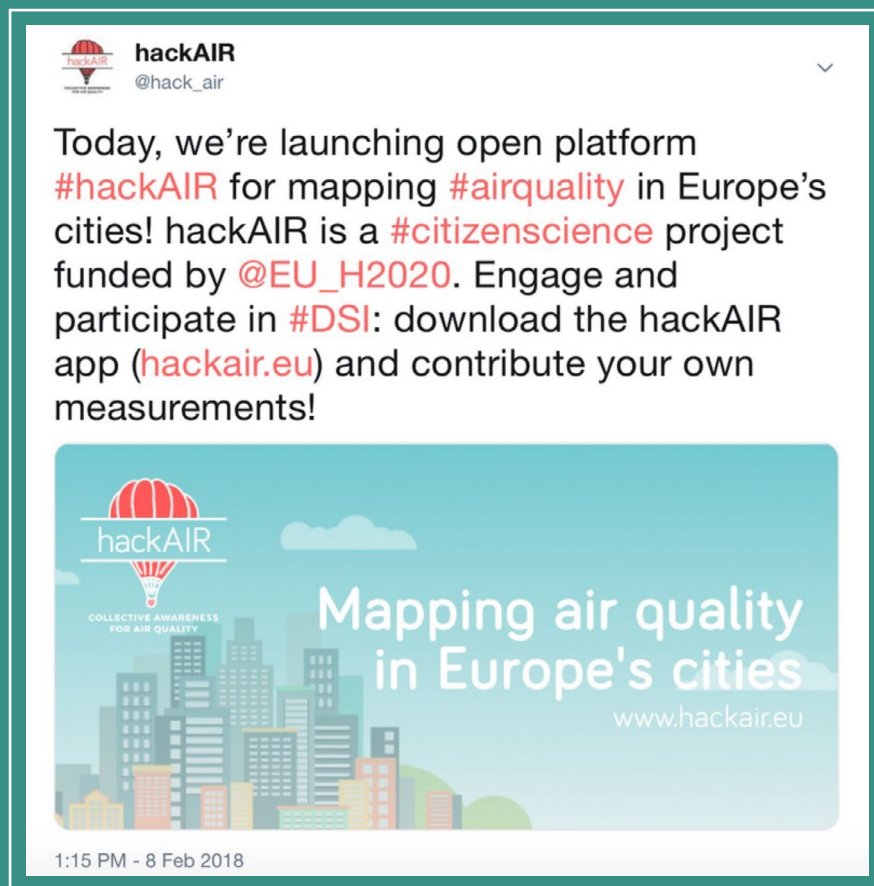


Figure 4 Communication example 1

Suggested assessment:

project message

- + meaningful hashtags
- + direct request to act (engage and participate, download, contribute)
- + link to app/website
- + direct messaging (@EU_H2020)
- + short, clear message
- + visual
- low contrast in visual

Example 2: Facebook post SySTEM2020

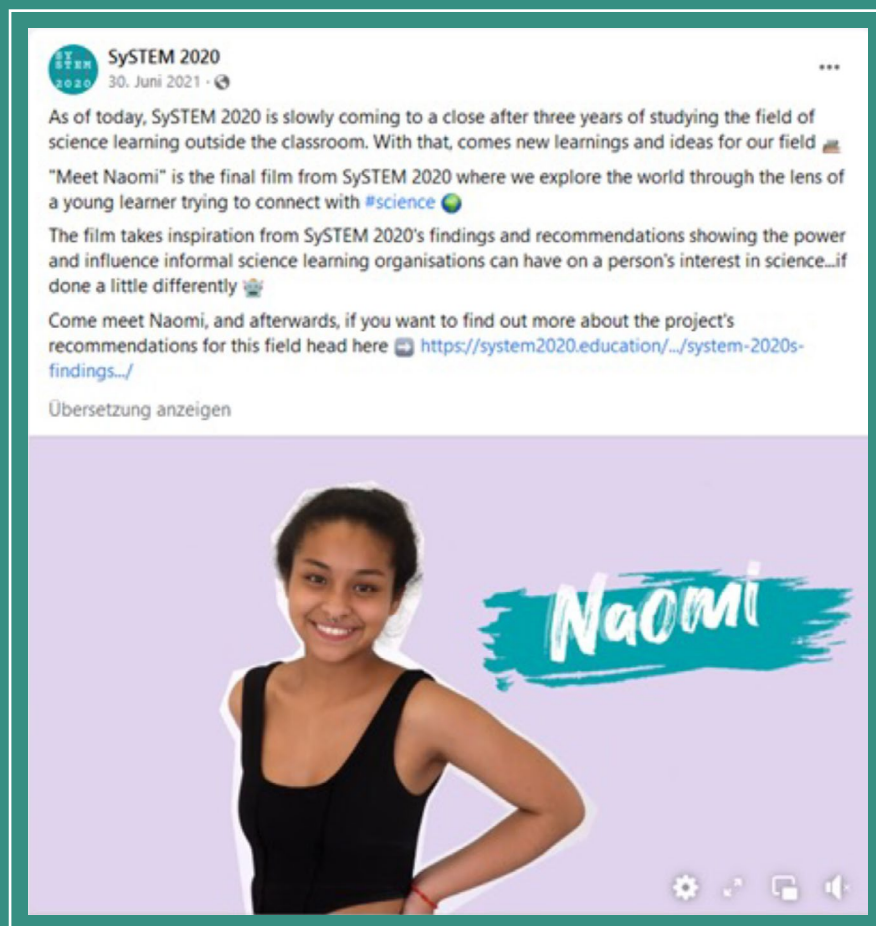


Figure 5 Communication example 2

Suggested assessment:

project message

Link to video: <https://system2020.education/meet-naomi/>

- + meaningful introduction
- + link to project findings document on which video is based
- + very professional video
- video quite long (4:35 min)
- few #hashtags (though okay for a Facebook post, should/could be more if posted on Twitter, for example)

Example 3: Poll of the month (NanOpinion)

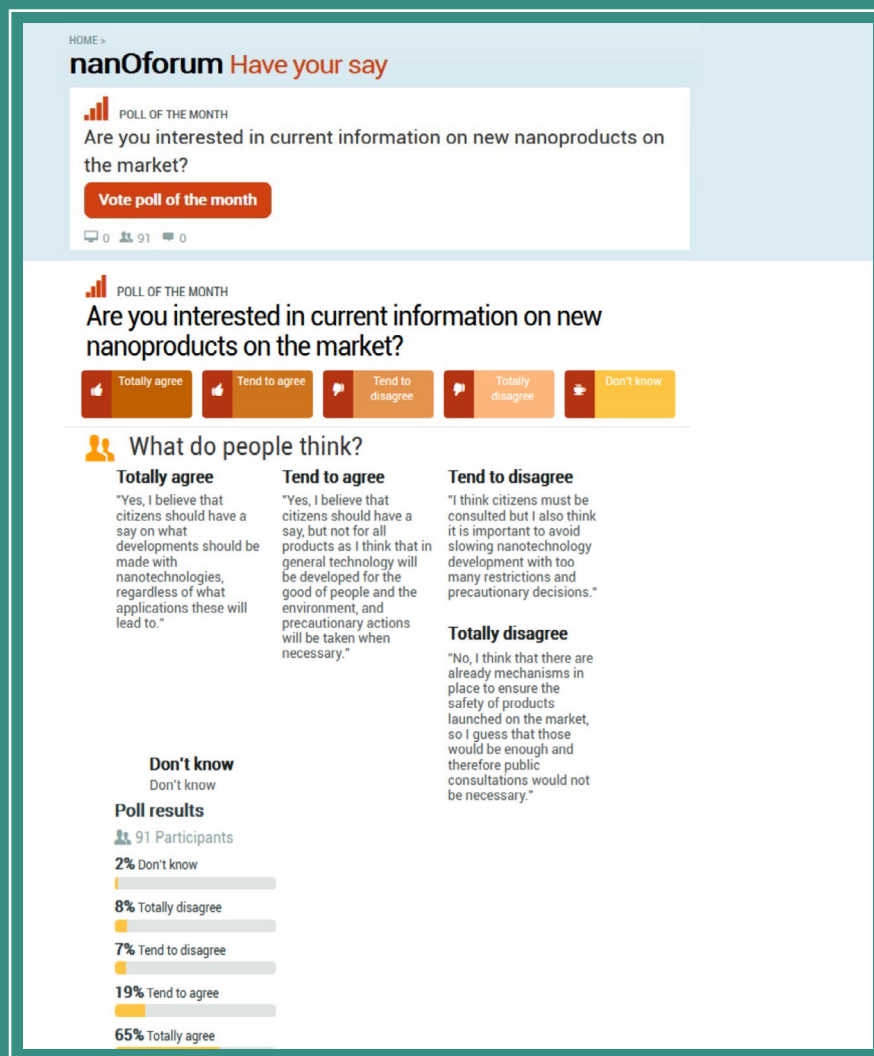


Figure 6 Communication example 3

Suggested assessment:

communication with regard to a certain topic/subject ("what do people think" was used as support to help participants make up their mind (one argument per answer option was given)

- + interactive, activating
- + mutual communication, not one way // feedback from/about users/CS
- + could be used as quiz as well
- + one single question.
- + providing immediate results
- + good aesthetics
- opinions given easy should be formulated in plain language to be inclusive
- requires time
- assumes people already know about the topic
- could be disseminated via media partners/multipliers/network partners; to be used in app or via SM

One rapporteur reports briefly to the plenary afterwards.

7 Exercise: Expert tables

Topic: “Exchange experiences and get inputs from experts on three topics”

Procedure: 3 topic “tables” or rooms with experts

Setting: 3 break out rooms in 3 rounds

Materials/tools needed: Miro board or flipchart per group

Time needed: 15 minutes per round = 45 minutes in total

This exercise is to make expertise and experiences of certain persons (“experts”) accessible for the rest of the group. These experts host one “table”. Potential topics could be: social media campaigning, recruitment strategy (including different channels, frequency etc.) and main principles of science communication (including language, visualization etc.).

Procedure:

Create 3 break out rooms, each hosted by one designated expert of one topic. Introduce the experts and topics and respective room numbers. The procedure is rather similar to the **World Café approach**: mixed small groups visit the tables, get inputs and discuss experiences there.

After 15 minutes, groups change to the next table, are introduced by the host on what was discussed before, and add to the results. Again, after 15 minutes, there is another group change for the last round.

Results are shared on Miro boards or flip charts per group and briefly presented in the plenary afterwards. In addition, table hosts prepare a short written summary of the discussion, maybe with screenshots or illustrations, to be shared among participants.



Use random mix function in ZOOM to create groups

8 Energizer Exercises

Energizer Options

8.1 "Dance the alphabet"

Topic: "Refresh mind and body"

Procedure: Common movement and speak out loud together

Setting: ZOOM shared screen, microphones and cameras open

Materials/tools needed: letter board

Time needed: about 1 minute

This exercise is to get participants move a little and re-fresh their brains. In this movement and coordination exercise, mistakes and fun are inevitable.

Ask participants to stand up and open the board below (either with shared screen or on miro board):

A	O	U	Z	N	
<i>L</i>	<i>R</i>	<i>B</i>	<i>R</i>	<i>L</i>	
H	B	L	K	D	
<i>B</i>	<i>L</i>	<i>L</i>	<i>R</i>	<i>R</i>	
T	P	V	J	M	
<i>B</i>	<i>L</i>	<i>R</i>	<i>L</i>	<i>L</i>	
S	R	E	I	C	
<i>B</i>	<i>R</i>	<i>R</i>	<i>L</i>	<i>B</i>	
X	G	Q	F	W	Y
<i>L</i>	<i>R</i>	<i>B</i>	<i>B</i>	<i>R</i>	<i>L</i>

Figure 7 Letter board

Show letter board via shared screen and ask whether the letters (also the small ones) are clearly visible for the participants). The meaning of the letters is as follows: the large letters in bold need to be read and spoken out loud, the small letters (L, R, B) determines the arm movements that should be made. L means lifting the left arm, B lifting the right arm and B lifting both arms.

All participants open their cameras and microphones. All together, they pronounce the letters aloud one at a time - as written in the table, while simultaneously moving their arms as indicated in the cell below each letter.

8.2 “Smiley imitating contest”

Topic: “Release and have fun”

Procedure: Participants imitate the smiley face as shown in the camera

Setting: Plenary, facilitator holds different smileys in front of the camera

Materials/tools needed: A set of different smileys to be shown in the camera

Time needed: about 2 minutes

“Smiley imitating contest”: “Smiley imitating contest”: All participants open their cameras (mics closed) and come close to the screen. The facilitator holds up prints of different smileys (see figure 2 below) in front of the camera. Everyone tries to imitate this face at the same time and shows it into the camera.



Figure 8 Examples of smileys

8.3 “Bring something”

Topic: “Making participants move and telling something personal”

Procedure: Participants are asked to bring an object

Setting: Participants leave their places in front of the camera

Materials/tools needed: to be announced

Time needed: depending on the object

Ask participants to go and get an object.

Options:

- Bring something fluffy (e.g. a wool scarf)
 - Bring something which makes you happy
 - Go outside and bring a photo (and show it on your smart phone)
 - Bring your favourite snack
- etc.

When they are back, call one after the other to show the object into the camera and tell about it.



Good to use after a break, when participants are asked to bring an object when they come back after the break.

8.4 “Show something blue”

Topic: “Loosening up”

Procedure: Participants grasp object ad hoc

Setting: Plenary, open cameras

Materials/tools needed: nothing prepared

Time needed: 1 -3 minutes

Participants should spontaneously grab any object that fits the description “blue” and point it into the camera at the same time. Change colours or use other descriptions. Make screenshots for the internal gallery.

8.5 “Where is everybody?”

Topic: “Making participants move and telling something personal”

Procedure: Participants disappear

Setting: Plenary, open cameras

Materials/tools needed: Nothing prepared

Time needed: 1- 3 minutes

Participants are asked to completely disappear from the screen. Firstly by sliding on one side, then on the other side and finally downwards.



Facilitator shows first how it works.

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