

# Telepresence Robots for Intercultural Exchange

# Telepresence Robots for Intercultural Exchange

Telepresence robots can help work and visit others safely and interact through video while moving around freely. The technology therefore also provides great potential for intercultural exchange and foreign language learning. In a school context, children from different countries can easily visit and learn from each other and introduce each other to their school, their town or a museum as if they were in the same place, creating opportunities for learning and communication. Children can engage in face-to-face conversations, exchange stories, and collaborate on projects with the ease and spontaneity of an in-person encounter.

Telepresence robots can be used, for instance, in three different kinds of activities:

1. **Intercultural Encounter:** just meet students from another culture, use the opportunity to speak a joint language, and learn about the world and how things are different in other cultures
2. **Foreign Language Learning Classroom:** invite a native speaker into your classroom as an informant about the language you are teaching, and as the living proof that there are good reasons to learn the language you are teaching
3. **Joint Project Work:** carry out joint project work in a joint language with a group from another country, providing opportunity to practice the other language, providing evidence that especially environmental issues are problems that need to be addressed globally, and providing opportunities to connect to students in other countries.

In this document, we will introduce these three activities involving robots step-by-step, but feel free to adapt the materials we provide to the specific circumstances in your school; the material provided here is just meant to be inspirational.

## Before you start...

- There are some **technical issues** that need to be taken into account:
  - Is the telepresence robot fully charged?
  - On which computer will your students drive the robot in the other country?
  - Do you want to display what the robot operator sees for all students in the classroom? Do you want to make available what they hear? Then hooking this computer up to a projector and microphones may be useful.
  - Do you have a stable internet connection? If you want to move around outside can you provide a mobile hotspot?
- When someone is joining on your telepresence robot, do you have enough **space** for the robot to move?
- What is the **route** you plan to take the robot? Is it only in school or outside as well? (Consider weather conditions, light, schedules: when is a place packed or empty, width and height of the robot and floor surface)
- **How big is the group?** Who is going to talk? (consider noise: it will be hard to understand if too many children speak at the same time)

- Make a **schedule** for the day and determine **different groups** who prepare different points on the agenda
- **Role distribution:** Which role are students / the teacher going to have? (Active facilitator or more in the background?)
  - Who takes over the direct dialogue with the students in the telepresence robot? Who makes sure the robot can drive freely?
  - On the other side: who drives the robot? Is it only one person or do students rotate?
- How can you **prepare for the dialogue** with foreign speakers? Role play / dialogue?
- How are the language skills of your students and the students from the other class? Are there any native speakers or people who could jump in in case of challenges?
- **How much time** is each school going to have for their takeover?

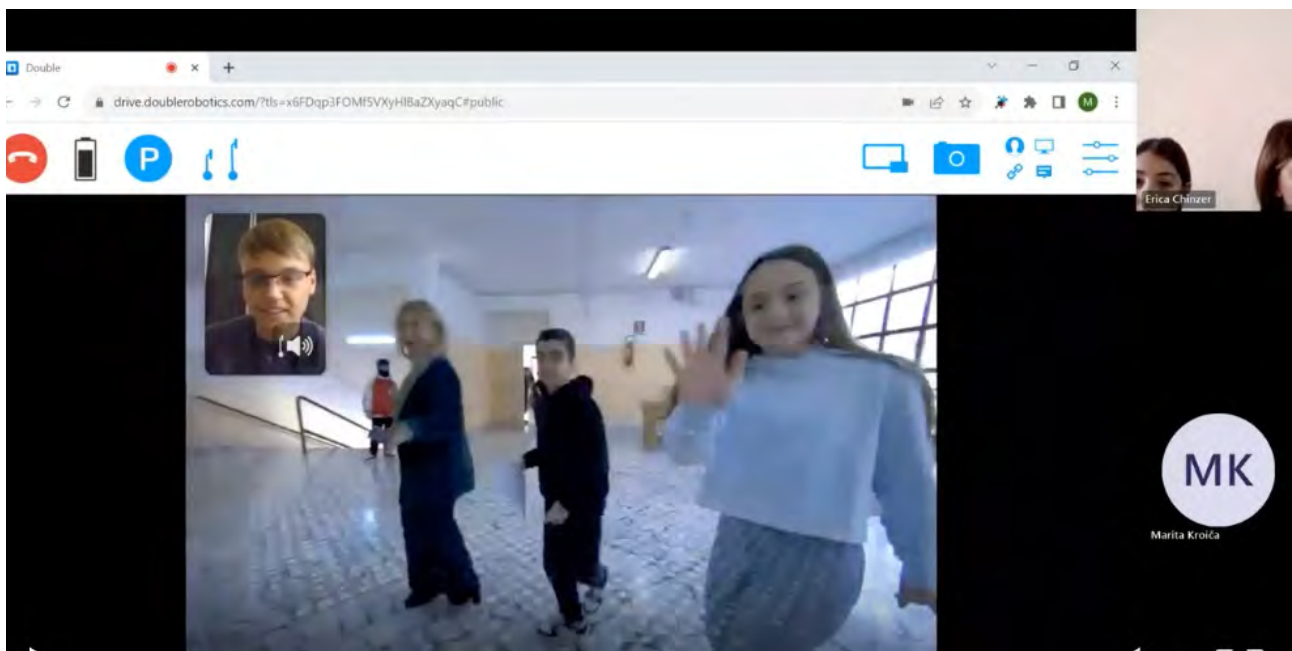


Figure 1: Example set-up for an intercultural encounter: One person is operating the robot, but other students are watching via zoom

## 1. Virtual Visit

A virtual visit can take place in all kinds of environments. In class, students can decide together where they want to bring the other students and what place might be especially interesting or impactful to show. Maybe there is an impressive lab in school or an imposing monument in town that they would like to present to the other students on the Telepresence Robot. Potentially there is a landmark in town that students could show while presenting some additional background knowledge. If the students decide to concentrate on the direct interaction maybe the location might not be as important to them. They could also decide just to have a conversation in a quiet environment, cook some food in a kitchen or perform a dance in a spacious environment where they could even include the robot in the movement. There are many different possibilities to choose from. The only thing to keep in mind is the condition of the floor. It is advisable to visit a space with an even floor in order to enable safe control with the Telepresence Robot.

## 1. Presentation of class

Start off with preparing how you want to present who the class is. Let the students brainstorm about how they want to introduce themselves to give the other group a good idea who they are talking to:

- Who are your students? How old are the children in the other class? Who is their class teacher? Why are your students excited about the exchange? What do they look forward to? And what are they proud of themselves?

## 2. Presentation of your school / town

As the other students come from another country they probably do not know that much about your school or home town yet. You are the experts! Provide them with an inside look at where you are coming from with personal and interesting facts – More than what they find when googling it.

1. What is worth showing?
2. What is special about your culture/country/town?
3. What is the history of that place? What is it famous for? Fun facts? Favorite food/places? (“When in XY you should definitely visit XY”)
4. Are you taking the telepresence robot to a place in town or are you presenting your school? Where could you take them? Make it interactive and interesting. Are you showing pictures, using role-play, posters, video, music, dance, interactive route with obstacles, quizz...?

## 3. Show your school

Present your school to the other students engagingly and interactively.

1. What is worth showing? Is there anything special about your school (facilities, a garden, library, cafeteria, atrium) For instance, many schools do not have a cafeteria, so if you do, this may be interesting to the other students.
2. Is there any art or trophies that can be shown?
3. Any award the school earned for being extraordinary in any field?
4. Anything your class is especially proud of? Special hobbies, initiatives, achievements?
5. Are there special courses/programs/sports club?
6. Are there interesting exchange programs?
7. Discuss how you can guide the drivers of the telepresence robot. Are you using sign language / gestures?

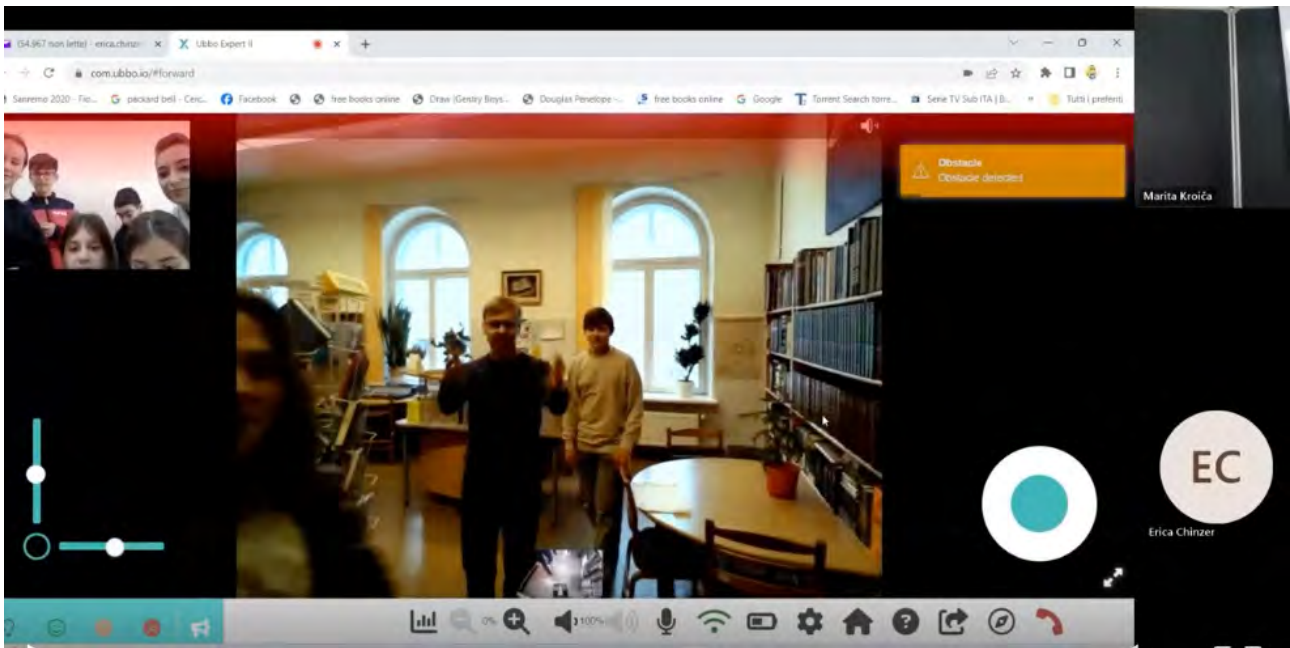


Figure 2: Latvian children present their library to a group of Italian students

#### 4. Questions for the other school

Time to hand over the microphone. What would you like to know about the other school? Try to prepare some questions in advance and add some on the run.

1. What do you want to know about the other school?
2. What do you want to see?
3. Is there anything you have always wondered about the country/language/culture?
4. From what you have seen so far what might be similarities/differences?

#### 5. Joint activity

Think of an activity that can be shared remotely.

1. What is something that can be done together even if you are not in the same place? Is there a game or quiz you can play? Do you want to record a joint video?
2. Is there anything the students can teach to each other? (A dance, game, recipe, song)
3. What are your students especially good at / passionate about?

For inspiration, please check out the video we created of such an intercultural encounter between students in Riga in Latvia and Naples in Italy:

<https://www.linkedin.com/feed/update/urn:li:activity:71173646393176272896>



## CLASSROOM IN SPAIN



## CLASSROOM IN DENMARK



## 2. Collaborative language learning

A foreign language learning class that invites native speakers of the respective language into the classroom using a Telepresence Robot can be an enriching and immersive experience that motivates children to communicate in the foreign language. The telepresence robot establishes a connection, allowing the students to see and hear each other as if they were in the same room. Utilizing telepresence technology enables students to engage with peers of diverse cultural backgrounds, enriching language proficiency while broadening their global perspective. This cooperative language learning method not only enhances linguistic abilities but also nurtures empathy and understanding across cultures.

An orientation session may take place to familiarize students with the technology and set expectations for the class. You may also add other technologies and other channels to the experience to allow for more one-on-one interactions and hence for language learning. But simply bringing one student from the target culture in will be immensely helpful to the students. So we suggest that you either organize a session with one or a few students from the other country as we describe below, or that you carry out a joint project with another class as described in section 3.

### 1. Presentation of class

Start with presenting who the class is. Try to give a good idea of who the other students are talking to:

- Who are your students? How old are the children in the other class? Who is their class teacher? Why are your students excited about the exchange? What do they look forward to?

## 2. Conversation between students

A good way to learn a language is to have a conversation casually.

- What do your students want to talk about with the other class? What are potential topics they are interested in or passionate about? (Hobbies, music, movies, politics, school, culture)
- Who is going to talk? Keep in mind that not everyone can speak at the same time. Distribute different roles and let students take turns. Maybe they can form smaller groups and prepare different topics to talk about.
- Let them prepare some questions they would like to ask the other students.
- Let your students prepare for the conversation by rehearsing potential dialogues and scenarios.

## 3. Learning from each other

- Is there a typical song, tongue twister or poem in your language your students can teach the other class?
- Try to perform it together.
- If it is a song can you form different singing groups as in the choir or canon?

## 4. Discussion

To have a more complex conversation students can discuss about specific topics they feel passionate about. Are there complex problems where the students from the other school might have a different perspective to?

- Is there any global problem that can be discussed? (Politics, environmental, global, pop culture, movie...?)
- Let your students prepare different perspectives (pros and cons) and let them ask the other group what they think about a specific topic

## 5. Language games

Language games can make the learning process more playful and fun.

- Brainstorm together with your class if there are games you can play only with words to help the students learn a language (e.g. Simon says, explaining words as in the game charade...)
- Ice breaker game to get to know each other. Ask either or questions and the students have to position themselves either on the right or left side of the Telepresence robot ("What do you like better...? e.g. Pizza or Burger? Books or Movies? Summer or Winter? Nature or City? Let the students come up with more either or questions)

## 3. Joint Project Work: Climate Change Action

Joint project work can involve students from two countries and lead to tight collaboration in the shared language, and especially for older students it may be very interesting to go beyond the mere introduction and intercultural contact and into joint action.

Your collaborative projects could revolve around climate change action, for instance. By engaging collaboratively in projects around climate change, students not only develop a better understanding of environmental issues and deepen the intercultural relationship but also enhance their language understanding. Immersed in discussions and research on climate topics, students naturally expand their vocabulary repertoire in the target language. As climate change is a global issue that affects



communities worldwide, collaborating with peers from different cultural backgrounds exposes students to diverse perspectives on environmental challenges and solutions, fostering cultural awareness and empathy.

There are many topics to choose from that could potentially be addressed within the project scope. Collaboratively students can brainstorm on different problem areas they are especially interested in and passionate about. It will strengthen the connection if one of the groups is a 'case owner'; that is, the topic could be a topic that one of the groups has worked on already, like, say, Romanian rivers or recycling in Naples.

In the next step, the students can discuss the suggested topics and decide where to put their focus. After agreeing on one problem area, the topic can be discussed from different perspectives to gain a holistic understanding of the issue. Potential questions that can be discussed could be what exactly the problem is, what could be done to solve it and why people do not do it or what the challenges are they are facing. Only by understanding the whole scope of the problem and the challenges it provides, potential solutions can be discussed. Students can share their perspectives, knowledge, and experiences and compare how their own (or other) countries deal with the problem they chose. In the end, the findings can be documented and presented to other groups.

The topic finding process could take these steps:

## 1. Brainstorm topics

- Which problem should be addressed? What topic do students feel especially passionate about? What gives them hope/ what worries them? (Potential problem areas: General: waste, meat consumption, energy consumption, internet use, renewables...)

## 2. Specify the problem

- Are there local problems that may require a global approach? (Clarify the problem, find challenges and possible solutions. Example: Recycling: Where is the problem? Why don't people recycle? How should it be done?)

## 3. Present the topic to the other class

- Let students describe and document the problem for the collaborating class. How can it be done visually and interactively? (Videos, role-play scenarios, discussions, pictures, numbers...)

## 4. Open discussion

- Brainstorming exercise with partners from the other country: What do you think where the problem lies? Do people not know? Are they lazy? Is it too hard to do something about it? Is it a habit? Are people confused? Do people think it doesn't matter? Depending on the answer, one can do different things
- What do the other students think about the topic? Do they have another perspective, new input or ideas for possible solutions? Do they disagree?
- How does their country handle the topic? How does your country handle it? Compare!

The next step will then be to connect with the other group via telepresence robots and possibly other means, i.e. other teleconferencing software.

## Joint Climate Change Action Take (joint) action

It is one thing to identify possible solutions, but by taking action on environmental issues, students can make a positive impact on the world, and build a more sustainable and equitable future for all. As everyone is impacted by climate change, no matter which country they come from, a shared



sense of purpose can foster a sense of solidarity and mutual understanding among the students. Taking collaborative action on climate change issues offers a powerful platform for deepening intercultural relationships between students. Naturally, joint climate action can take various forms, both on-site and online, to engage communities and raise awareness effectively.

Students may come up with actions that they want to carry out onsite, for instance:

## 1. On-site options

1. Each class makes a joint site visit to observe people's behavior: what do they do?
2. Make a strategy together with the students from the other school and compare your findings
3. Come up with a sticker, a sign, a poster etc.
4. Each class makes another joint site visit with the sign and observes people's behavior again: What do they do now? Is there any difference?
5. Revise your sign, sticker, and poster if necessary
6. Compare the findings from both countries: Do people react differently?

These activities can be carried out by taking the remote students on site visits, taking short videos that they present and the like. Alternatively, groups of students can work in hybrid teams on activities like the following:

## 2. Online options

- Make a video for Instagram, YouTube etc.
- Share it on social media

Below, please find some sample slides you can use to initiate behavior change; the Fogg Behavior Model suggests that we can change people's behavior, for instance, by increasing their motivation – for example, by creating empathy for animals or people affected by certain action, by informing them about the consequences of their actions, by giving them positive examples etc. This is the y-axis of the Fogg Behavior Model. The x-axis concerns the ease by means of which the new behavior is performed. For instance, you can find a way to make behavior fun or easier. Third, there needs to be a trigger for a certain action, like donate here now or sign *this* petition etc. The model serves as a nice inspiration for the design of behavior change interventions.

# Ideas

- joint project during a language learning class, e.g. students of Spanish carrying out some collaborative task with students from a Spanish-speaking country
- joint climate action

# Climate Change Action

- prepare in each class the problem addressed
  - e.g. recycling
    - where is the problem?
    - why don't people recycle?
    - how should it be done?
  - ...to describe and document the problem for the collaborating class
- potential problem areas:
  - general: waste, meat consumption, energy consumption, internet use, renewables...
  - specific problems: local problems that may require a global approach

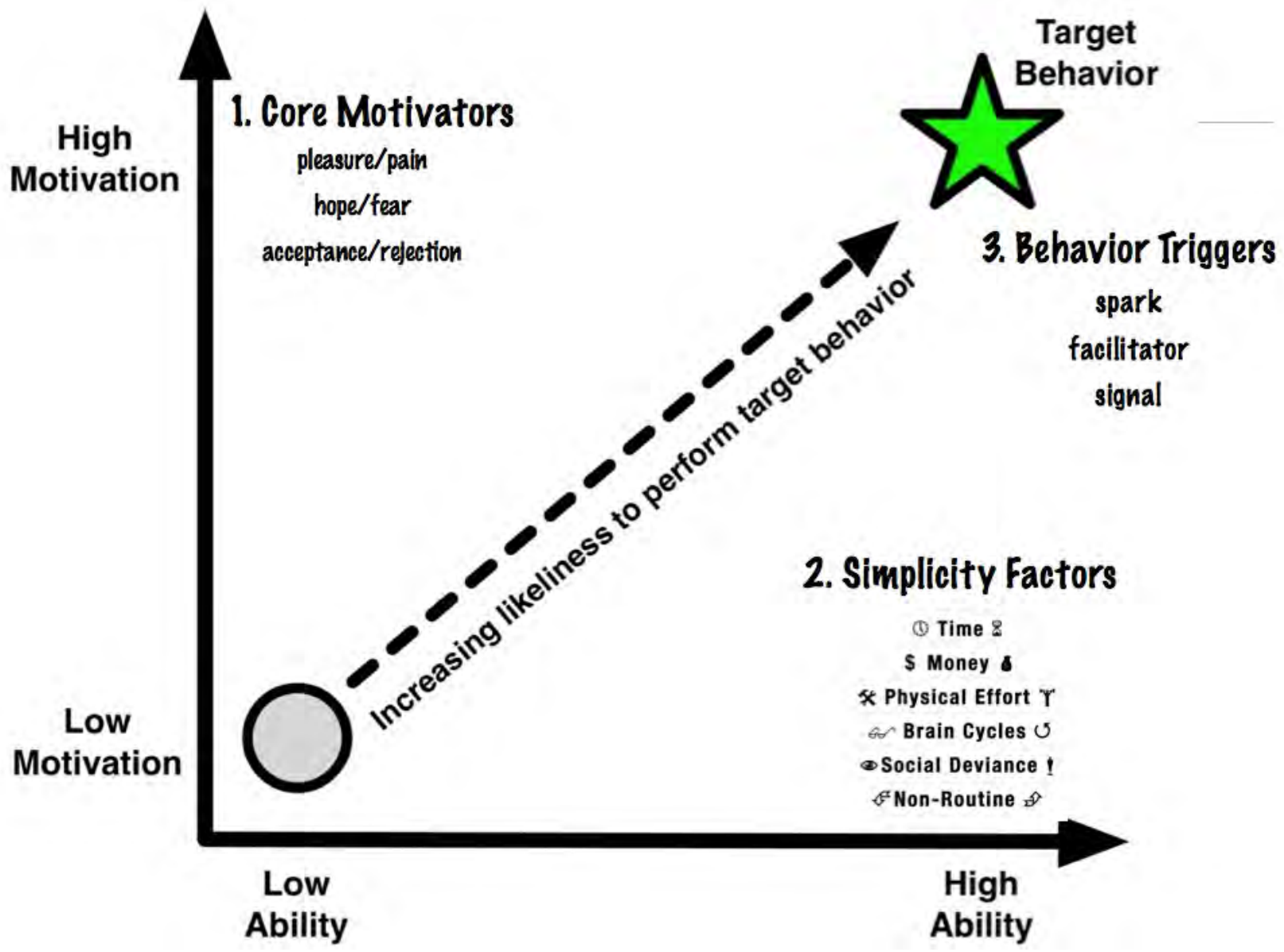
# Example: Internet use

- each time we load a website, we produce 3gr CO2 on average
  - see carbon footprint calculators for the web:  
<https://sustainablewebdesign.org/calculating-digital-emissions/>
- when streaming a YouTube video, only a small fraction of the energy consumption is used in our homes



# What do you think where the problem lies?

- brainstorming with partners from the other country
  - What do you think where the problem lies?
    - do people not know?
    - are they lazy?
    - is it too hard to do something about it?
    - is it a habit?
    - are people confused?
    - do people think it doesn't matter?
  - depending on the answer, one can do different things



# Take (joint) action

- on site
  - make a joint site visit
    - observe people's behavior: what do they do?
  - come up with a sticker, a sign, a poster etc.
    - observe people's behavior: what do they do now?
  - revise your sign, sticker, poster if necessary
- online
  - make a video for Instagram, YouTube etc.
  - share