Andreas Hadjichambis Demetra Paraskeva – Hadjichambi

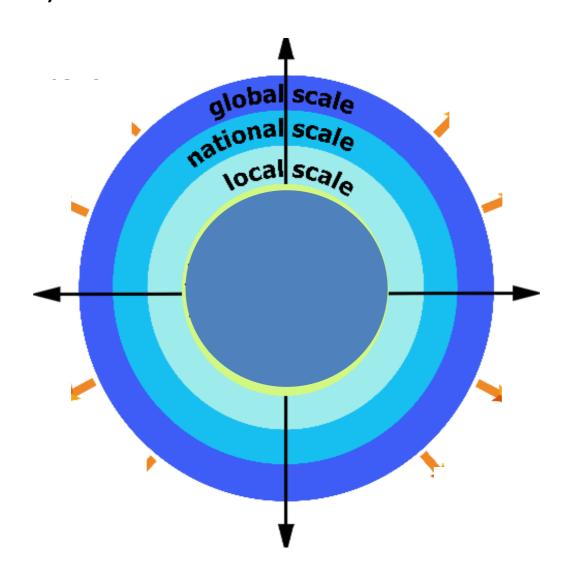
Cyprus Center for Environmental Research and Education



Environmental Citizenship Questionnaire (ECQ) – Insights from a Cyprus study ...demand an education that is capable of empowering environmental citizens



EEC Model, ENEC (2018)



Impact of a learning intervention on 10th grade biology students (15–16 years old)



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



Environmental Citizenship Questionnaire (ECQ)— Insights from a Cyprus study	
The learning intervention was implemented as a project embedded in Biology lessons with duration 4 mont	ths

Intention to act in the future

Competences (knowledge, skills, values, attitudes)

Actions (present and past) in Private and Public Sphere

Development of the Questionnaire

Sources

Schulz, W., Carstens, R., Losito, B., & Fraillon, J. (Eds.). (2016).

International Civic and Citizenship Education Study (ICCS).

Amsterdam, the Netherlands: International Association for the Evaluation of Educational Achievement (IEA).

(Student Questionnaire)

Sources 1

Schulz, W., Carstens, R., Losito, B., & Fraillon, J. (Eds.). (2016). International Civic and Citizenship Education Study (ICCS). Amsterdam, the Netherlands: International Association for the Evaluation of Educational Achievement (IEA).

The purpose of the International Civic and Citizenship Education Study (ICCS) is to investigate the ways in which young people are prepared to undertake their roles as citizens in a range of countries in the 21th century.

Sources 1

Schulz, W., Carstens, R., Losito, B., & Fraillon, J. (Eds.). (2016). International Civic and Citizenship Education Study (ICCS). Amsterdam, the Netherlands: International Association for the Evaluation of Educational Achievement (IEA).

Q15,	, Q23		Q29,	Q30, (232
No. 4.2. Common of the		to the Laborat			
ble 4.3: Coverage of the	cognitive, ajj	Content		tent aomain:	8
(Civic Society and systems	Civic principles	Civic participation	Civic identities	Total
Cognitive domains					
Knowing	12	9	2	0	23
Reasoning and applying	24	18	19	4	65
Total	36	27	21	4	88
Affective-behavioral domai	ins				
Attitudes	42	21	5	5	73
Engagement	5	8	35	2	50
Attitudes (in the European questionnaire)	21	22	6	9	58
Attitudes (in the Latin American questionnaire)	11	35	16	8	70
Total	79	86	62	24	251

Sources

Gericke, N., Boeve-de Pauw, J., Berglund, T., Olsson, D. (2018).

The Sustainability Consciousness Questionnaire (SCQ): The theoretical development and empirical validation of an evaluation instrument for stakeholders working with sustainable development. Sustainable Development 34-46.

Sources

NOTE Item codes including an "i" in the second column are inverted, i.e., A5i

Gericke, N.; Boeve-de Pauw, J.; Berglund, T.; Olsson, D. (2018). **The Sustainability Consciousness Questionnaire (SCQ):** The theoretical development and empirical validation of an evaluation instrument for stakeholders working with sustainable development. *Sustainable Development*, 34-46.

SCQ-S			Factor weight	М	SD
Sustainal	bility knowing	ness (a = 0.70)			
Env.	K3 K14 K21	Reducing water consumption is necessary for sustainable development. Preserving the variety of living creatures is necessary for sustainable development (preserving biological diversity). For sustainable development, people need to be educated in how to protect themselves against natural disasters.	0.453 0.617 0.416	3.76 4.56 3.67	1.38 0.62 1.25
Soc.	K5 K10 K11	A culture where conflicts are resolved peacefully through discussion is necessary for sustainable development. Respecting human rights is necessary for sustainable development. To achieve sustainable development, all the people in the world must have access to good education	0.677 0.668 0.812	4.35 4.41 4.53	0.8 0.7 0.6
co.	K12 K16 K17	Sustainable development requires that companies act responsibly towards their employees, customers and suppliers. Sustainable development requires a fair distribution of goods and services among people in the world. Wiping out poverty in the world is necessary for sustainable development.	0.514 0.722 0.644	4.23 4.06 4.04	0.8 1.0 1.2
Sustainal	bility attitude	s (a = 0.78)			
Env.	A5i A6 A10	I think that using more natural resources than we need does not threaten the health and well-being of people in the future. I think that we need stricter laws and regulations to protect the environment. I think that it is important to take measures against problems which have to do with climate change.	0.555 0.701 0.821	4.50 4.23 4.56	0.8 0.5 0.5
Soc.	A1 A2 A18	I think that everyone ought to be given the opportunity to acquire the knowledge, values and skills that are necessary to live sustainably. I think that we who are living now should make sure that people in the future enjoy the same quality of life as we do today. I think that women and men throughout the world must be given the same opportunities for education and employment.	0.744 0.692 0.751	4.46 4.64 4.74	0.5 0.5
co.	A3 A7 A8	I think that companies have a responsibility to reduce the use of packaging and disposable articles. I think it is important to reduce poverty. I think that companies in rich countries should give employees in poor nations the same conditions as in rich countries.	0.638 0.808 0.683	4.43 4.54 4.27	0. 0. 1.
iustainal	hility hehavio	ve (a = 0.72)			
Env.	B3 B10 B12	I recycle as much as I can. I always separate food waste before putting out the rubbish when I have the chance. I have changed my personal lifestyle in order to reduce waste (e.g., throwing away less food or not wasting materials).	0.612 0.617 0.826	3.53 3.76 3.12	1.0 2.1 1.1
ioc.	B4 B15 B17	When I use a computer or mobile to chat, to text, to play games and so on, I always treat others as respectfully as I would in real life. I support an aid organization or environmental group. I show the same respect to men and women, boys and girls.	0.860 0.649 0.875	3.93 2.51 4.73	1. 2. 0.
Eco.	B6 B9 B11	I do things which help poor people. I often purchase second-hand goods over the internet or in a shop. I avoid buying goods from companies with a bad reputation for looking after their employees and the environment.	0.506 0.486 0.670	2.70 2.30 2.97	1. 1. 1.

Sources

Bouman T., Steg L. and Kiers HAL. (2018). Measuring Values in Environmental Research: A Test of an **Environmental Portrait Value Questionnaire**. Frontiers in Psychology 9:564.

Sources 3

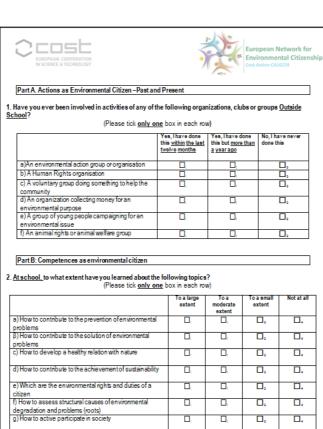
Bouman T., Steg L. and Kiers HAL. (2018). Measuring Values in Environmental Research: A Test of an **Environmental Portrait Value Questionnaire**. *Frontiers in Psychology* 9:564.

	E-PVQ
Biospheric	
Bio1	It is important to [him/her] to prevent environmental pollution.
Bio2	It is important to [him/her] to protect the environment.
Bio3	It is important to [him/her] to respect nature.
Bio4	It is important to [him/her] to be in unity with nature.
Altruistic	
Alt1	It is important to [him/her] that every person has equal opportunities.
Alt2	It is important to [him/her] to take care of those who are worse off.
Alt3	It is important to [him/her] that every person is treated justly.
Alt4	It is important to [him/her] that there is no war or conflict.
Alt5	It is important to [him/her] to be helpful to others ^a .
Hedonic	
Hed1	It is important to [him/her] to have fun.
Hed2	It is important to [him/her] to enjoy the life's pleasures.
Hed3	It is important to [him/her] to do things [he/she] enjoys.
Egoistic ^b	
Ego1	It is important to [him/her] to have control over others' actions.
Ego2	It is important to [him/her] to have authority over others.
Ego3	It is important to [him/her] to be influential.
Ego4	It is important to [him/her] to have money and possessions.
Ego5	It is important to [him/her] to work hard and be ambitious.

The ECQ is composed by: ten (10) questions (closed ended) including 91 items

Time needed to be answered by 15 year old students:

25'-30'



Π,

h) How to promote inter- and intra-generational justice

i) How to act and networking in a local level (community.

k) How to act and networking in a global leve





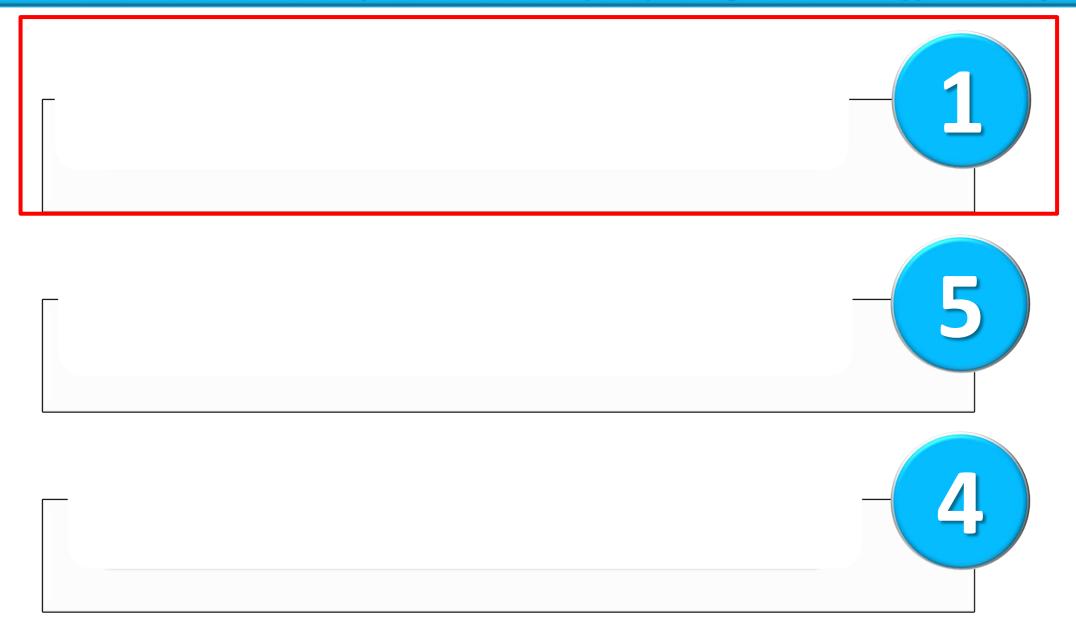
3. How important are the following behaviors for being a good environmental citizen?

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

4. How well do you think you would do the following activities, now as a student?

(Please tick <u>only one</u> box in each row)

	Very well	Fairly well	Not very well	Not at all
a) Discuss a newspaper article about an environmental conflict		Π,	□ ,	□,
b) Argue your point of view about a controversial en viron mental issue			□,	□,
c) Organize a group of students in order to achieve Environmental changes at school		Π,	□,	□,
d) Follow a television debate about a controversial environmental issue		Π,	□,	□,
e) Write a letter or email to a newspaper giving your view on a current environmental issue		□ ;	Π,	□,
f) Speak in front of your class about an environmental issue		Π,		

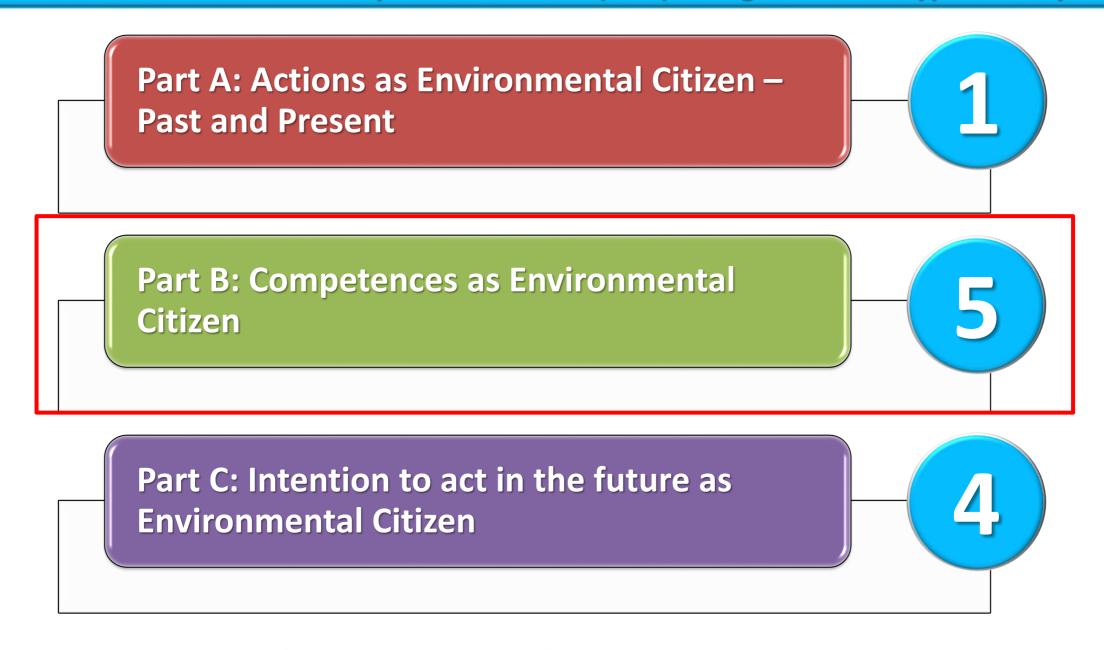


Part A: Actions as Environmental Citizen – Past and Present	Question No	Number of items	Scale of items	Aim of the question
Part B: Competences as Environmental Citizen	1	7	1 to 3	Actions as environmental citizen, past and present

1. Have you ever been involved in actions of any of the following organizations, clubs or groups <u>Outside</u> <u>School</u>?

(Please tick only one box in each row)

	Yes, I have done this <u>within</u> 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			□₃
b) A Human Rights organisation			
c) A voluntary group doing something to help the community		Π,	
d) An organization collecting money for an environmental purpose			om ICCS 2016,
e) A group of young people campaigning for an environmental issue			iestionnaire, (15
f) An animal rights or animal welfare group			



Part A: Actions as Environmental Citizen – Past and Present	Question No	Number of items	Scale of items	Aim of the question
Part B: Competences as Environmental Citizen	2	11	1 to 4	Knowledge (outputs of EEC model / scales: local, national, global)

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	□,		Пз	□₄		
β) How to contribute to the solution of environmental problems	□,		□₃	□₄		
c) How to develop a healthy relation with nature	□,			□₄		
d) How to contribute to the achievement of sustainability			□₃	□₄		
e) Which are the environmental rights and duties of a citizen			□₃			
f) How to assess structural causes of environmental degradation and problems (roots)	□ ₁		Пз	□₄		
g) How to active participate in society	□ ₁			De	eveloped by	
h) How to promote inter- and intra - generational justice	П					
j) How to act and networking in a local level (community, town, area)				A and	D Hadjichambi	
j) How to act and networking in a national level (country)				Base	d on EEC Model	

Part A: Actions as Environmental Citizen – Past and Present	Question No	of items	of items	Aim of the question
Part B: Competences as Environmental Citizen	3	12	1 to 4	Conceptions of the characteristics of a good environmental citizen

3. How important are the following behaviors for being a good environmental citizen?

(Please tick only one box in each row)

	important	Quite important	Not very important	important at all
a) Voting in every national election	□ ₁		□₃	
b) Joining a political party	□ ₁		□₃	□₄
 c) Following environmental issues in the newspaper, on the radio, on TV or on the Internet 	Π,		□₃	□₄
d) Showing respect for government representatives	□ ₁			□₄
e) Engaging in environmental discussions	□,			□₄
f) Making personal efforts to protect natural resources (e.g. through saving water or recycling waste)			□₃	
g) Respecting the rights of others to have their own opinions	□,		□₃	
h) Supporting people who are worse off than you	П		□ ₃	
 j) Engaging in activities to help people in less developed countries 	i			
Participating in peaceful protests against laws believed to be unjust	□,			
k) Taking part in activities promoting environmental rights		2		
I) Dodicination in the Control of		Шη	ا ا	

Modified from ICCS 2016, Student Questionnaire,

on

good

Part A: Actions as Environmental Citizen – Past and Present	Question No	Number of items	Scale of items	Aim of the question
Part B: Competences as Environmental Citizen	4	6	1 to 4	Skills as an environmental citizen

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				□₄	
b) Argue your point of view about a controversial environmental issue				□₄	
c) Organize a group of students in order to achieve Environmental changes at school				□₄	
d) Follow a television debate about a controversial environmental issue				□₄	
e) Write a letter or email to a newspaper giving your view on a current environmental issue			Modified from ICCS 2016		
f) Speak in front of your class about an environmental issue		Stud	Student Questionnaire, Q29		

Part A: Actions as Environmental Citizen – Past and Present	Question No	Number of items	Scale of items	Aim of the question
Part B: Competences as Environmental Citizen	5	9	1 to 4	Attitudes as an environmental citizen

Agree

Disagree

Very much

5. The following statements are related to our relation to sustainability. There are no right or wrong answers.

(Please tick only one box in each row)

	agree	Agroo	Diougioo	disagree
a) I think that using more natural resources than we need				
does not threaten the health and well-being of people in the				
future.				
b) I think that we need stricter laws and regulations to		□,		
protect the environment.				
c) I think that it is important to take measures against				
problems which have to do with climate change.				
d) I think that everyone ought to be given the opportunity to	□,	□,		
acquire the knowledge, values and skills that are necessary				,
to live sustainably.				
e) I think that we who are living now should make sure that				
people in the future enjoy the same quality of life as we do			_,	_,
today.				
f) I think that women and men throughout the world must be	□,	□,		
given the same opportunities for education and			_,	
employment.				
g) I think that companies have a responsibility to reduce the	□,	□,		
use of packaging and disposable articles.			_,	
h) I think it is important to reduce poverty.				
j) I think that companies in rich countries should give		□,		— Co
employees in poor nations the same conditions as in rich				

Adopted from The Sustainability Consciousness Questionnaire, Gericke et al., 2018

Part A: Actions as Environmental Citizen – Past and Present	Question No	Number of items	Scale of items	Aim of the question
Part B: Competences as Environmental Citizen	6	17	1 to 4	Values as an environmental citizen

6. How important are for you the following statements? (Please tick only one box in each row)

p) It is important to me to have many and possessions

a) It is important to me to work hard and be embilious.

the state of the s			,	
	Most	Important	Little	Not
	important		important	important
a) It is important to me to prevent environmental pollution	□₁		□₃	□₄
b) It is important to me to protect the environment	□₁		□₃	□₄
c) It is important to me to respect nature	□ _i			
d) It is important to me to be in unity with nature	□ _i			□₄
e) It is important to me that every person has equal	□,		□ ₃	
opportunities				
f) It is important to me to take care those who are worse off	□₁			□₄
g) It is important to me that any person is treated justly	□ _i		□₃	
h) It is important to me that there is no war or conflict	□ ₁			□₄
j) It is important to me to be helpful to others	□₁		□₃	□₄
j) It is important to me to have fun	□ _i			
k) It is important to me to enjoy the life's pleasures	□ ₁			
I) It is important to me to do thinks that I enjoy	□ _i			
m) It is important to me to have control over others' actions	□ _i			
n) It is important to me to have authority over others	□ _i			The En
o) It is important to me to be influential	□,			\/_I-

Adopted from
The Environmental Portrait
Value Questionnaire,
Bouman et al. 2018



Part B: Competences as Environmental Citizen	Question No	Number of items	Scale of items	Aim of the question
Part C: Intention to act in the future as Environmental Citizen	7	4	1 to 4	Intention to act as a student <u>inside</u> school

7. Listed below are different activities that might be offered at your school. If you were given the chance, how likely is it that you would participate in each activity as a student <u>inside your school</u>?

(Please tick only one box in each row)

	Very likely	Quite likely	Not very likely	Not at all likely
a) Join a group of students campaigning for an environmental issue you agree with	□,			
b) Take part in environmental discussions in a "student assembly"				□₄
c) Participate in writing articles for a school newspaper or website regarding an environmental issue				□₄
d) Organize a group of students in order to achieve Environmental changes at school				

Modified from ICCS 2016, Student Questionnaire, Q30

Part B: Competences as Environmental Citizen	Questior No	Number of items	Scale of items	Aim of the question
Part C: Intention to act in the future as Environmental Citizen	8	11	1 to 4	Intention to act as a student <u>outside</u> school

8. There are many different ways how environmental citizens may express their opinions about important issues in society. Would you take part in any of the following activities to express your opinion in the future as a student Outside school?

(Please tick **only one** box in each row)

\" · · · · · · · · · · · · · · · · · · ·	,		
	I would certainly do this	I would probably do this	I would probably not do this
a) Talk to others about your views on environmental issues			
b) Contact an elected representative	□ ₁		
c) Take part in a peaceful march or rally	□ ₁		
d) Collect signatures for a petition			
e) Contribute to an online discussion forum about environmental issues	□ _i		
f) Organise an online group to take a stance on a controversial environmental issue	□ _i		
g) Participate in an online campaign			
h) Choose to buy certain products in support of social justice (e.g. fair trade, ethically sourced products)	□ _i		Mo
j) Spray-paint protest slogans on walls			St
j) Stage a protest by blocking traffic		\square_{i}	
		□ 2	

Modified from ICCS 2016, Student Questionnaire, **Q32**

I would

certainly

not do this

Part B: Competences as Environmental Citizen	Question No	Number of items	Scale of items	Aim of the question
Part C: Intention to act in the future as Environmental Citizen	9	3	1 to 4	Intention to act as an agent of change

9. In which degree would you do the following in the future?

(Please tick **only one** box in each row)

	I would certainly do this	I would probably do this	I would probably not do this	I would certainly not do this
a) I would try to change society and promote sustainability	□,			
b) I would educate my peers but also adults to act in eco-friendly way	□ _i			□₄
c) I would actively participate in decision-making and also engaged in action-taking	□ _i			□₄

Developed by A and D Hadjichambi

Based on EEC Model

Part B: Competences as Environmental Citizen	Question No	Number of items	Scale of items	Aim of the question
Part C: Intention to act in the future as Environmental Citizen	10	11	1 to 4	Intention to act as future citizen

10. There are many different ways how environmental citizens may express their opinions about important issues in society. Would you take part in any of the following activities to express your opinion as a future citizen?

(Please tick only one box in each row)

	I would certainly do this	I would probably do this	I would probably not do this
a) Talk to others about your views on environmental issues	П		
b) Contact an elected representative	□ ₁		□ ₃
c) Take part in a peaceful march or rally	□ ₁		□ ₃
d) Collect signatures for a petition			□ ₃
e) Contribute to an online discussion forum about environmental issues	□ _i		
f) Organise an online group to take a stance on a controversial environmental issue	□ _i		
g) Participate in an online campaign	П		□ ₃
h) Choose to buy certain products in support of social justice (e.g. fair trade, ethically sourced products)	□ _i		
j) Spray-paint protest slogans on walls			□ ₃
j) Stage a protest by blocking traffic		П.	

Modified from ICCS 2016, Student Questionnaire, Q32

would certainly not do this



Implementation of ECQ

Evaluation of the Impact of the learning intervention

iREEC 2019:

1st Conference of International Researchers of the Education for Environmental Citizenship

Malaga, Spain November, 2019

WG1, Room: HG N-107

Coord.: Dr Marta ROMERO ARIZA, University of Jaén, Spain

WG2, Room: HG N-106

Coord.: Dr Jelle **BOEVE-DE PAUW**, University of Antwerp, Belgium

WG3, Room: HG N-105

Coord.: Prof Niklas **GERICKE**, University of Karlstad, Sweden

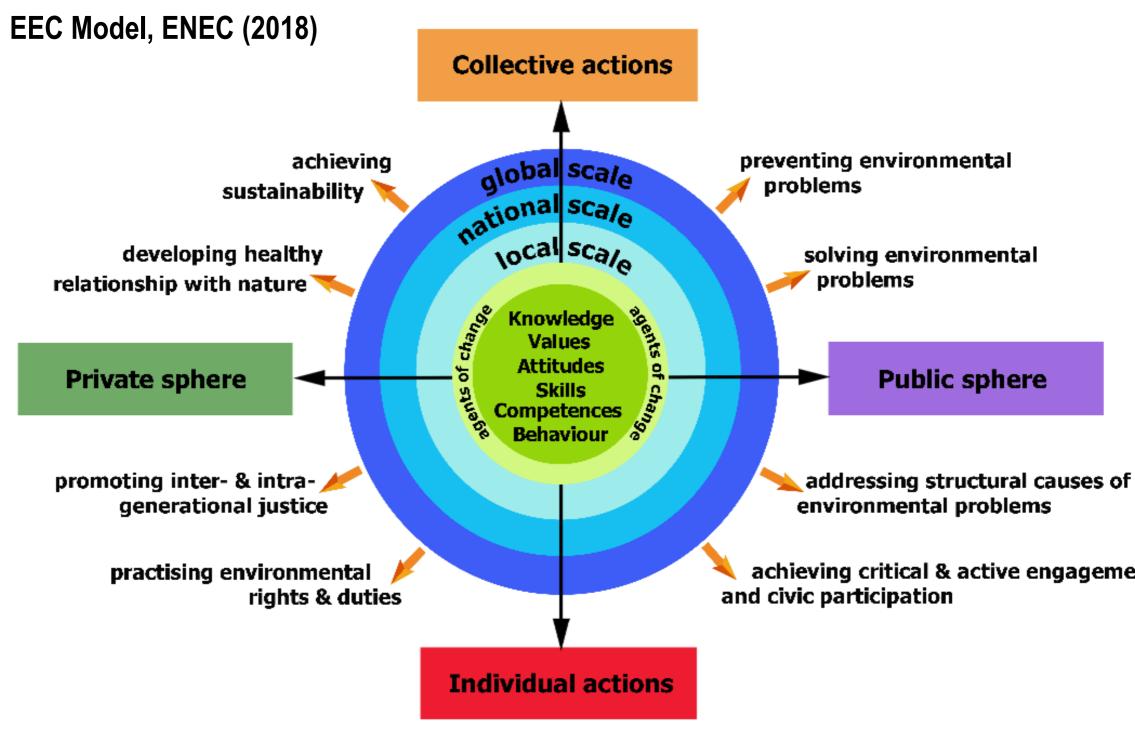
WG4, Room: HG N-203 & HG N-204

Coord.: Dr Demetra PARASKEVA-HADJICHAMBI, CYCERE, Cyprus

Thank you for your attention!

Andreas Hadjichambis Demetra Paraskeva – Hadjichambi

Cyprus Center for Environmental Research and Education



Education for Environmental Citizenship Pedagogical Approach

