

Workshop scenario

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Workshop title	Trees in the city and the health of inhabitants. How seniors can explore the relationship between greenery in the city and threats to the health of inhabitants?		
Field	Nature, health		
Estimated number of presenters	2	Estimated number of participants	10-15
Duration of a single workshop	60-120 minutes	Number of workshops	2
Workshop periodicity	about a week off		
Necessary equipment	Laptop, projector, Internet connection		
Necessary materials	Office supplies, smartphone, camera, magnifying glass, database of photos and information about tree species, map of green areas, questionnaire		
Workshop objectives	<ol style="list-style-type: none"> 1. Increasing the awareness of seniors about health, 2. Increasing the awareness of seniors about tree species in Toruń, 3. Increasing the awareness of seniors about role of trees (flora) in the city (on the example of Toruń), 4. Developing guidelines for building “good relations” between inhabitants, local authorities and nature (greenery). 		
Methods of work	<ol style="list-style-type: none"> 1. Discussion 2. Mini-lecture 3. Own work - collecting data using a questionnaire 4. Work in groups 		
Workshop program	In attachment		
Expected effects of the workshop	<ol style="list-style-type: none"> 1. Increasing knowledge on how to conduct citizen research. 2. Increasing knowledge on the methodology of social research. 3. Increasing knowledge about tree species, shrubs, flowers and grasses. 4. Raising awareness about role of green areas in cities. 5. Raising awareness about the impact of plants on human health. 		
Evaluation methods	<ol style="list-style-type: none"> 1. Evaluation of workshops by participants (survey) 2. Qualitative evaluation of the research tool 		

Attachments:



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Attachment no 1: Workshops scenario

WORKSHOP NO 1

Duration approx.: 60 minutes

I. Introduction and general discussion

1. Debate on the role and importance of greenery (trees) in changing cities:

- a.) What seniors think about air quality, drought and local flooding? What are these phenomena related to greenery in the city?
- b.) What impact does greenery in the city have on physical and mental health?
- c.) What are the best species of greenery (trees) for the city?
- d.) How to take care of greenery in the city?
- e.) What are the symptoms of neglecting greenery in the city?

2. An introduction to what “citizen science” is:

- a.) Role of “citizen science” for the elderly.
- b.) The role of “citizen science” for the community.

3. Defining the role and importance of older people in the field of citizen science.

The quality of life in a modern city depends on many factors, including environmental factors. A very important role is played by greenery (including trees), which affects air quality, local flooding (in the case of cities located along rivers) and drought.

Greenery (including trees) plays a very important role in physical and mental health. It secretes bactericidal compounds that protect the inhabitants from infections. Tree crowns limit UV radiation, which can contribute to the development of skin cancer. Green zones in cities also affect mental health. A walk in green areas has a positive effect on well-being, relax, and the green color has a documented stress-relieving effect.

Plants also play an important role in culture. Mystical properties are attributed to them, and they are also called "guardians of history." For example, new trees are planted as monuments to important events, and old trees are a reminder of the history of a place.

Due to the intensive development of societies and the economy, a lot of investments (roads, construction) are carried out in cities, which contribute to the change of green areas. For example: old trees are cut down for the investment. This has an unfavorable effect on the state of greenery in the city, but also directly translates into the health of residents. In cities, "green deserts" are created, devoid of greenery (and

flora), which may adversely affect the entire ecosystem and the living conditions of humans and animals.

The aim of the project is to monitor the state of greenery in the city by monitoring the existing green areas, "green deserts" and new tree plantings. Seniors, due to the greater amount of free time, but also the natural tendency to careful observation, are an appropriate group that can monitor areas. Using the resources provided by the Municipality of the City of Toruń (map of new plantings), project participants will monitor the status of new tree plantings, the status of tree care, as well as potential signs of neglect in the care of green areas (trees).

II. Explanation of the project methodology

1. Purpose of the project
2. Method of implementation of the project

III. Presentation and discussion of the research tool.

IV. Presentation of case study showing the success of research in the field of citizen science (BudBurst, Global Garlic Mustard Field Survey)

Case study no 1 - BUDBURST

Project "BudBurst" consists in collecting environmental and climate change information in local area of participants of the project. Participants are asked to observe the life cycles of trees, shrubs, flowers, and grasses to see when they have their first leafing, first flower, first fruit ripening, and to collect and submit data do researchers.

Case study no 2 – GLOBAL GARLIC MUSTARD FIELD SURVEY

Many invasive species, like Garlic Mustard (*Alliaria petiolata*), are threatening the world's natural resources, but the abundance of invasive species can vary dramatically over space and time. Scientists still do not have a good understanding of why this is so.

Through large-scale sampling, scientists can identify areas that differ in the intensity of invasion and try to understand why these differences exist. We can also compare this to variation in the native range. This may be crucial to researching new methods of control, but a large project like this could cost millions of dollars and years of work. Through the use of a simple, standardized protocol, volunteers can help to generate valuable scientific data. Private citizens will find a rare opportunity to contribute to cutting-edge biological research and learn more about how scientists come to understand the natural world.



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Project realized by scientist from Queens University (Canada), University of Tübingen, Fordham University and Colorado State University.

WORKSHOP NO 2

Duration: 90-120 minutes

I. Discussion about research tool

1. Global overview of the data collection process
2. Difficulties in the research process

II. Initial analysis of the results

Participants together with moderators (researchers) will conduct a preliminary qualitative analysis of the collected results. Workshop participants can work individually or in groups, and then share their conclusions with the rest of the team. Participants, together with moderators, will try to isolate basic activities (omissions) related to green areas (trees), the monitoring of which was a research activity, and their influence to health of participants.

III. Recommendations

On the basis of pre-analyzed qualitative data, the participants, together with moderator, will develop recommendations of activities in the field of creation and maintenance of green areas in the city and their relationship with the health of inhabitants.

IV. Summary and conclusions

1. Discussion on the value and usefulness of the implemented activities.
2. Brainstorming on a vision for further development of this type of citizen science activities.
3. Evaluation of workshops.



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Attachment no 3: EVALUATION SURVEY

Mark one correct answer

1. How do you value the workshops conducted?
 - Good
 - Rather good
 - Hard to say
 - Rather bad
 - Bad

2. How do you assess the preparation of the moderators?
 - Good
 - Rather good
 - Hard to say
 - Rather bad
 - Bad

3. How do you assess the duration of the workshops?
 - Good
 - Rather good
 - Hard to say
 - Rather bad
 - Bad

4. In your opinion, how did your skills related to the implementation of social research develop during the workshop?
 - Developed
 - Rather developed
 - Hard to say
 - Rather not developed
 - Not developed

5. In your opinion, how did your knowledge about greenery (trees) in the cities and their role for your health develop during the workshops?
 - Developed
 - Rather developed
 - Hard to say
 - Rather not developed
 - Not developed

6. In your opinion, how did your awareness of the role of greenery (trees) in the city and their influence on your health develop during the workshops?
 - Developed
 - Rather developed
 - Hard to say
 - Rather not developed
 - Not developed

7. How do you assess the difficulty of the research tool used?



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- Easy
 - Rather easy
 - Hard to say
 - Rather hard
 - Hard
8. How much time per day did you spend collecting data for the study?
- A lot (*indicate the number of hours:*)
 - Much (*indicate the number of hours:*)
 - Hard to say
 - Little (*indicate the number of hours:*)
 - Very little (*indicate the number of hours:*)
9. How do you assess the time spent collecting data for the study?
- Good
 - Rather good
 - Hard to say
 - Rather bad
 - Bad
10. Participation in the project increased my knowledge of greenery (trees) in the city:
- Yes
 - Rather yes
 - Hard to say
 - Rather no
 - No
11. Participation in the project increased my knowledge about taking care of greenery (trees) in the city:
- Yes
 - Rather yes
 - Hard to say
 - Rather no
 - No
12. Participation in the project increased my knowledge about role of greenery (trees) in the city for my health:
- Yes
 - Rather yes
 - Hard to say
 - Rather no
 - No