Community Engaged Research and Learning (CERL) for Soil Health

Module for Higher Education Lecturers

Component 2/4: Co-Creation and Community-Driven Research in CERL

Dr Claire McDonnell, Technological University Dublin

Dr Emma McKenna, Queen's University Belfast

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Session Plan

1. Quick reflection
2. Introduction to topic
3. Exercise: Creating a research question from a real-world problem
4. Reflective exercises
5. Summary
6. Next Steps / Task

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Quick reflection

Consider how much you already work with partners outside of academia (if you do at all), either through your research or through your teaching.

How collaborative are those relationships? What kinds of outcomes or outputs do they generate?

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Forms of knowledge

Scientific or expert knowledge, including the peer-reviewed knowledge produced through scientific research.

Political knowledge, encompassing that of people in positions of power and/or people able to influence decision-making processes.

Local/place-based knowledge, including the lived experiences of people in a place.

Collective cultural/generational knowledge, e.g. local and indigenous peoples' understanding of natural resource management.

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Develop research questions from a real-world soil problem

- **Listen** to understand what are the problems from the community perspective?
- **Map** how big the problems are from the community perspective
- **Scope** the problems. Carry out preliminary research (online, checking other sources of information, do answers already exist?)
- **Define** the research questions, sub-questions and related tasks.
- **Assess** the research questions – can you/your students undertake all of them? Elements of them? Do you need to consider practical details, e.g. cost, safety or ethical issues?
- **Check** the questions with the partner or against the original problems–did you miss anything? Are some elements more important than others?

You might also do some further refining of the questions.

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Exercise: Creating a research question from a real-world problem

Problem: A landscape heritage organisation has responsibility for managing walking paths in the LOESS Mountains. They get in touch to ask for some research. Their walking paths are eroding much faster than they did in the past. Due to the poor condition of the path, visitors are beginning to walk on the grass, impacting soils and biodiversity. They want to make a case for more funding from the government to help them maintain the pathways.

Simulate asking questions in an interview with the organisation

- What kinds of questions would you ask the organisation to better understand the research they need?
- What would you foresee as being areas for research that universities might carry out? What kinds of questions would you pose for (your) students?

Background: The LOESS Mountains, are a predominantly granite mountain range in the UK. Their highest mountain is 850 m (2,790 ft). The LOESS Mountains are designated an Area of Outstanding Natural Beauty. The area sees over 50,000 visitors every year. The landscape heritage organisation's activities include litter maintenance, maintenance of play parks, green lanes and rights of way, stiles, fences, bridges and interpretive panels; post-storm tree clearance, invasive species control and monitoring user numbers and events.

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Principles for building trust

There are some basic principles for building trust**. For shared responsibilities** the focus in co-creation should be on the following elements:

- Acknowledge, respect and value the legitimacy of community knowledge as complimentary or potentially contrary to academic knowledge.
- Involve citizens in problem-solving as experts on their own experiences.
- Encourage citizens become an active part of the innovation process.
- Collaboratively create an open and flexible process that supports participation and exchange, welcoming a range of citizen groups.
- Create (long-term) outcomes by changing the relationships, positions and rules between traditional stakeholders and citizens.

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Types of questions to ask research partners

Sense checking, gathering more info: What do you already know and what evidence have you already gathered? What do you know about cause and effect? What needs to be done? E.g. desk research, data analysis, data gathering, creation of business case.

Future scoping: How will you use the research? What kinds of solutions do you imagine? is it just about funding? Are there other potential solutions, such as use of different materials?

Expectation management: Have you worked with universities and/or students before? Can you live with the limitations of the research? Is there scope for negotiation? What disciplines do you think might be most relevant?

Practicalities: How much involvement they want in research design and implementation. Management of data, lone working, ethics (e.g. drone use). Costs of getting to and from sites. Support university can offer. How much the partner knows about research already.

This is a co-learning process – you are a thought-partner for the organisation
Listen, hold space and be curious. Ask hard questions carefully.

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Types of questions

- **Who:** Types of users, anyone other than walkers, what other stakeholders to involve in the discussion? What funders they are thinking of involving?
- **What:** What are the observed issues so far? What do they know and not know? Impact on soils, safety, health and wellbeing of walkers? Cost implications?
- **Where:** Which geographic areas are affected? Is it the entire site or parts of the it?
- **When?** Over what timescale?
- **Why?** What are their own best guesses of why this is happening now? E.g. types of users, numbers of users, weather conditions?

This process might enlarge the question and start to bring disciplinary focuses

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Disciplines (examples)

Physical Sciences: Geography/planning/engineering – physical infrastructure issues. How paths are designed and managed. Materials used to maintain them.

Potential research questions: Use observation/GIS/Google Earth/drone footage to assess current condition of paths / Examine changes in condition of paths over time / Assess current condition of paths and make recommendations on remediation / Carry out desk research on better materials and assess solutions implemented by other organisations.

Biological sciences: Impact on biodiversity and soils

Potential research questions: Carry out biodiversity surveys or survey particular plant species / Assess evidence already collected, e.g. by citizen scientists.

Social Sciences: Education, psychology, sociology – human behavioural change

Potential research questions: Carry out desk research on how to influence behavioural change / Conduct visitor surveys/observation to assess current visitor behaviour / Assess user groups and devise targeted plans.

Business: Economics, management

Potential research questions: Gather evidence of visitor numbers, visitor experiences, visitor demographics, potential economic impacts, etc. to inform business/funding case.

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Principles for collaboration

- Listen actively
- Give feedback respectfully
- Be honest
- Be helpful
- Have the courage to say no
- Honour your commitments (don‘t make promises you can‘t keep!)
- Be consistent
- Practice emotional intelligence
- Admit mistakes

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Principles for research design

- Research must be achievable
- Methods must be clear
- Research must be ethical
- Clear access to participants
- Organisation willing to support student
- Student and Science Shop to be recognised when report is used

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Identifying community research questions

- Check your **existing networks** (personal and professional)
- **Your university** – E.g. volunteering, work placement, careers, partnership offices?
- **Web research** – What organisations might be interested in partnering on research?
- **Crowd mapping** – Has anyone done any previous mapping of research questions in your area? (See the LOESS Crowdmapping tool for information)

TIPS:

- Find a partner with an interest in the process of engaged research as well as the outcomes
- Get a feel for their approach and activities ahead of meeting them
- Be clear about non-negotiables

See: CIRCLET Guide for Lecturers Resources to Implement Community Engaged Research and Learning in University Teaching and Pedagogy

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Next Steps:
Module Tasks / Activities

The accompanying task worksheets for each of the four module components are accessible via the LOESS project website: https://loess-project.eu/cerl-module-for-lecturers/

By completing these tasks in sequence and with reference to the learning materials, you will build a practical foundation for integrating CERL for soil health activities into your teaching and curriculum.

Tasks for module component 2:

CERL Skills, Knowledge and Attitudes: Analysis and Reflection

Task 2.1 (60 minutes)
CERL skills, knowledge and attitudes: Analysis and reflection

Task 2.2 (30 minutes)
Preparing your CERL project: Identifying a local CERL support unit or equivalent

Task 2.3 (60 minutes)
Preparing your CERL project: Preparing for your meeting

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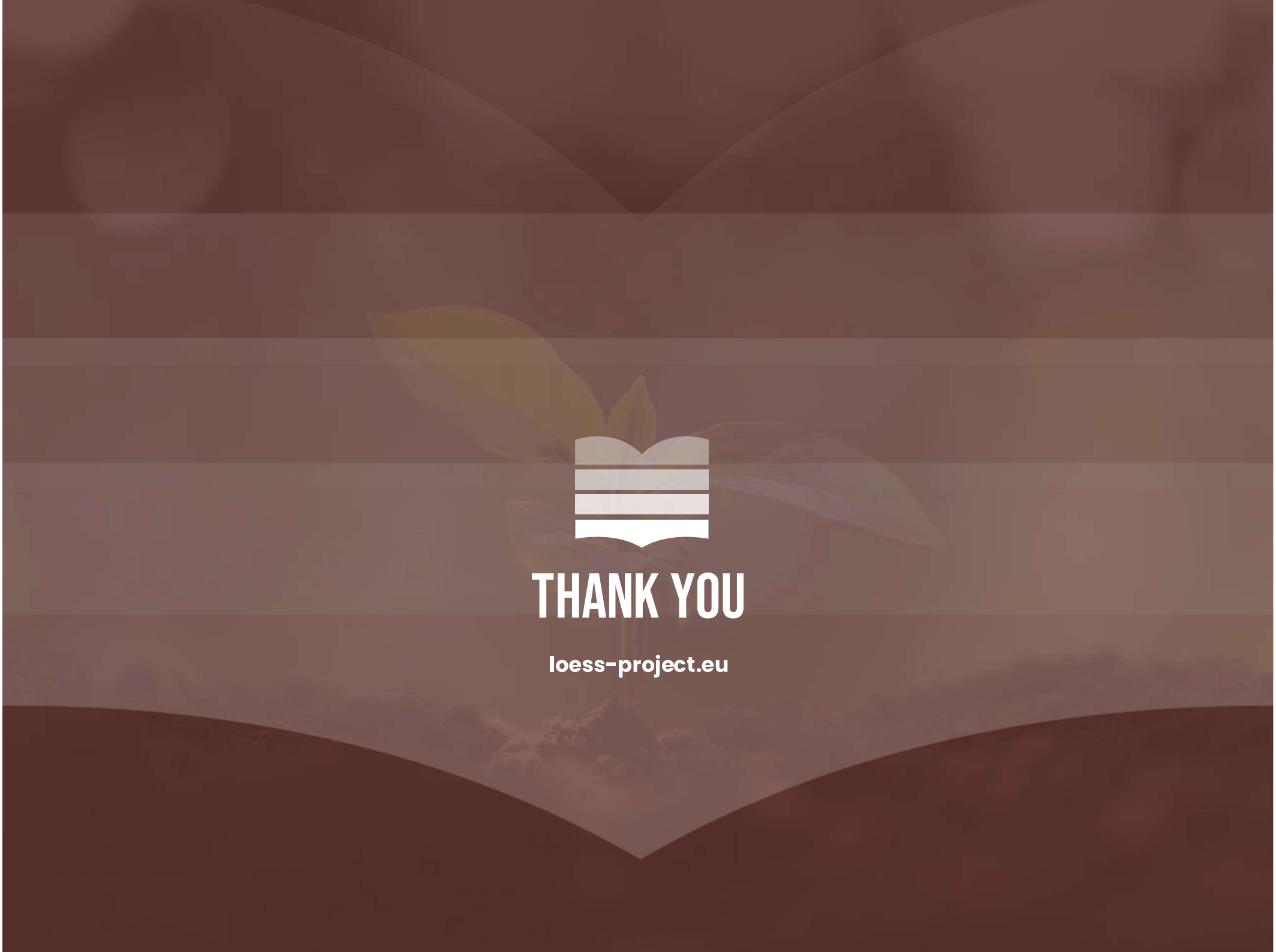
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