

# Assessing and Measuring Environmental Citizenship

Professor Bryony Hoskins, Roehampton University, London

[Bryony.Hoskins@Roehampton.ac.uk](mailto:Bryony.Hoskins@Roehampton.ac.uk)

@BryonyHoskins

- How Education for Environmental Citizenship can be measured and assessed?

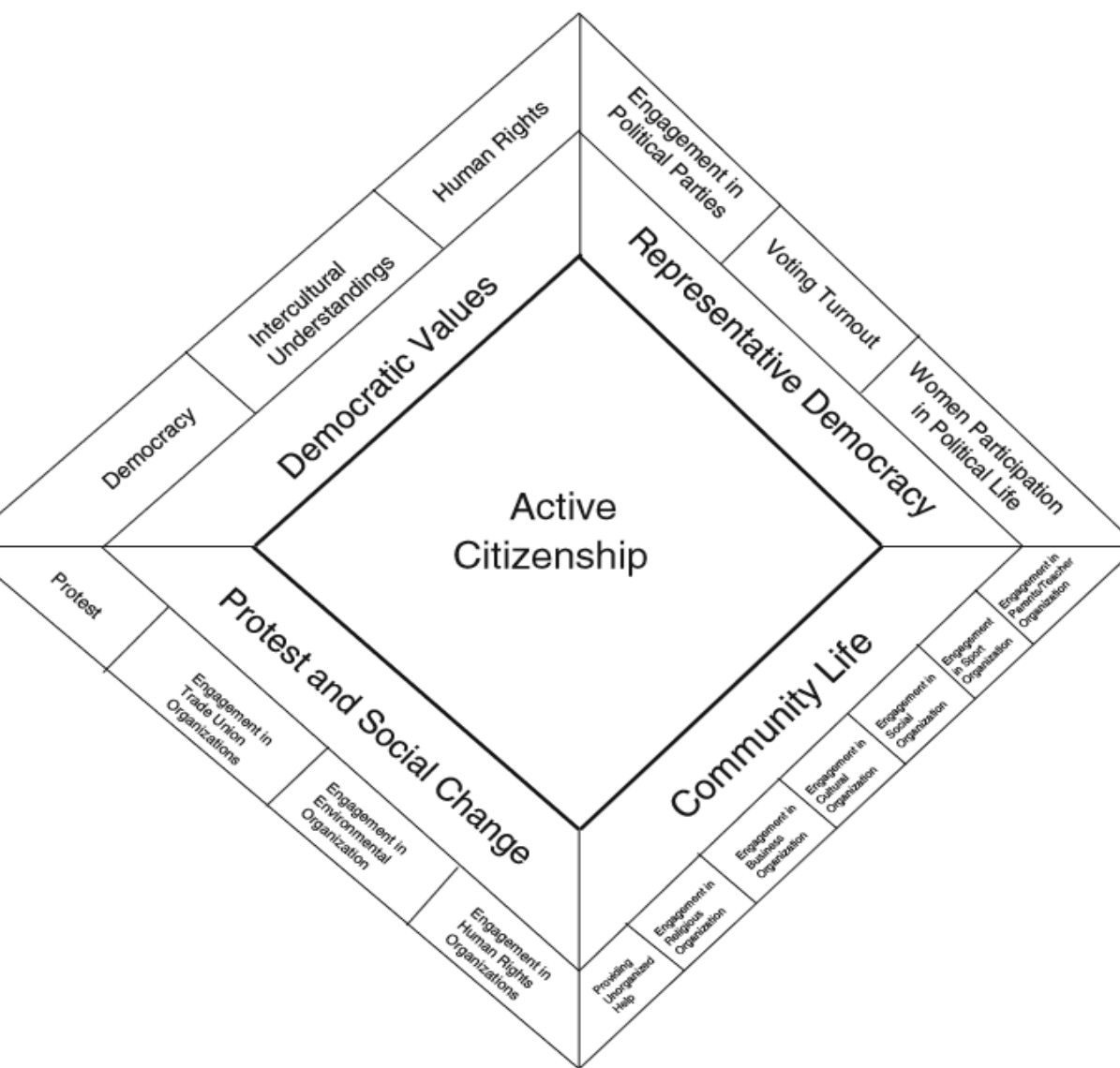
1. Portfolio of measurement tools on similar topics with diverse objectives
2. How to develop an assessment strategy  
Education for Environmental Citizenship
3. Provide a worked example for measuring education for sustainable development



1. Portfolio of measurement tools on similar topics with diverse objectives

*What can be done*

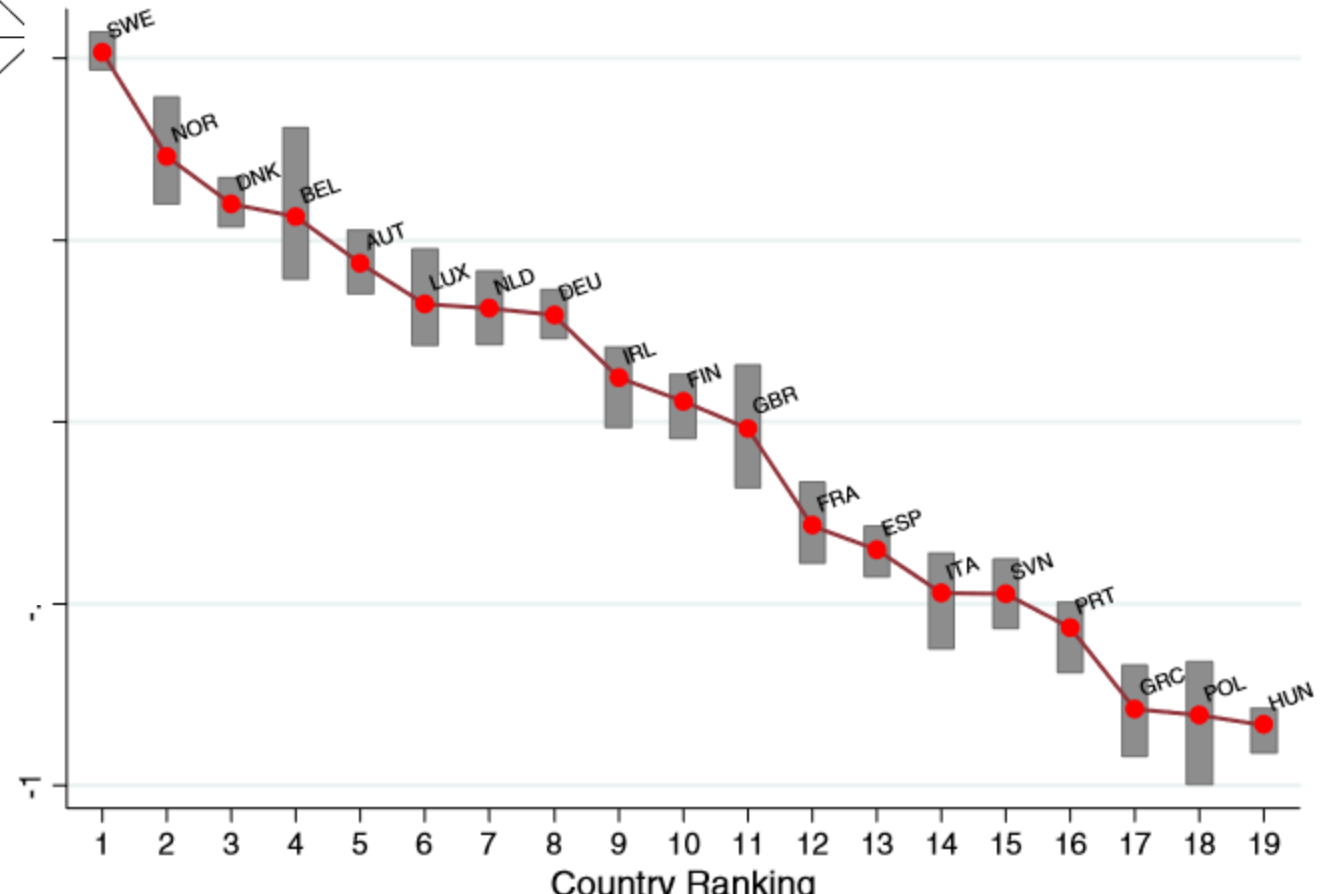




Portfolio of similar instruments:

## Active Citizenship Composite Indicator

Active Citizenship Composite indicator



Objective: Monitoring and comparing countries performances

# Active Citizenship Composite Indicator

- European Social Survey data 2002
- 16 upwards
- 61 indicators
- Theoretical framework – then tested with the data
- Expert weighting
- Composite indicator methodology OECD/JRC handbook (Nardo et al 2005)
- Hoskins, B. L., & Mascherini, M. (2008). Measuring active citizenship through the development of a composite indicator. *Social indicators research*, 90(3), 459-488.  
<https://link.springer.com/content/pdf/10.1007%2Fs11205-008-9271-2.pdf>

# Environmental Citizenship

During the last 12 months, have you done any of the following

- Deliberately bought certain products for political, ethical or environmental reasons

In the last 12 months have you been a member, participated in, donated money, volunteered for

- an organisation for environmental protection, peace or animal rights



## Knowledge & skills for democracy

Ideally measures the knowledge and skills needed for active citizenship which are wide ranging. It builds on all three models; higher level of knowledge, skills from the civic republican model; emphasis on critical thinking from the critical model; and is influenced by liberal market emphasis on basic skills of reading literacy and ability to take autonomous decisions.

4

A model of  
Civic  
Competence

## Social Justice

Measures the beliefs in equal opportunities, equal rights and the democratic process. It draws predominantly from critical citizenship and cosmopolitan values of human rights and respecting equality and diversity. In addition, it draws on the liberal values of respecting the democratic process.

3

## 1 Citizenship values

Measures the norms regarding the concept of a good citizen. They include questions on engagement in diverse activities from the more traditional voting to the less conventional protest activities. The dimension draws more heavily on civic republican traditions in terms of the conceptions of civic duty.

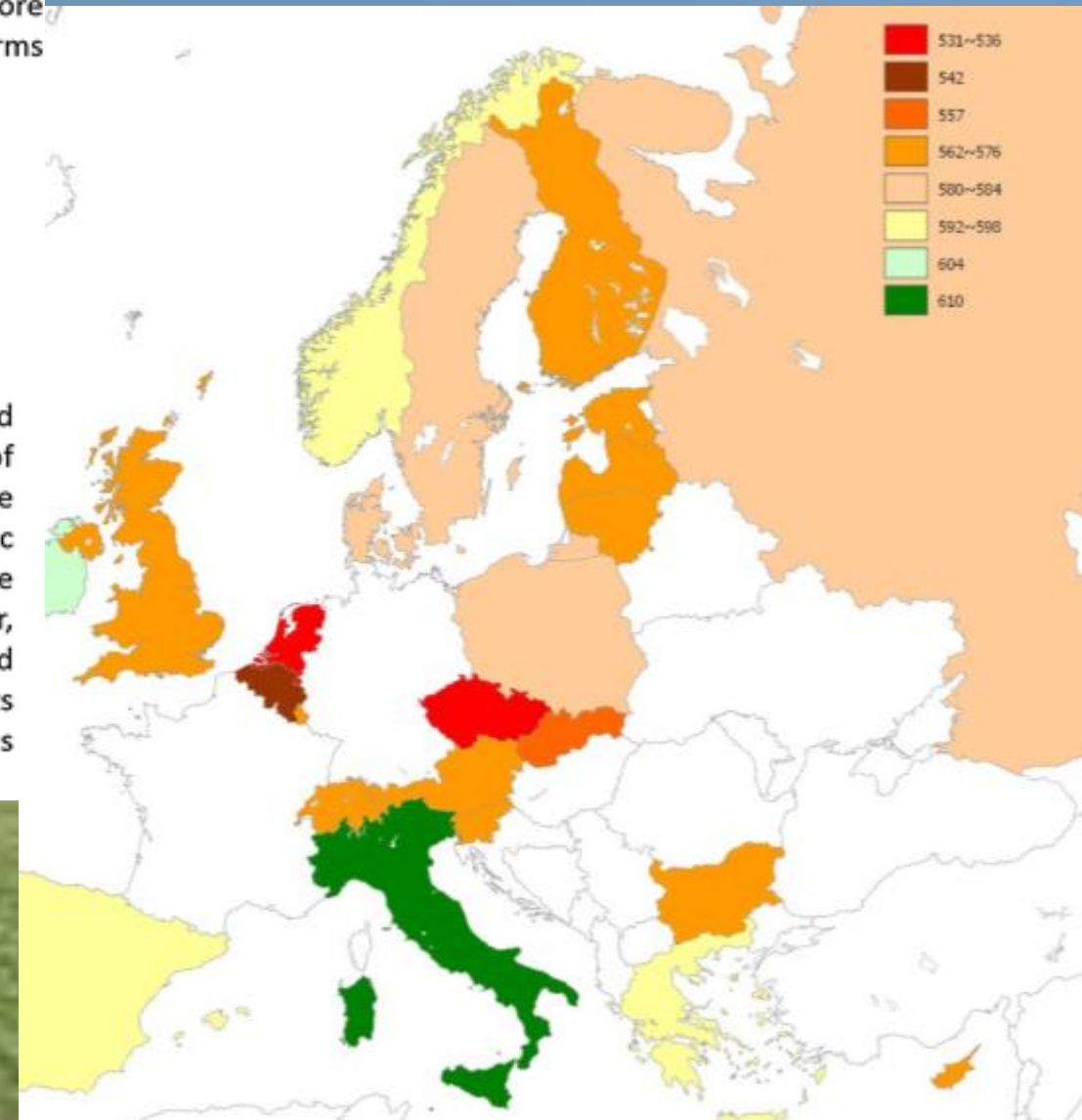
2

## Participatory attitudes

Measures the intention to engage and political self-efficacy. The types of activities covered are broad. The dimension draws more from the civic republican traditions of the importance of citizenship engagement. However, this is broader than national policies and also includes critical citizenship aspects of protest and liberal activities such as volunteering.

Portfolio of similar instruments:

## Civic Competence Composite Indicator



Objective: Monitoring and comparing  
countries performances

# Civic Competence Composite Indicator

- IEA International Civic and Citizenship Education Study (2009 and 1999)
- 13-14 years old
- 15 IEA developed scales
- Framework was developed from the data (PCA)
- Equal weighting
- Composite indicator methodology OECD/JRC handbook (Nardo et al 2005)
- Hoskins, B., Saisana, M., & Villalba, C. M. (2015). Civic competence of youth in Europe: Measuring cross national variation through the creation of a composite indicator. *Social indicators research*, 123(2), 431-457. <https://link.springer.com/content/pdf/10.1007%2Fs11205-014-0746-z.pdf>
- Hoskins, B. L., Barber, C., Van Nijlen, D., & Villalba, E. (2011). Comparing civic competence among European youth: Composite and domain-specific indicators using IEA civic education study data. *Comparative Education Review*, 55(1), 082-110. <https://www.journals.uchicago.edu/doi/abs/10.1086/656620>



# Environmental Citizenship

Have you ever been involved in activities of any of the following organisations, clubs, or groups?

- Environmental organisation



Theoretical framework

- Life Skills and Citizenship Education measurement instrument funded by UNICEF and World Bank 2019/2020

## Objectives

- Education system evaluation
- Levels of proficiency in performance within countries in the Middle East and North Africa
- Identify sub groups who need support
- Measure country progress over time
- Measure: Skills, Attitudes and Values



# European Citizenship Education

- Funded by Robert Bosch Foundation 2019/2020
- Measuring European Citizenship
- Countries: France, Finland, Germany, Netherlands
- Objective: identify effective education interventions for teaching & learning EC for disadvantaged youth
- Field experiments: Pre, post and 6 month measures, 2020 control trials
- Measure: Skills, Attitudes and Values



# UN Sustainable Development Goals 4.7.

UNSECO (completed 2018)

- Creation of input indicator SDG 4.7.1
- National Education policies; curricula content & resources; teacher education & student assessment.
- <http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2018/08/TCG4-16-Development-of-Indicator-4.7.1.pdf>
- <https://en.unesco.org/news/unescos-progress-report-education-sustainable-development-and-global-citizenship-education>

## 2. How Education for Environmental Citizenship can be measured and assessed?

*Developing an assessment strategy*

# What is the purpose of the assessment?

- Impact Policy

- Highlight countries/ education systems that are effective at teaching and learning Environmental Citizenship?
- Nudge countries where performance is low

- Choices

1. Develop indicators to compare levels of Environmental Citizenship between countries/education systems
2. Evaluate the effectiveness of a National Education System on Environmental Citizenship



# What is the purpose of the assessment?

- Focus on improving Teaching and Learning
  - Identify effective practice on teaching and learning environmental citizenship
  - Identify effective practice for sub-groups

## Choices

1. High Stakes national exam on Environmental Citizenship
2. Formative assessment tools for supporting teaching on Environmental Citizenship
3. Evaluation of a non-formal or specific formal Education project on Environmental Citizenship ?
4. Analyse data international or national study of education system

# Methods to build a tool

1. Define your concepts
2. Identify measurable attributes from the concepts &/or audit of existing frameworks & attributes lists
3. Review existing instruments
4. Check reliability and validity of instruments
5. Comparison between attributes and existing reliable measures
6. Use existing data to create your measures and or
7. Create new instruments

# 3. Worked example: Education for Sustainable Development

UNSECO monitoring report SDG 4.7.2 (output indicator)

Strategy paper for developing indicators on Global Citizenship Education (GCE) and Education for Sustainable Development (ESD)

<https://www.gcedclearinghouse.org/sites/default/files/resources/245620e.pdf>



# UNSECO framework

- SDG aim to support people & planet towards peaceful, sustainable development & prosperity for all
- Target 4.7 *'By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development...through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship ...'*
- 4.7.2 output indicator
- Conceptual framework: Cognitive, Social-emotional and Behavioural
- Include Global Citizenship Education and Education for Sustainable Development

# Audit - Literature and existing frameworks

## UNESCO conceptual framework

- Knowledge
  - Cognitive
- Skills
- Attitudes
  - Social and emotional
- Values
- Dispositions and behaviours
  - Behaviours

# Cognitive measurable attributes (examples)

- Critical thinking - learning to ask critical questions in the context of issues regarding sustainability
- Problem solving - in the context of issues regarding sustainability
- The ability to think in terms of time – to forecast, to think ahead, and to plan/ imagine future scenarios/ Ability not only to envision alternative futures but also to create reasonable paths of action leading to these



# Cognitive measurable attributes (examples)

- Analytic skills to be able to identify the varying interests that shape different responses to climate change
- The ability to critically judge validity of interest groups in relation to public good
- Analytic skills to distinguish between certainties, uncertainties, risks and consequences of environmental degradation

# Cognitive measurable attributes (examples)

- Understand consumer social responsibility and how individual life style choices influence social, economic and environmental development at the local, national and global level;
- Awareness of civil society's power to initiate alternative ways of thinking and acting;
- A basic understanding of scientific concepts including;
  - the causes of climate change;
  - biodiversity;
  - sustainable consumption and production

# Social and emotional measurable attributes

- Motivation to apply knowledge and skills to her/his actions at local, national, regional and global levels
- Values of global solidarity/ oneness of humanity and the right of all to have their basic needs met
- Values of responsibility for present and future generations
- Values of integrity/ honesty



# Behavioural measurable attributes (examples)

- living a sustainable life (ethical shopping, using public transport instead of a car, recycling, care in use of resources such as electricity etc)
- Participation in action (individual and collective) for environmental change (protest, campaigns (blogs, petitions, social media), contacting politicians and creation of organisations and structures to create behavioural and policy change) at local, national and global level

# Review of existing instruments

Datasets:

IEA International Citizenship and Civic education 2009, 2016 and 2022

<https://iccs.iea.nl/home.html>

European Social Survey 2016 – rotating module attitudes to Climate Change and Energy

[http://www.europeansocialsurvey.org/docs/round8/questionnaire/ESS8\\_climate\\_abstract.pdf](http://www.europeansocialsurvey.org/docs/round8/questionnaire/ESS8_climate_abstract.pdf)

PISA 2015 data on science and attitudes towards the environment

<https://oecdeditoday.com/>

# Review of existing instruments

- Check reliability and validity of existing instruments
- Comparison with measurable attributes



# Conclusion from ESD example

- Global Citizenship Education possible to measure from existing ICCS data
- ESD currently insufficient existing data to create indicator

Insufficient coverage from existing data of items such as:

- Certainty
- think in terms of time
- understanding consumer social responsibility

# Conclusion

- New study needed
- ESD Module within ICCS 2022
- New items and scales also on;
  - Sufficiency and moderation
  - Responsibility towards future generations
  - Importance of environmental protection
  - Environmental action
  - Sustainable living