

Learning objectives

The aim of this game is to provide students/participants with an opportunity to identify and reflect on ethical issues in citizen science including research data, data recordings, supervision, and participation of citizen scientists in research projects. The aim of the game is to teach master and doctoral students to ethically conduct research that includes citizen scientists, while also recognizing breaches of responsible conduct of research, and knowing how to avoid it.

By the end of this role-play, the participants should be able to:

- identify possible ethical issues in citizen science.
- recognize the appropriate grounds for data reliability in research.
- recognize the importance of defining the various roles of those involved in research in advance in order to avoid potential disputes and disagreements.

Target Audience

Master students, doctoral students, and their supervisors.

The Scenario

The game is designed as a role-play with participants that have different agendas. The aim is to identify and reflect on various ethical issues that might arise when engaging citizen scientists in research projects. These concerns should emerge as the participants engage in their roles and discover all the complexities that might not be obvious at first. Participants are encouraged to pose questions and address their concerns.

Roles

General information

Oliver, a doctoral student, is facing a difficulty with securing important data for his doctoral thesis on the thickness of the ice sheet of a glacier. Until now, the student has been able to provide some data through satellite images, however, due to the cloudy weather, he is not able to do so anymore and this will postpone his data collection for several months. Oliver is under huge pressure because he has a deadline to meet and needs to submit his data collection to the advisory board. One way to move forward is by engaging citizen scientists in his research project to help him collect the necessary data. You are in the meeting that includes all the stakeholders related to the doctoral thesis, including Oliver, his supervisor(s), citizen scientists, representatives of the financial institution that is financing the project, and the institutional oversight representative. Citizen scientists are adventurers who are willing to carry out the necessary measurements and help to gather the necessary data.

Role 1. Oliver (the doctoral student)

Role 2. Supervisor

Role 3. Financial officer(s) of the funding agency

Role 4. Institutional oversight representative

Role 5. Rob (citizen scientist 1)

Role 6. Lea (citizen scientist 2)

Role 7. Josh (citizen scientist 3)

Game Design / Instructions

This is a role-playing game where each of the participants takes one role. Each role should be distributed only to the student assigned a particular role.

Number of participants: 7

Estimated time: 1h

- Read your role and prepare yourself for the meeting by reading the recommendations from [The Fundamental Values of Academic Integrity](#) and the principles from the [European Code of Conduct for Research Integrity](#) (15 min)
- Role-play (25 min)
- Follow-up discussion (20 min)

TIME TO ACT! Be creative

The meeting may start when everybody has read their role description.

Possible trajectory of the role-play (but not limited to this scenario)

Step 1. The student starts the meeting and explains why he has called the meeting.

Step 2. The student then introduces the citizen scientists one by one.

Step 3. The citizen scientists express their interest in participating in the project.

Step 4. The supervisor, the financial officer of the funding agency, and the institutional oversight representative express their concerns.

Step 5. Final verdict (all parties should vote)

Further Resources

- General guidelines for academic integrity: <https://www.academicintegrity.eu/wp/guidelines/>
- The European Code of Conduct for Research Integrity: <https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>
- Guidelines for Research Ethics and Research Integrity in Citizen Science: [Guidelines for Research Ethics and Research Integrity in Citizen Science](#)

Role description: Doctoral Student

You are a doctoral student and desperate to meet the deadline for the data collection. Taking satellite images of the thickness of the ice sheets which you need in your research is not possible due to the cloudy weather. The only way to secure the data is by involving citizen scientists in your research project. However, you need approval from the supervisor(s), the financial agency, and the institutional oversight in order to proceed with the data collection. You are now at the urgent meeting you have called which includes your supervisors, citizen scientists, financial officers that are financing the project, and the institutional oversight representative. In the meeting you inform them about the possibility of involving citizen scientists to measure the thickness of the ice at the location and that the citizen scientists have agreed to carry out the measurements for free.

Do your best to convince your supervisor(s) and others to allow you to include citizen scientists in your research project. Come up with a plan for how to convince them. Try to anticipate the issues which all parties at the meeting might address. What do you do?

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Role description: Supervisor

You are a thesis supervisor of a doctoral student. The student has called an urgent meeting between the supervisor(s), the citizen scientists, financial officers (financing the project), and the institutional oversight representatives. The student informs you about the current status of the data collection and that the process of data collection has terminated due to cloudy weather and that his plan to measure the ice sheet of the glacier is impossible because the satellite images just won't do. However, the doctoral candidate has come up with a solution. The student informs you that he/she wants to include citizen scientists who are willing to go and carry out the necessary measurements and deliver the results. You meet your doctoral candidate, the supervisors, citizen scientists, financial officers (financing the project), and the institutional oversight representative at this meeting. You are asked by the doctoral candidate for the permission to continue with the data collection by engaging citizen scientists.

Please think of all possible ethical reasons/concerns why you would or would not allow your doctoral candidate to include citizen scientists in his research. Make sure you address all aspects of your concerns.

What will you do?

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Role description: Financial officer(s) of the funding agency

You are a financial officer of a funding agency that wants to be sure that the project is implemented according to the plan. Your main responsibilities include the overall financial progress of the project. Your responsibilities include but are not limited to finances and accounting. You need to make it clear to everyone involved in this project that all aspects of finances must be impeccably planned, justified, and executed according to the plan. Any failure to meet these criteria will result in overall delays in financing project activities including employee pay records, benefits, as well as approval of the payouts.

Make sure that you explain to all the constituents that all activities will be subject to financial monitoring and that every expenditure in the budget within the project must comply with the previously approved policies.

Please think of all possible reasons/concerns why you would or would not allow your doctoral candidate to include citizen scientists in his research. Make sure you address all aspects of your concerns. What will you do?

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Role description: Institutional oversight

You are a representative of the authorities. Your official role is to make sure that the research project is carried out successfully and ethically. You need to make sure that all institutional administrative procedures are met at every step of the project, including internal and external procedures. This includes Regulatory Compliance (following local, national, and international regulations and laws that are relevant to the specific activity which is carried out). You need to make sure that all the interests of the institution are met and all the criteria are fulfilled to pass the rigid review process. Make sure you point out that for any potential failure to comply with these regulations, the Members of the Advisory Board — as well as the doctoral student and everyone else involved in the project — put themselves up for financial liability and the potential of lawsuits.

Please think of all possible reasons/concerns why you would or would not allow the doctoral candidate to include citizen scientists in his research. Make sure you address all aspects of your concerns.

What will you do?

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Role description: Rob (citizen scientist 1)

You are Rob, a true adventurer who is wild at heart, cares about nothing, and fears nothing.

You take part in citizen science just for the thrill and want no acknowledgment and agree to carry out the necessary measurements. You cannot really be trusted with the equipment; you have no experience in using scientific equipment but you demonstrate determination to learn and to follow the instructions from the team. You say that this citizen science project is not the main reason why you are involved: you enjoy nature and you are ready to contribute to any project that strives to preserve nature.

Demonstrate enthusiasm and passion for adventure.

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Role description: Lea (citizen scientist 2)

You are an informed individual who is interested in participating in citizen science because you care about nature and because you believe climate change has a direct impact on the environment. You are here because you want to make a change.

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Role description: Josh (citizen scientist 3)

Your primary purpose as an individual who participates in this citizen science project is that you want to contribute to the project. However, you want to remain anonymous. You have also a secret agenda you do not want anyone to find out: you are married to the CEO of an oil company. The company would like to know more about the thickness of the ice in the area because they want to dig in and around the glacier. The company has agreed to reward generously anyone who obtains information about the thickness of the ice.

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