

Working Group 4 Meeting

A. 1st STEP: The WG Leader present a provisional Best Educational Practice (Good example) for Education for Environmental Citizenship (20 min maximum)

B. 2nd STEP: The WG Leader coordinate a discussion about the Best Educational Practice (Good example) for Education for Environmental Citizenship which was presented (40 min maximum)

C. During the discussion (STEP 2) it is important to answer the WG's Worksheet to be presented in the plenary. The WG evaluate the proposed Best Educational Practice (Good example) based on the EEC Model and answering the WG Worksheets.

D. The answers will be used for the Deliverable 8.

E. The WG Leader register the Best Educational Practice (Good example) in the GAIA Repository Database <http://repository.enec-cost.eu/> (next day)

Deliverable 8: Good examples and best educational practices leading to pro-environmental attitudes, behaviour and values

Within this deliverable the focus is on highlighting examples and educational practices that can lead to EC. These examples and educational practices are to be used to illustrate how aspects of the EEC framework could be implemented in practice; however, they are not meant to represent the only way in which EEC can be enacted at the various educational levels.

The examples and educational practices provided can be based on empirical implementations or proposed implementations, and should explicitly note in what ways they can potentially lead to pro-environmental behaviours, attitudes and values (make explicit links to EC or EEC dimensions). Where the implementations have taken place, it would be useful to provide a brief account of the process and outcomes of this.

Implementing the Education for Environmental Citizenship pedagogical approach: Insights from a Cyprus case study

“Good example” of an educational intervention
promoting Environmental Citizenship

Demetra PARASKEVA-HADJICHAMBI

Andreas HADJICHAMBIS

Centre for Environmental Research and Education

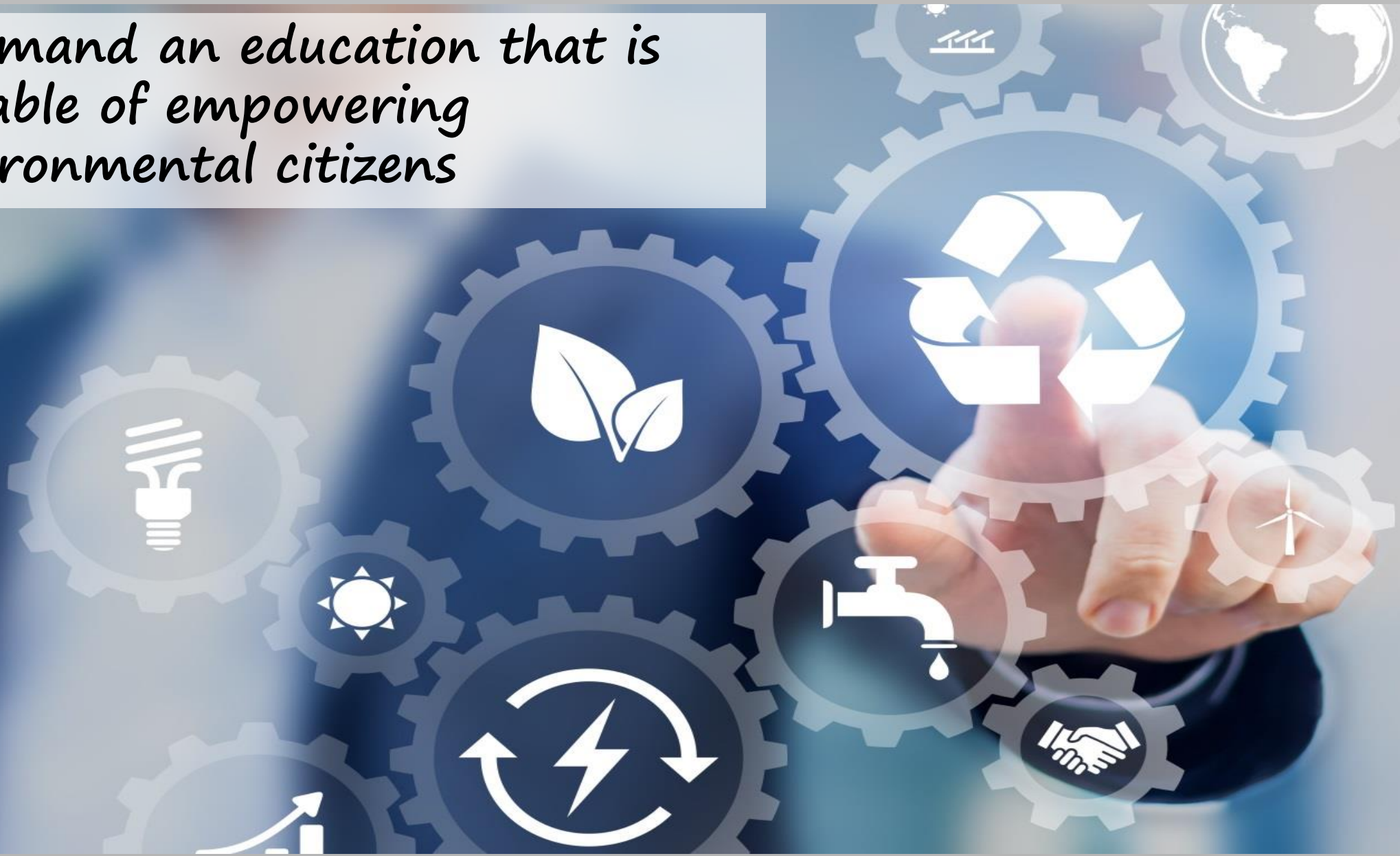
Cyprus Ministry of Education and Culture





The contemporary environmental crisis with climate change, biodiversity loss, air pollution and all other local and global environmental problems

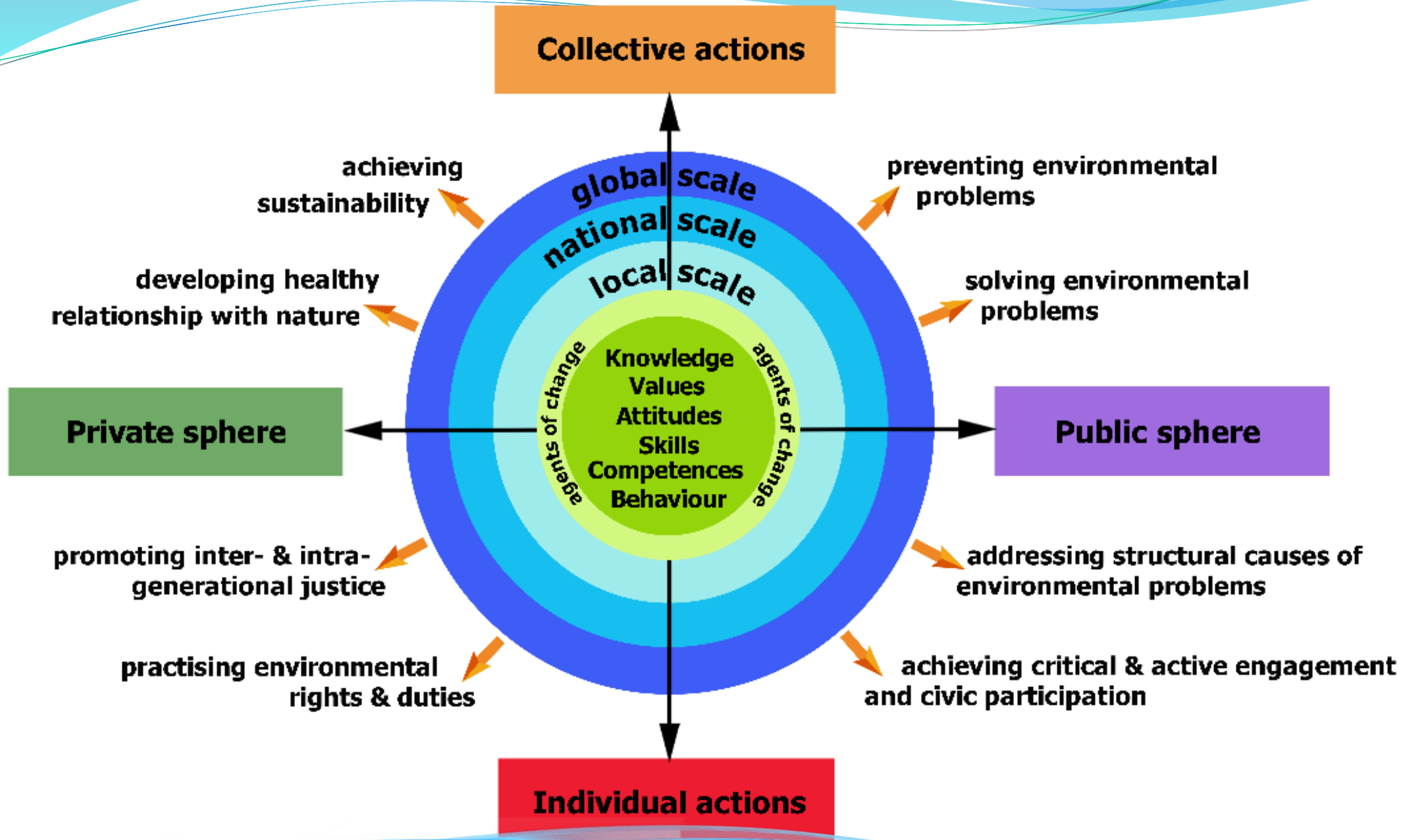
*...demand an education that is
capable of empowering
environmental citizens*





Education plays a key role in shaping future environmental citizens.

Education for Environmental Citizenship Model, ENEC, 2018



Education for Environmental Citizenship Pedagogical Approach



Content

1. The learning intervention
2. Evaluation of the learning intervention
3. Conclusions



Environmental Citizens in action

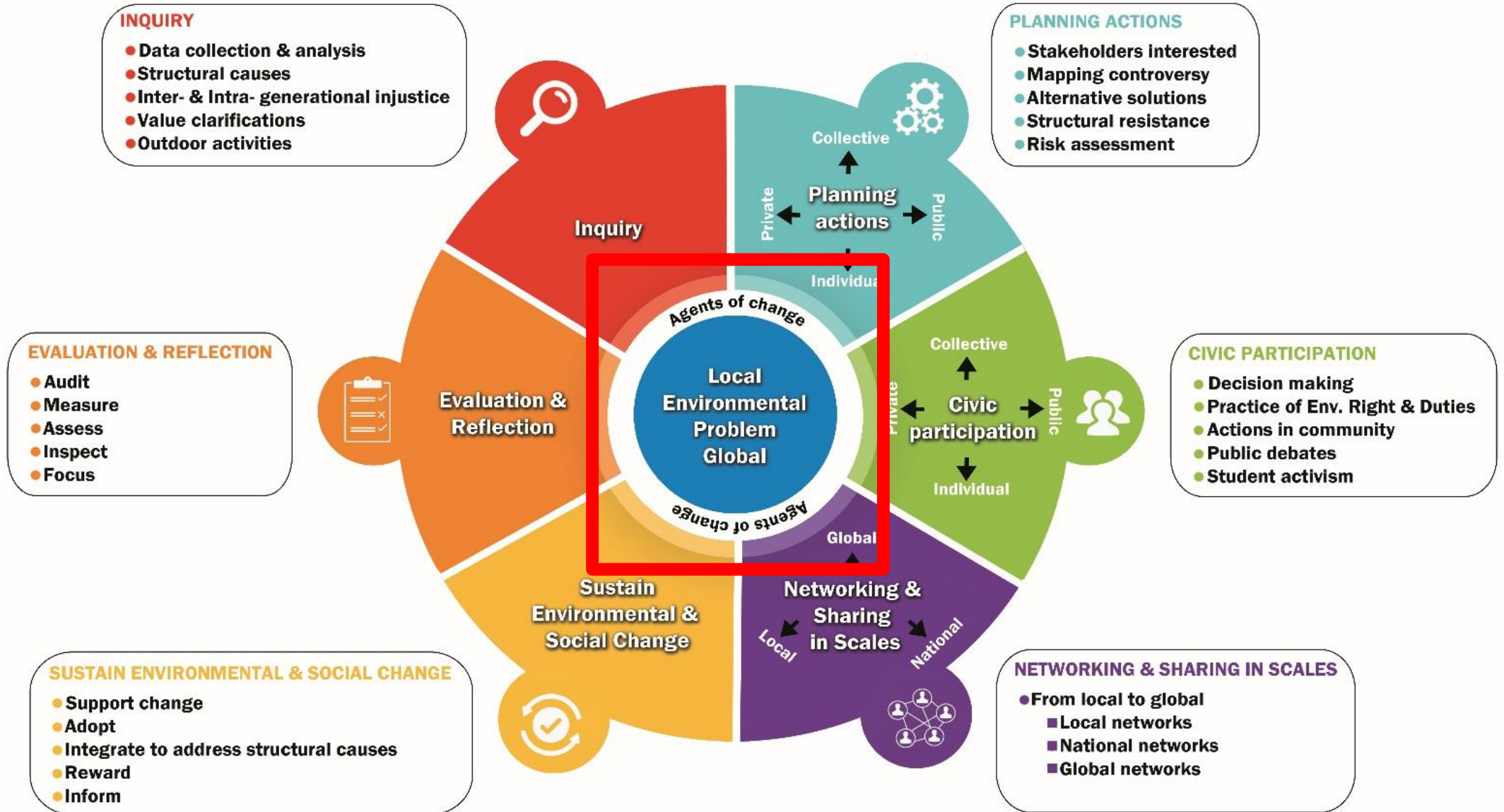


**Learning
intervention on
10th grade
biology students
(15–16 years old)
based on the EEC
Pedagogical
Approach.**

The learning intervention was implemented as a project embedded in Biology lessons with duration 4 months



Education for Environmental Citizenship Pedagogical Approach

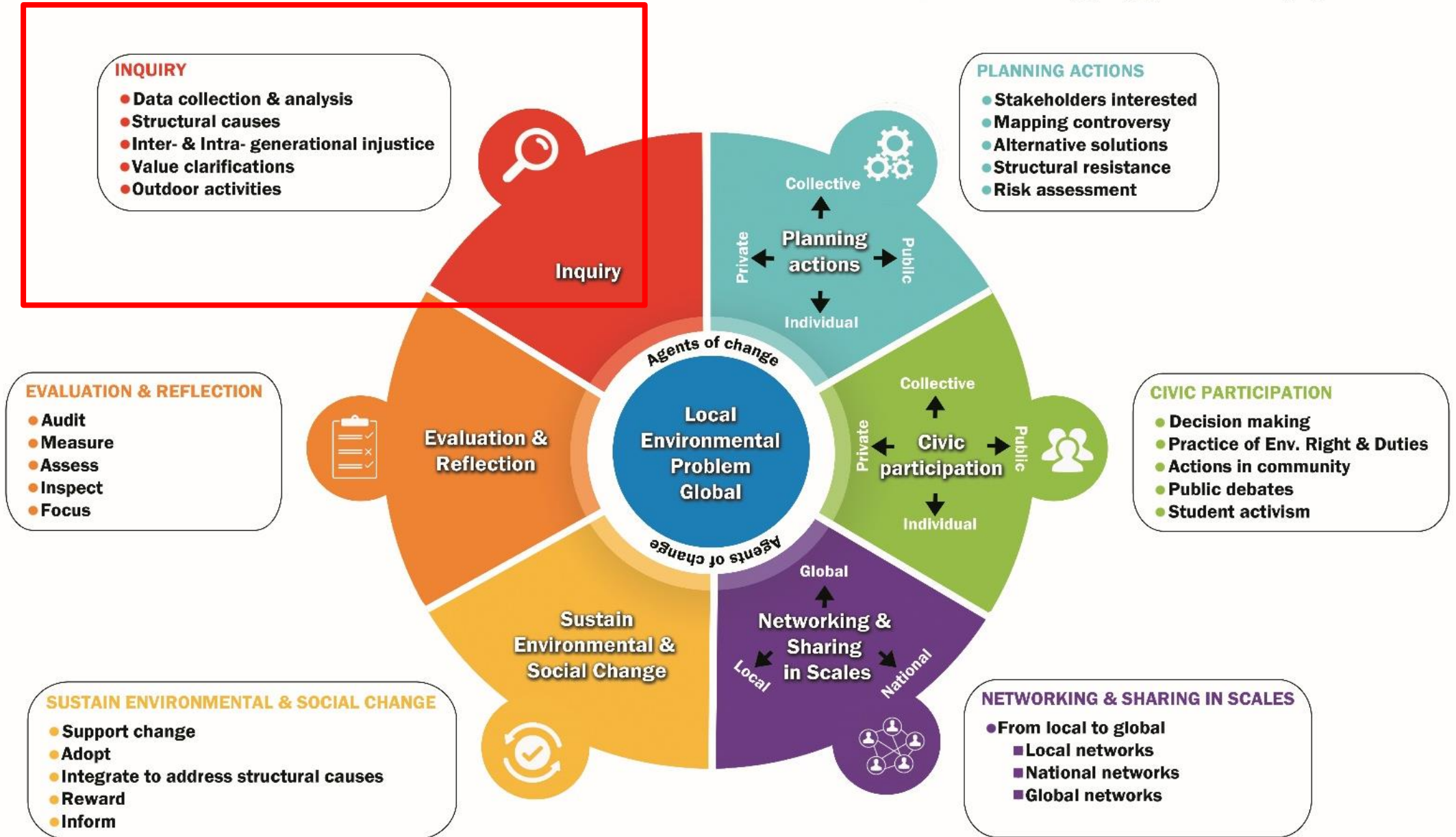


The environmental problem studied:

The development of a Casino Resort nearby a protected wetland which supports a lot of endangered species.



Education for Environmental Citizenship Pedagogical Approach



A. Intervention

Inquiry

Data collection

Environmental Impact
Assessment Study

- ✓ Construction site
- ✓ Main characteristics
- ✓ Environmental Impacts
- ✓ Mitigation measures



Inquiry

Data collection

News

- ✓ People involved
- ✓ Stakeholders
- ✓ Scientists



Inquiry

Data collection

Outdoor
activities

✓ Construction site



Inquiry

Data collection

Outdoor
activities

✓ Construction site



Inquiry

Data collection

Outdoor
activities

✓ Environmental
Education Centre



Inquiry

Data collection

Scientists

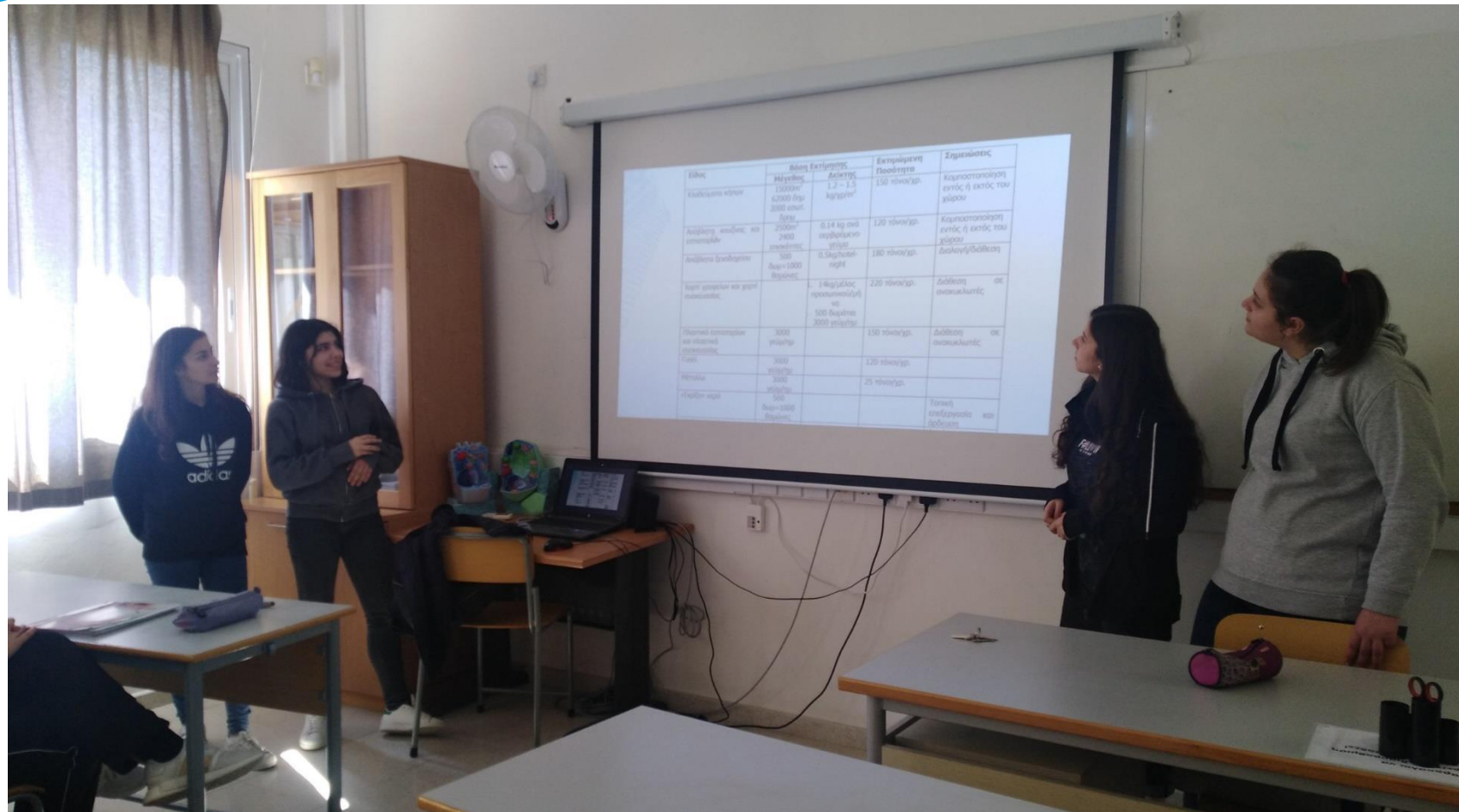
✓ Birdlife Cyprus



Planning Actions

Identify stakeholders interested

- ✓ Inhabitants
- ✓ Company
- ✓ Stakeholders
- ✓ Scientists
- ✓ Community



Planning Actions

Map the
controversy

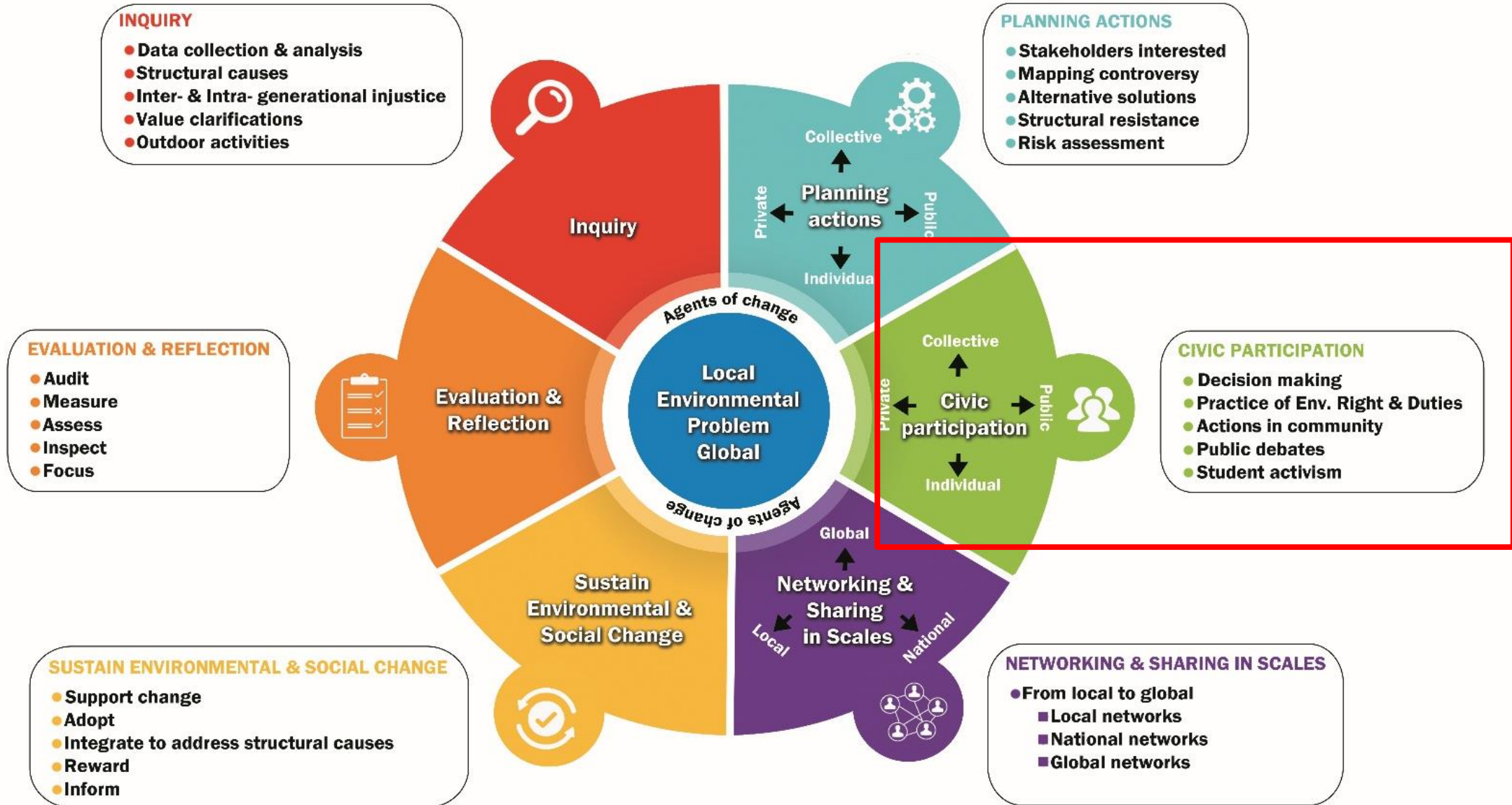


Planning Actions

Alternative
solutions



Education for Environmental Citizenship Pedagogical Approach



Civic participation

Actions in
communities

Students activism



Education for Environmental Citizenship Pedagogical Approach

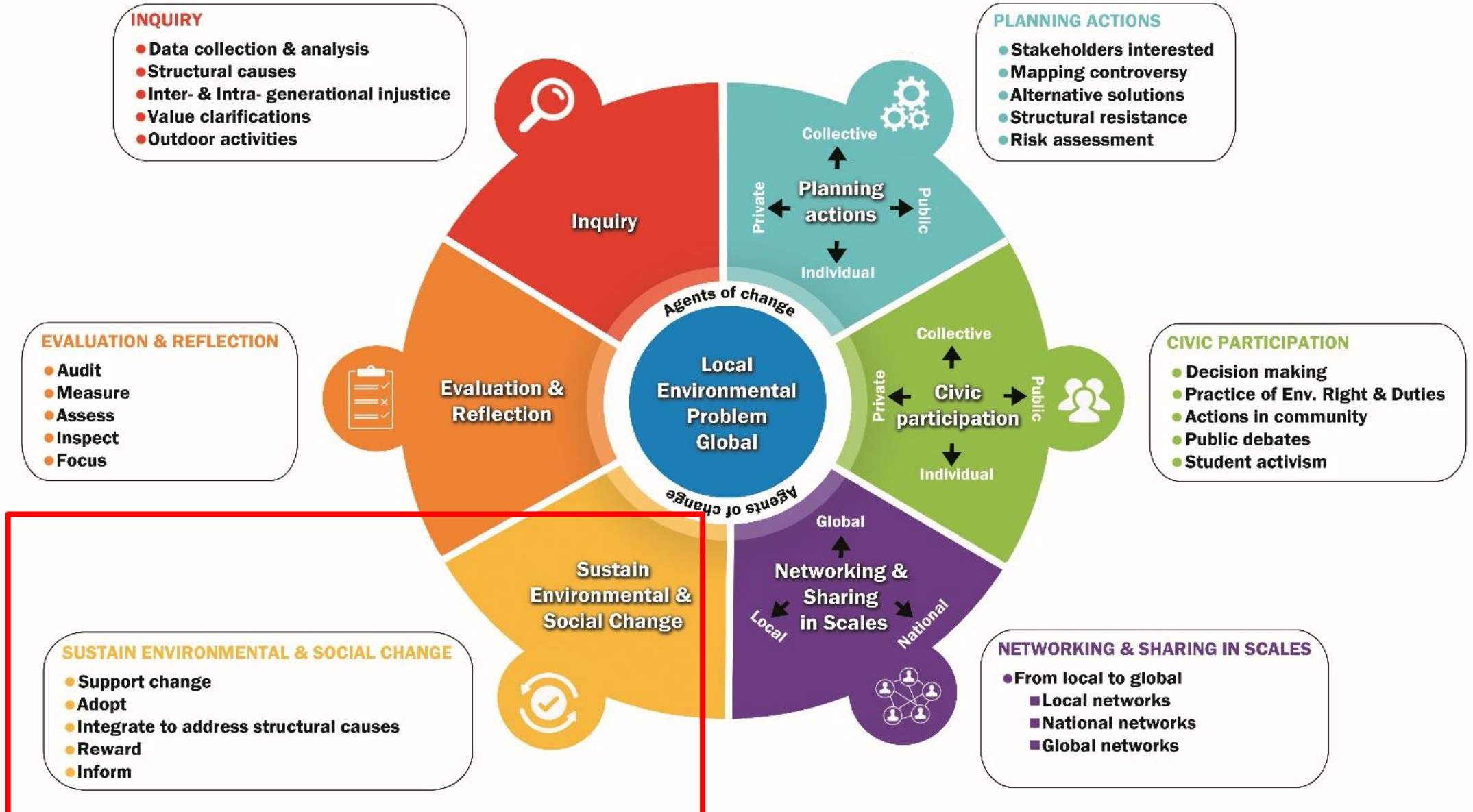


Sharing and networking

National Student
Conference



Education for Environmental Citizenship Pedagogical Approach

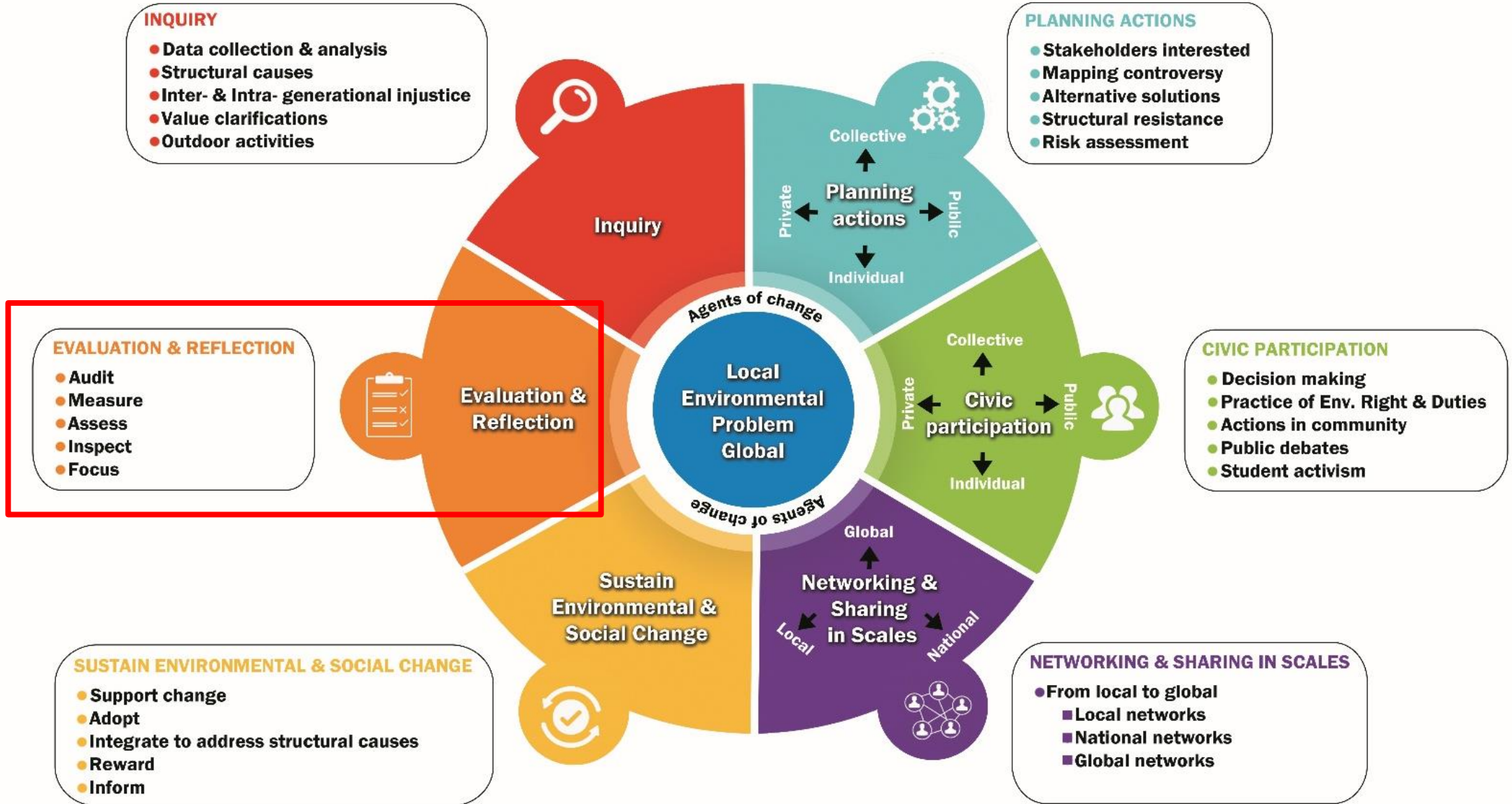


Sustain environmental and social change

Keep issue in the news through a radio broadcast

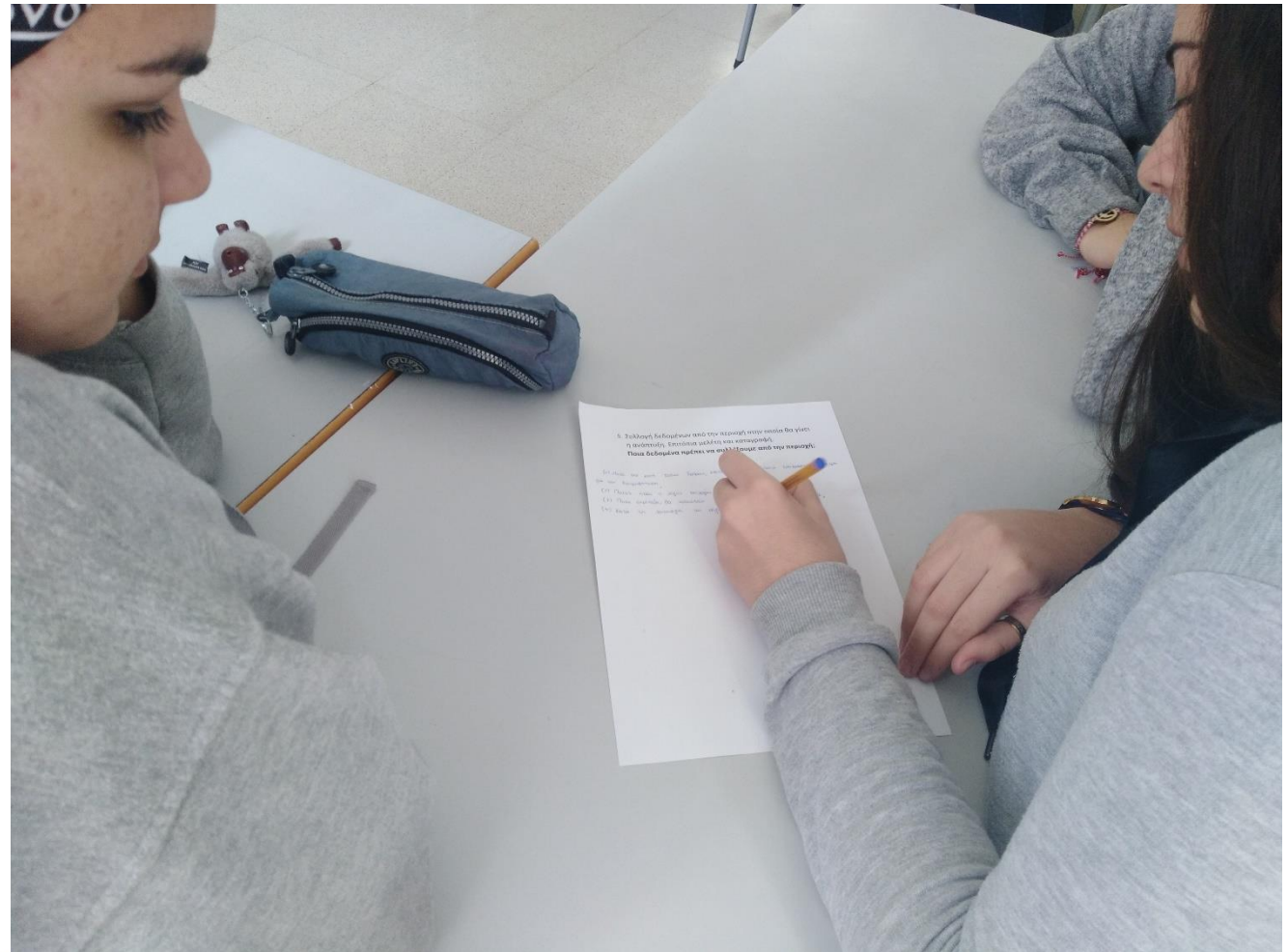


Education for Environmental Citizenship Pedagogical Approach



Evaluation and Reflection

Assess the effectiveness of actions





Evaluation of the Learning Intervention

- ✓ **50 students**
- ✓ **29 girls (58%) - 21 boys (42%)**
- ✓ **2 classrooms**
- ✓ **Mixed academic ability according to the national educational practices**

Research Tool

The Environmental Citizenship Questionnaire (ECQ) (Hadjichambis & Paraskeva-Hadjichambi, 2020)

European Network for
Environmental Citizenship
Cost Action CA16229

Part A: Actions as Environmental Citizen – Past and Present



1. Have you ever been involved in activities of any of the following organizations, clubs or groups **Outside School**?
(Please tick **only one** box in each row)

	Yes, I have done this within the last twelve months	Yes, I have done this but more than a year ago	No, I have never done this
a) An environmental action group or organisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A Human Rights organisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A voluntary group doing something to help the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) An organization collecting money for an environmental purpose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) A group of young people campaigning for an environmental issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) An animal rights or animal welfare group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part B: Competences as environmental citizen

2. **At school**, to what extent have you learned about the following topics?
(Please tick **only one** box in each row)

	To a large extent	To a moderate extent	To a small extent	Not at all
a) How to contribute to the prevention of environmental problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) How to contribute to the solution of environmental problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) How to develop a healthy relation with nature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) How to contribute to the achievement of sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Which are the environmental rights and duties of a citizen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) How to assess structural causes of environmental degradation and problems (roots)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) How to actively participate in society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) How to promote inter- and intra- generational justice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) How to act and networking in a local level (community, town, area)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) How to act and networking in a national level (country)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) How to act and networking in a global level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

European Network for
Environmental Citizenship
Cost Action CA16229

3. How important are the following behaviors for being a good environmental citizen?
(Please tick **only one** box in each row)

	Very important	Quite important	Not very important	Not important at all
a) Voting in every national election	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Joining a political party	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Following environmental issues in the newspaper, on the radio, on TV or on the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Showing respect for government representatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Engaging in environmental discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Making personal efforts to protect natural resources (e.g. through saving water or recycling waste)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Respecting the rights of others to have their own opinions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Supporting people who are worse off than you	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Engaging in activities to help people in less developed countries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Participating in peaceful protests against laws believed to be unjust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Taking part in activities promoting environmental rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Participating in activities to benefit environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How well do you think you would do the following activities, now as a student?
(Please tick **only one** box in each row)

	Very well	Fairly well	Not very well	Not at all
a) Discuss a newspaper article about an environmental conflict	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Argue your point of view about a controversial environmental issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Organize a group of students in order to achieve Environmental changes at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Follow a television debate about a controversial environmental issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Write a letter or email to a newspaper giving your view on a current environmental issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Speak in front of your class about an environmental issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Before (pre-) and after (post-) the learning intervention

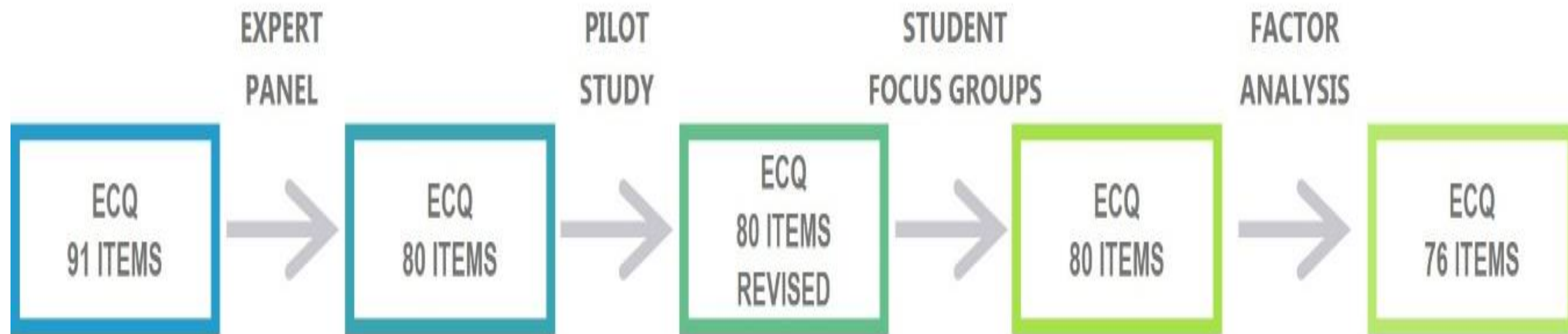
Research Tool

ECQ Validation

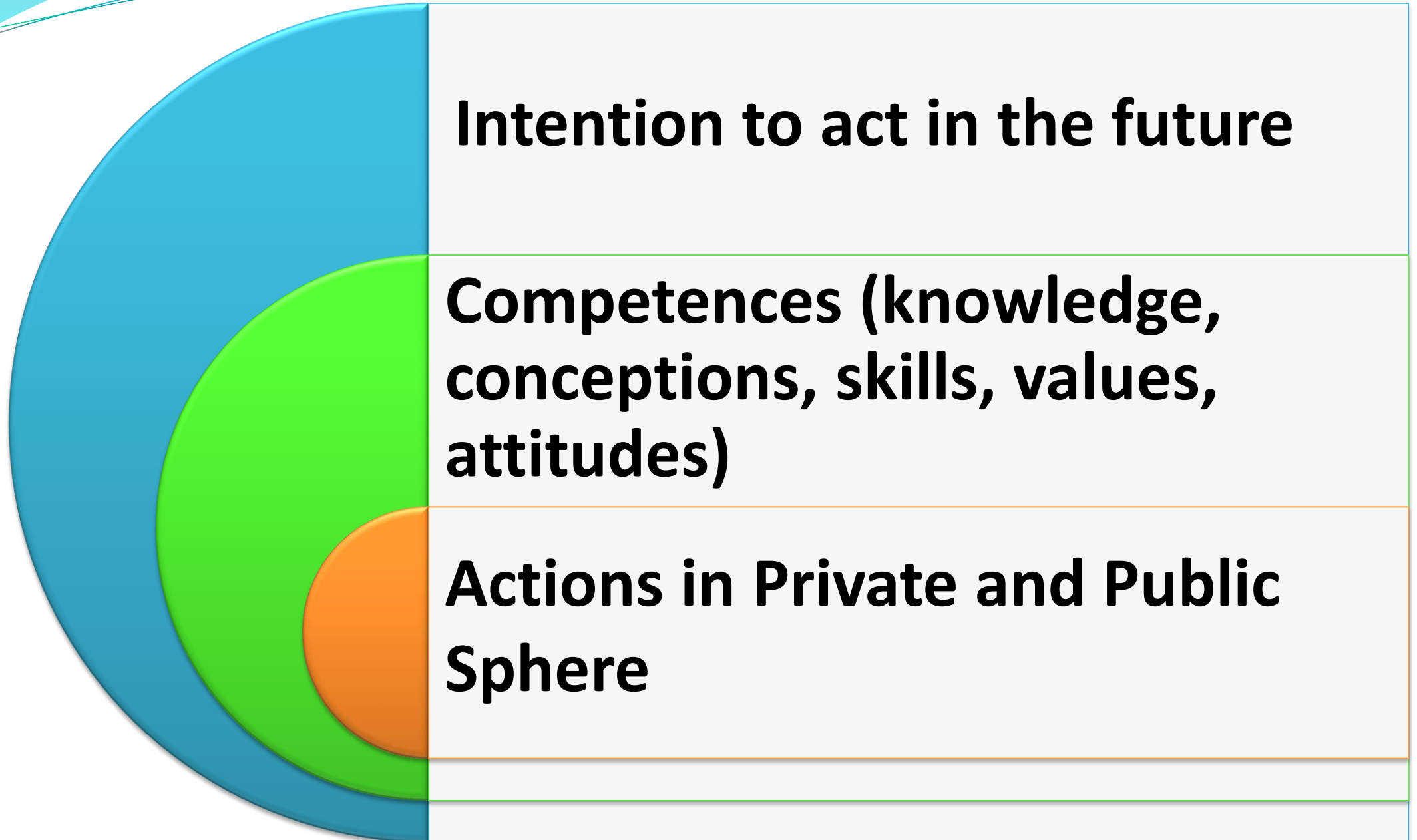
Factor analysis revealed that all factors (different questions) were of good quality of Cronbachs A which ensures the reliability of the ECQ.

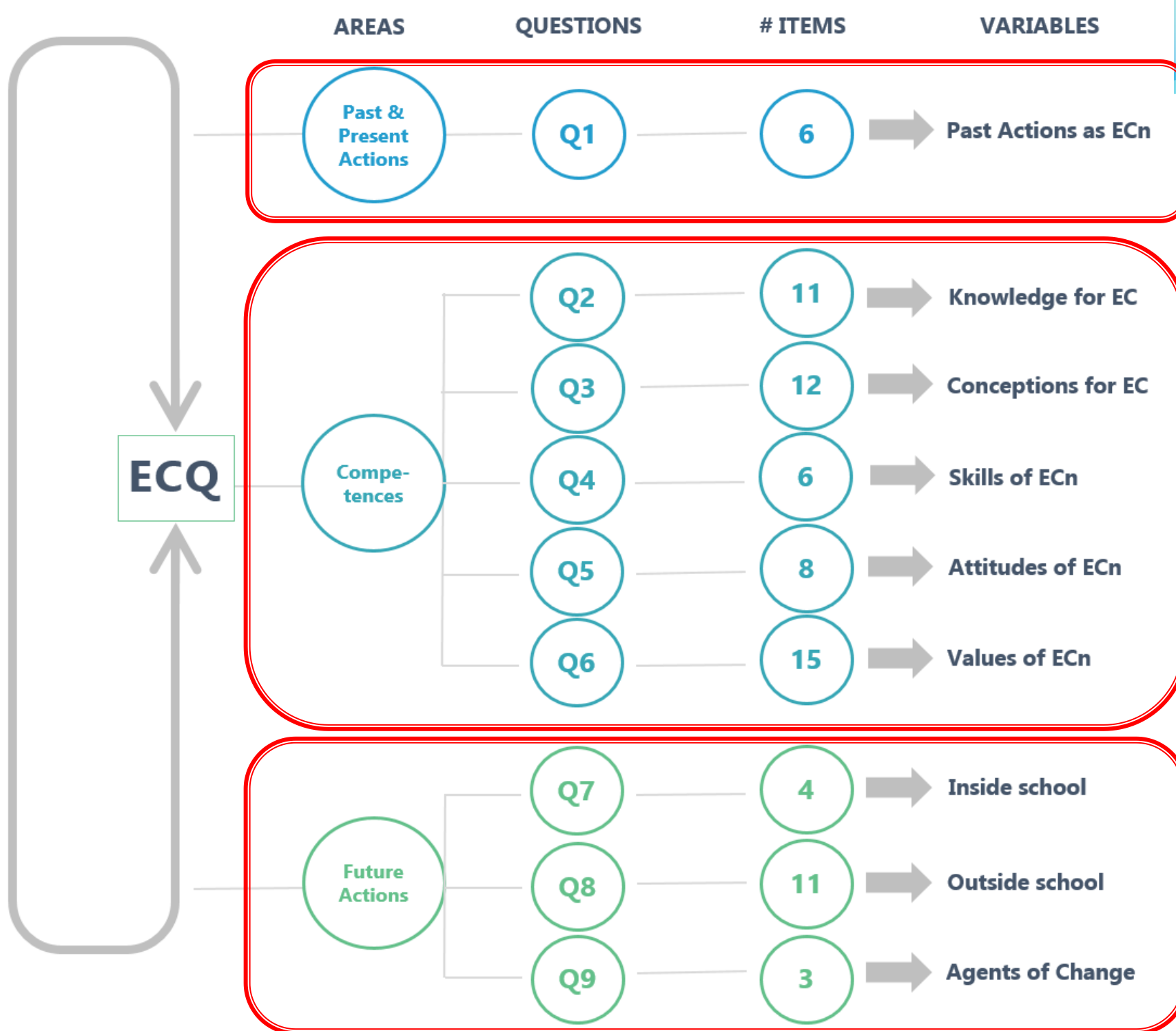
Representative ample 520 students, 15-16 years old

Representative sample of Cyprus



Hadjichambis, Ch. A, & Paraskeva-Hadjichambi, D. (2020). Environmental Citizenship Questionnaire (ECQ): The development and validation of an evaluation instrument for secondary school students. *Sustainability*, 12(3), 821.





Data Analysis

- ❑ T-test for paired samples was employed in order to compare if there were any statistically significant differences between students pre- and post-tests regarding the 9 variables.
- ❑ The Pearson's product-moment correlation coefficient was used to investigate possible significant relationships between attitudes, values and future actions.

Results

T-test for paired samples

Difference Pre / Post	Mean	S.D.	t	p
Past/present actions as ECn	0,88	0,42	14,75	<0,001***
Knowledge for ECn	0,75	0,46	11,45	<0,001***
Conceptions for ECn	0,36	0,40	6,40	<0,001***
Skills of ECn	0,34	0,42	5,75	<0,001***
Attitudes of ECn	0,21	0,28	5,27	<0,001***
Values of ECn	0,09	0,21	3,02	0,004***
Future actions inside school	0,31	0,46	4,78	<0,001***
Future actions outside school	0,32	0,35	6,52	<0,001***
Agents of change	0,28	0,39	5,09	<0,001***

Statistically significant increase in the scores of the students before and after the teaching intervention in all examined factors, according to T-test for paired samples that was employed.

Pearson's correlation coefficient

	Attitudes of ECn	Values of ECn	Future actions in school	Future actions outside school	Agents of change
Attitudes of ECn	1	,438**	,612**	,595**	,559**
Values of ECn	50	1	,575**	,474**	,375**
Future actions in school	50	50	1	,769**	,677**
Future actions outside school	50	50	50	1	,715**
Agents of change	50	50	50	50	1

Conclusions



- ❑ The EEC Pedagogical Approach could contribute to the empowerment of students into active environmental citizens

Education for Environmental Citizenship Pedagogical Approach



Conclusions

❑ The ECQ questionnaire can be a reliable tool for measuring Environmental Citizenship

Part A: Actions as Environmental Citizen – Past and Present



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Conclusions

- ❑ More empirical studies could shed light to the effectiveness of the EEC Pedagogical Approach or other approaches in promoting Environmental Citizenship

