

'Researcher in ecology for a bit': an international experience with students

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INTRODUCTION

Citizen science and information communication technology are key in connecting science and education, by expanding ecological research frontiers and public engagement. An international experience, involving European secondary school students in the Research Game project (LLP-Comenius), introduced them to the scientific method by sharing the excitement of research.

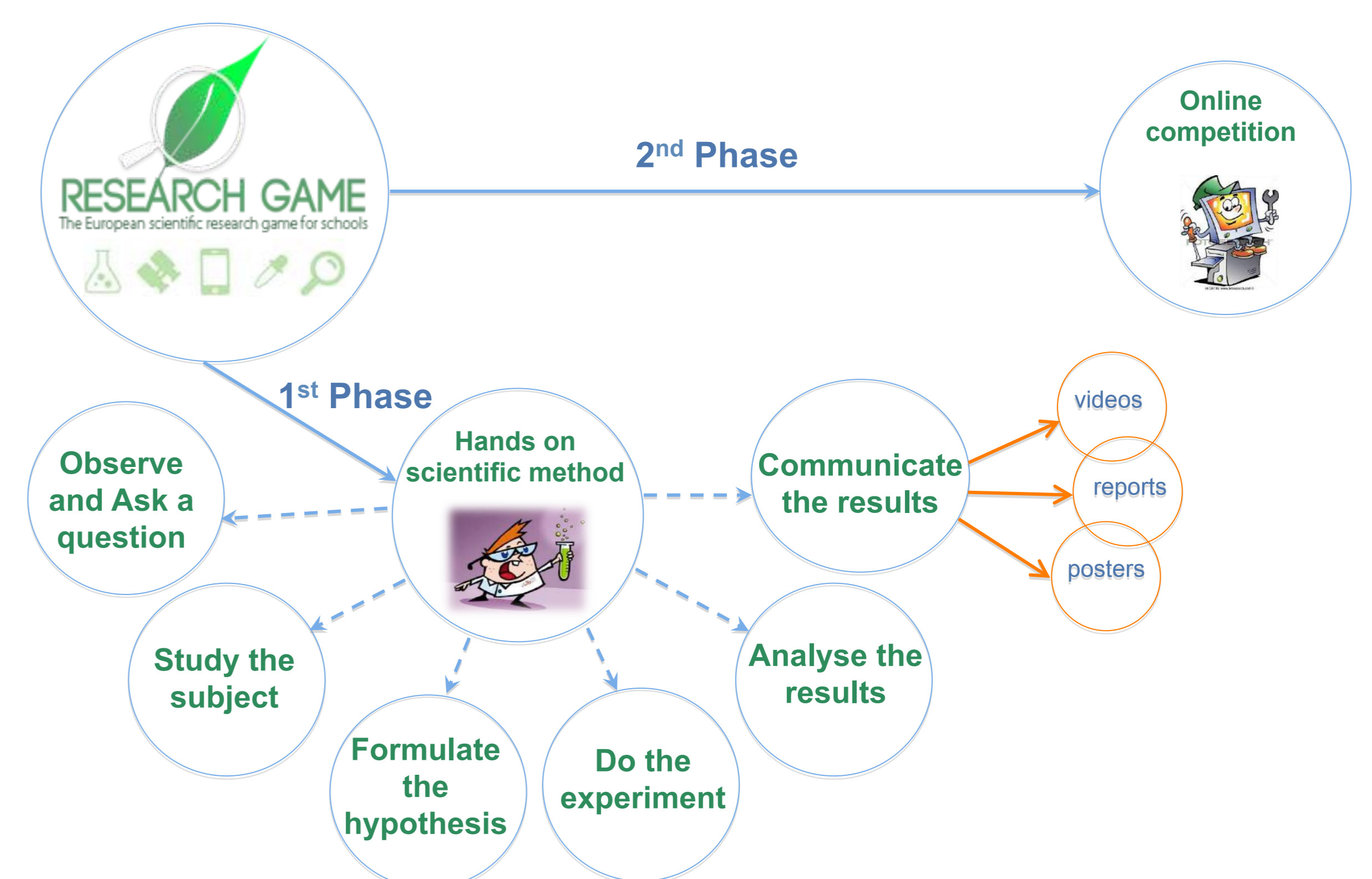
PROJECT PLATFORM AND RESULTS

A moodle platform was the centre of all activities, constituting both the game-based platform and its social community. Students were asked to build hypotheses, carry out research work, test the validity of their hypotheses and finalize a findings-based theory. On the platform, teams, shared their findings, making comparisons and exchanging information, and published the research products (videos, posters, reports) and played the final competition (www.researchgame.eu/platform).

49 teams from 8 countries participated in phase 1 and 70 products were published; 437 students played the final competition. One of the most interesting research experience concerned the Presidency of the Italian Republic Castelporziano Estate.

PROJECT RATIONALE

The project combined theoretical activities with ICT and requested the production of practical and didactic works related to biodiversity and ecology; it comprised two phases: 1) learning by doing, 2) online competition.



STUDENTS EXPLORING THE BIOLOGICAL BIODIVERSITY



The experience on the Presidency of the Italian Republic Castelporziano Estate

School: I.I.S. 'Carlo e Nello Rosselli' - Aprilia (LT), Italy

Hypothesis: the protected ecosystem of the Presidential Estate is not affected by natural and anthropic impacts.

Results: the high values of nitrites and nitrates in the dry samples bring out the effect of human activities and of the nearby city of Rome

Test: chemical (levels of air-water pollutants) data obtained on wet and dry samples were collected in three different sites

Conclusion: the hypothesis is not correct



Samples: February 12 2014	Volume	chlorides	nitrites	(*) Nitrates	Organic subst.	pH	Conductivity	
Method	Sample	(mL)	(mg/L)	(mg/L)	(mg/L)		microS/cm	
TorPaterno								
DAS	wet	14000	1,42	0,2	1,93	0,85	7,1	31,4
W D	wet	15000	1,42	0,1	1,08	5,95	7,8	21,3
W D	dry	500	3,55	0,2	2,46	5,91	7,2	108,7
Castello								
DAS	wet	13980	1,42	0,4	1,19	3,51	7,7	0,9
DAS	dry	12400	2,13	0,4	6,20	5,87	7,6	51,4
Trafusa								
W D	wet	15000	0,71	0,2	1,66	0,40	7,4	16,7
W D	dry	500	2,13	0,2	4,50	1,16	7,3	111,7
	tap water		3,55	0,0	20,42	0,40	6,7	216,0
	deionised w.		1,42	0,0	0,00	0,24	7,6	28,9
	mineral w.				44,43			

All the values are an average of two or three measures; (*) calibration curve

FOLLOW UP

- Look for project opportunities to design 'Ecosystems of Knowledge' platforms to promote the study of ecology in schools
- Connect 'Research Game' with Citizen Science initiatives
- Connect 'Research Game' with national initiatives

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