

Assessing and Evaluating A case study in the framework of EU-UNAWWE Italy project

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Who are we?



James Bradburne

Is an Anglo-Canadian architect, designer and museologist. He has designed world expo pavilions, science parks and international art exhibitions. He was educated in Canada and in England, graduating in architecture with the Architectural Association and taking his doctorate in museology at University of

Amsterdam. Over the past twenty years he has produced exhibitions and organised research projects and conferences for UNESCO, national governments, private foundations and museums in many parts of the world.

He is currently the director general of the Fondazione Palazzo Strozzi, an organisation whose goal is to turn Palazzo Strozzi in Florence into a dynamic cultural centre.

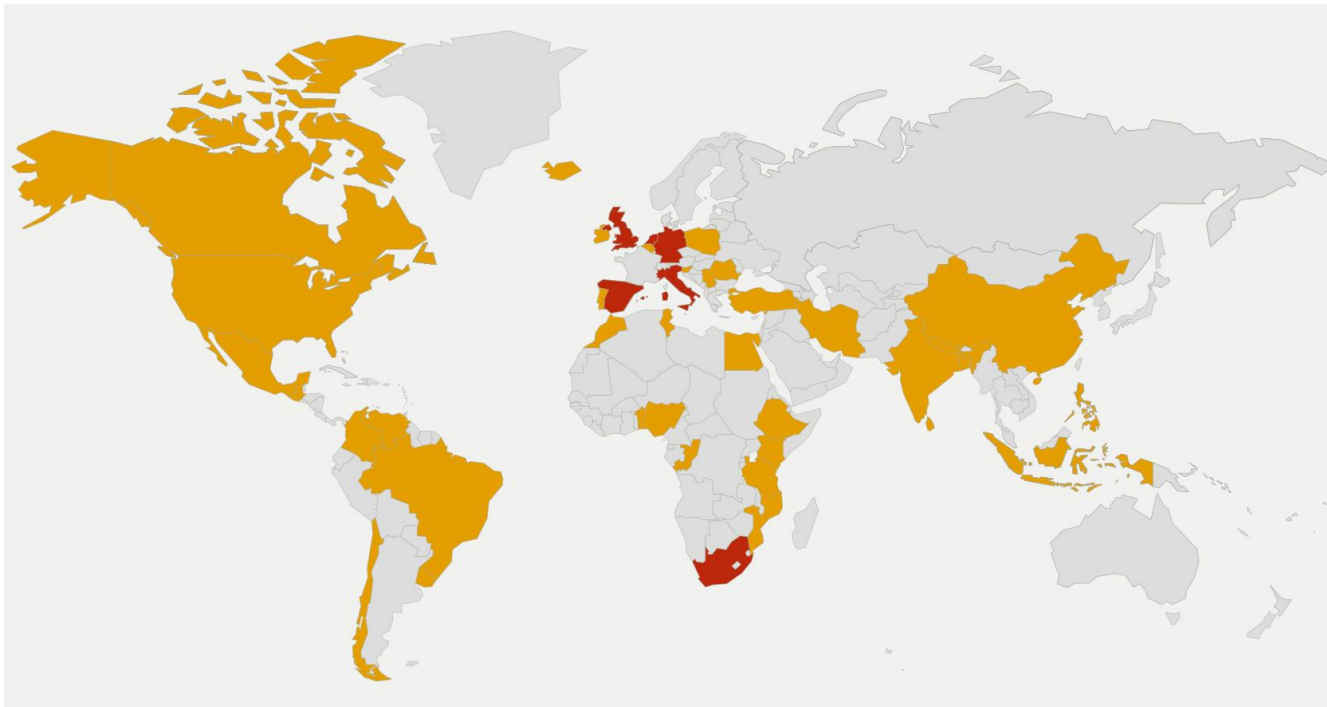
and



EU–UNAWE project managers for Italy, Arcetri
Observatory (Florence)

EU UNAWE is an FP7th EC project, an international program including many different countries ... and many different approaches!

The challenge was that of adapting and including the international guidelines on evaluation .



Unawe in Italy



The project has reached more than 10 schools in different parts of Italy

Children directly reached: ~ 5600

Teachers directly reached: ~ 400

The case study refers to two 3rd classes of a Primary school in Ronco Briantino, near Milano



The background is a textured, brownish-gold surface, possibly representing recycled paper or cardboard. It is densely populated with white line-art illustrations of various space-related elements. These include constellations (stars connected by lines), planets (some with rings like Saturn), a bright sun with rays, a crescent moon, several rockets with flames, astronauts in space suits floating, and various celestial bodies like moons and asteroids. The overall theme is space exploration and astronomy.

Our approach

“The Reggio Approach”

“The Reggio Approach is a complex system that respects and puts into practice many of the fundamental aspects of the work of Dewey, Piaget, Vygotsky and many others. It is a system that lends itself to: the role of collaboration among children, teachers and parents; the co-construction of knowledge; the interdependence of individual and social learning; and the role of culture in understanding this interdependence. (Baji Rankin, 2004)

At the heart of this system is the powerful image of the child. Reggio educators do not see children as empty vessels that require filling with facts. Rather they see children as full of potential, competent and capable of building their own theories. The Rights of Children as written by Loris Malaguzzi best describes how children are viewed.”

http://www.reggiokids.com/the_reggio_approach.html



So, also in the EU UNAWWE Italy project, the approach was that of always keeping the child as the center of his/her learning process



We visited the schools involved in the programme many times during the school year, encouraging teachers to try out and do-for-themselves, build and adapt to their children's needs, not in a sporadic way.

Documentation



Evaluation

Documentation

“Documentation represents a means to allow the work group to elaborate and turn the experiential life into a cultural data. The documentation brings back the memory of events and paths, allowing to reason and reflect over them, to evaluate the coherence with the educational purposes, to work out again the meanings and to assimilate the knowledge acquired through the action. It seems essential in this sense to ensure the systematic aspect and the coherence of the documentation defining criteria, times and methods, ways of archiving and planning the moments devoted to its analysis”.

Franca Mazzoli Documentare per Documentare

<http://sociale.regione.emilia-romagna.it/documentazione/pubblicazioni/guide/quaderni-del-servizio-politiche-familiari-infanzia-e-adolescenza/7.-documentare-per-documentare>)



- We have regularly documented the experiences (photos, videos, audio recordings of the children' conversations, drawings, artistic materials)
- We have made an archive of the documentation materials
- Criteria and documentation methods have been shared within the workgroup
- We have made use of the documentation as a tool for thinking over and reintroduce the educational courses
- The documentation must allow the examination of the accomplished experience evaluating its coherence with its educational aims.

The background is a textured, brownish-gold surface covered with intricate white line drawings of various space-related elements. These include rockets, planets, moons, stars, constellations, astronauts, and space stations. The drawings are scattered across the entire page, creating a rich, thematic pattern.

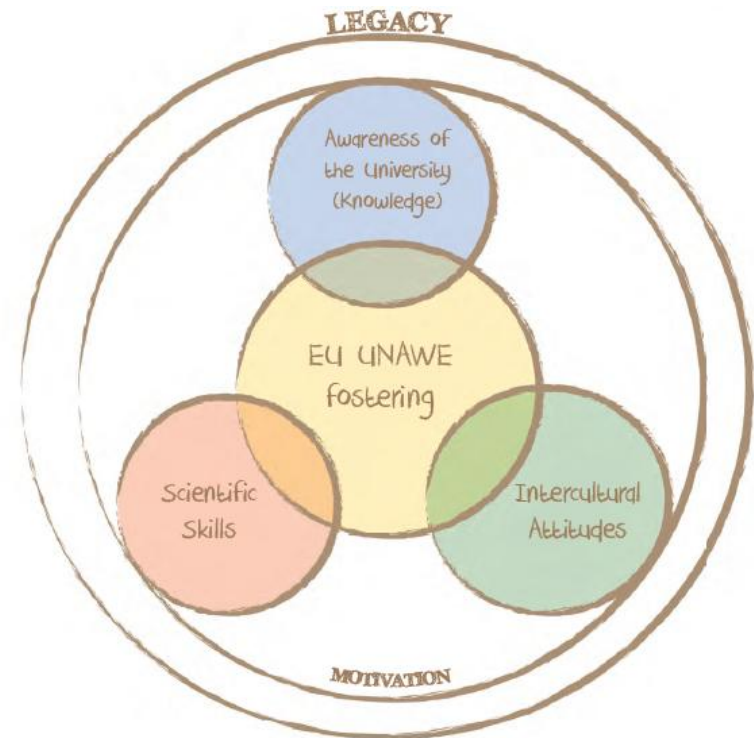
Evaluation

Evaluation methodology

Theoretical reference guidelines:

EU UNawe programme evaluation booklet

http://unawe.org/static/archives/guides/pdf/EU_UNawe_evaluation.pdf



What



Inside a nebula at Ferrara kindergarten

Especially when young children are involved the evaluation of a project by simply measuring the children's capabilities in the cognitive area could not be exhaustive.

WHO?

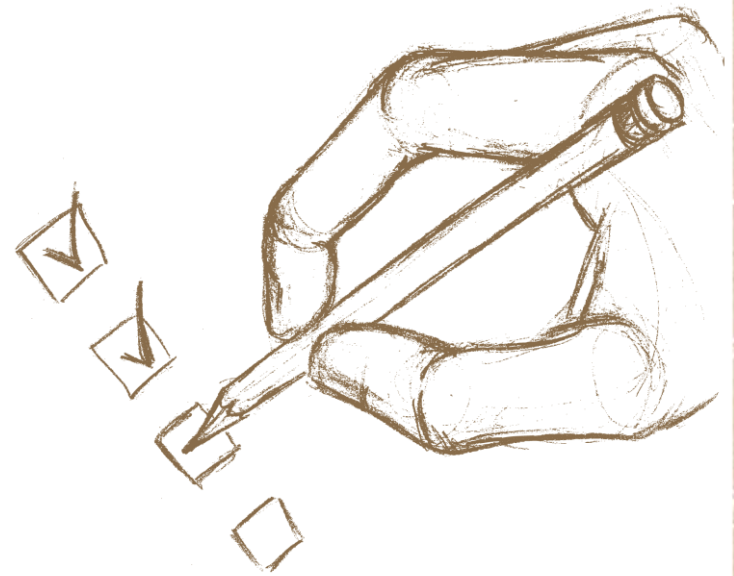


- Children
- Teachers
- Parents

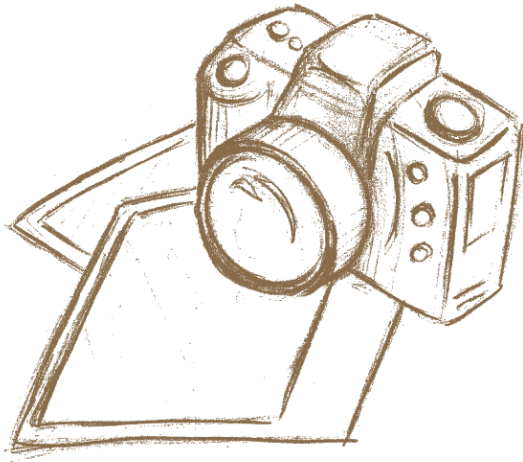
it takes a village to raise a child.

HOW – The indicators

“**Indicator**” means a variable that after being measured gives information on a particular phenomenon or situation. The term “Indicator” refers to a numerical data having a high informative content and having the purpose of putting in evidence (“offer indications”) a given situation in an extremely synthetic way



HOW – The descriptors



When the dimension of the inquiry is qualitative the term “Descriptor” is better suited than “Indicator”. In this case, in fact we are referring to a “description (based on the use of the alphabetical code) of characteristics and properties having the capability to represent a particular situation”

Some EU UNAWE Italy indicators

- questionnaires
- number of teachers and educators involved in the training courses
- percentage of teachers and educators introducing the issues suggested by EU UNAWE in their curricula
- number of children participating to the project
- percentage of “scientifically correct” answers in primary schools
- time of attention during the activities in the nursery schools



Some EU UNAWE Italy descriptors for teachers

- Were the teachers curious about the subjects dealt with? Did they research browsing books or the Internet? Did they write emails to the project's managers in order to ask for materials? (UNAWE domain: scientific skills)
- Did the teachers introduce in their curricular activities the themes and methodologies dealt with in the courses? (UNAWE domain: scientific skills)
- Did the educational practices related to Astronomy education change? (Unawe domain: intercultural attitude)



Some EU UNAWWE Italy descriptors for children

- Are children intrigued? do they became curious? do they ask questions? (UNAWWE Domains of active learning: motivation)
- Do children produce materials related to the subjects treated? Do they invent stories? Draw stars? Do they make “space games” or astronaut games? Do they ask to observe the sky? (UNAWWE Domains of active learning: Scientific Skills)
- At the end of the project did the children’s imaginative world and language change? (UNAWWE Domains of active learning: Scientific Skills)
- Did the children acquire a better awareness about the themes desalt with? UNAWWE Domains of active learning: Universe Knowledge)
- Are children curious about the intercultural themes of the project? (UNAWWE Domains of active learning: Intercultural



G- ASTRONOMY
Astronomy at lunch time!

The background is a textured, brownish-gold surface covered with white line-art illustrations of various space-related elements. These include constellations, planets (some with rings like Saturn), rockets, astronauts in space suits, moons, stars, and galaxies. The overall theme is astronomy and space exploration.

A case study:
a primary
school in Ronco
Briantino

Context

Case study: the 3rd classes of the Primary school of Ronco Briantino

We have chosen as case study carried out in the third classes of the primary school of Ronco Briantino, a municipality close to Milan. This choice was made because children in the third class, apart from verbalizing, they are also using written communication with a certain precision. This has allowed us to have more indicators for our evaluation. Furthermore in these classes the educational paths proposed by the teachers have been particularly full of suggestions and activities.

First step: the stars in the planetarium and the starry sky.



documentation!

Second step: the schoolwork on the issues that have most interested the pupils. Test of the materials.



In itinere evaluation

During this phase the children expressed their interests.

These are the issues on which boys and girls have most asked to concentrate:

- Birth and expansion of the Universe
- The constellations and the stars
- The Solar System formation
- The forces of the Universe
- The creation of the Earth



*Third step: meeting with the astronomers
and a Skype-connection with a South African
class joining the project*



Fourth step: the night at school.





Fifth step: the final party for the parents with the planetarium operated by the children, an astronomical exhibition and workshops prepared by the parents





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Some evaluation results

In itinere evaluation

During the whole project we have conducted formative evaluations and adjusted our goals to the specific situation and to the needs that arose:

e.g.

- The selection of themes to explore with teachers, parents and children
- We decided to include many scientific activities because of the initial high degree of non-scientific answers from children (God, etc.)
- We stressed the idea of the scientific method because of too many spiritualistic explanations

Qualitative results

The analysis of the indicators and descriptors listed earlier have led to very positive evaluation results

e.g.

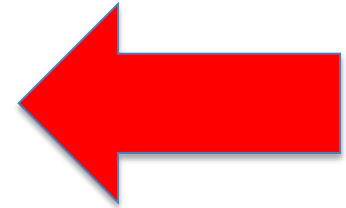
- Teachers worked including astronomy in all the curricular activities (not only Maths and Science) - of all the grades and classes – also within an inter-cultural perspective.
- Thesis work by a trainer teacher on the project
- Parents were actively involved in many activities and science fairs at the end of the school year
- Many emails and questions from children and students about project's subjects
- Summer diary of one child dialoguing with an 'alien' friend
-

THIS ALSO SERVES AS QUANTITATIVE DATA BECAUSE IT HAS BEEN DOCUMENTED IN ALL OUR UNawe PROJECTS THROUGHOUT ITALY.

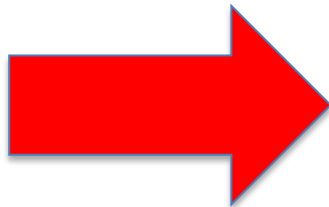
Some qualitative results: Children conversations



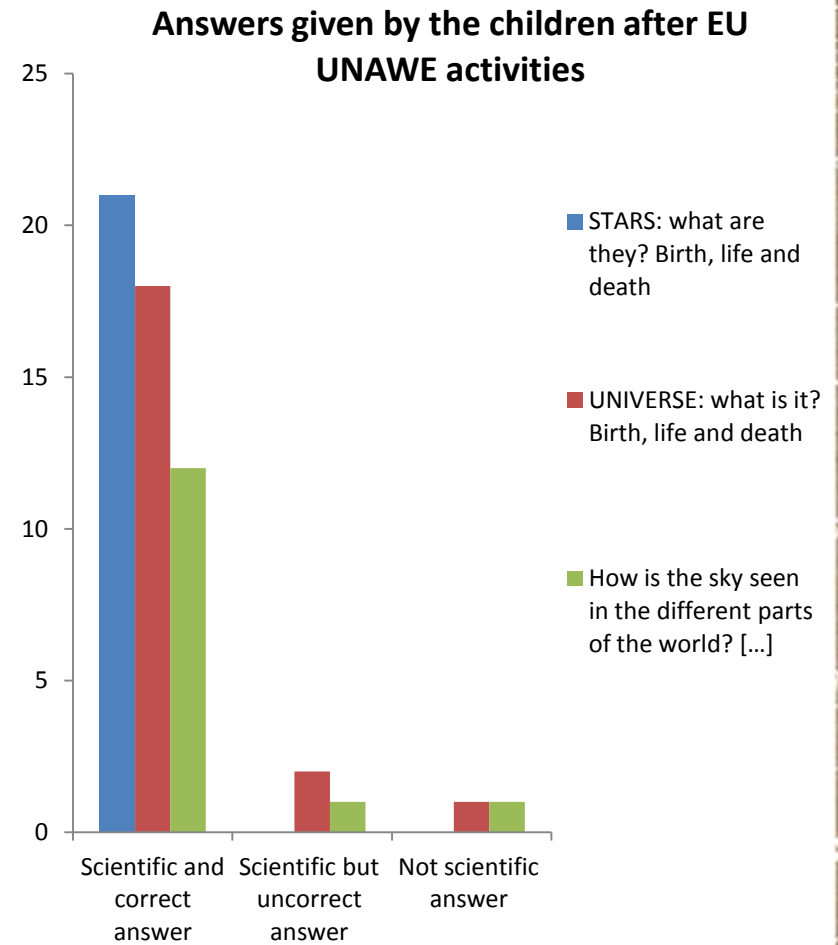
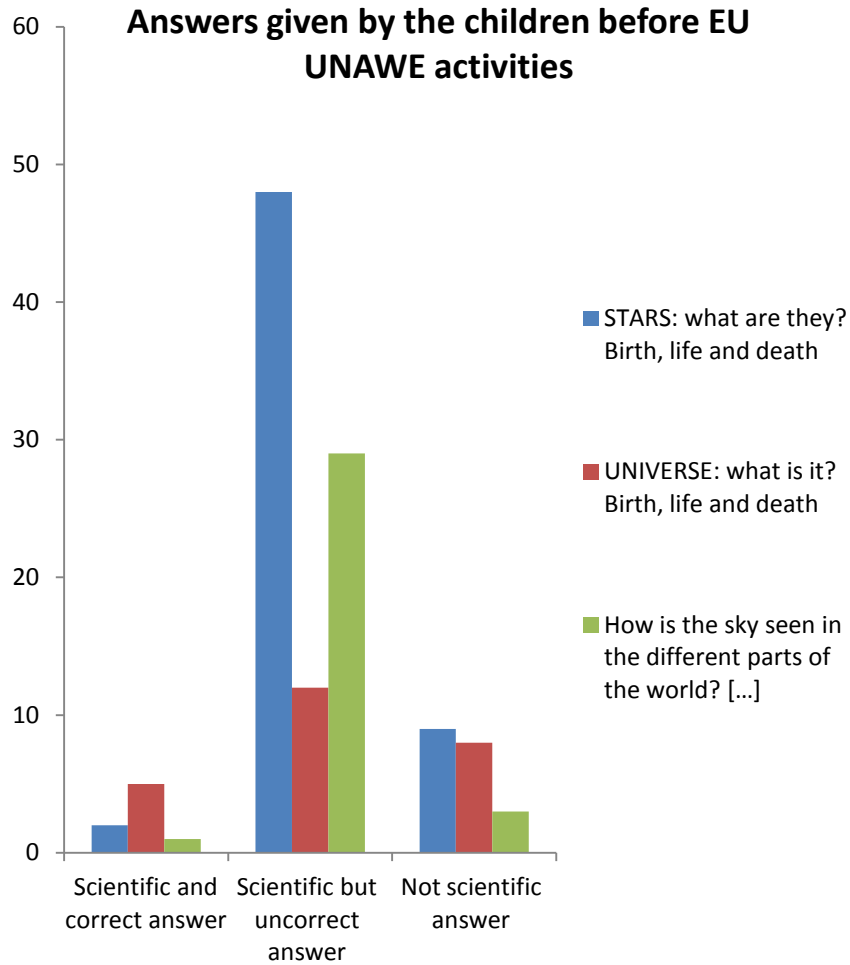
At the very beginning of the project



Long term evaluation: one year after....

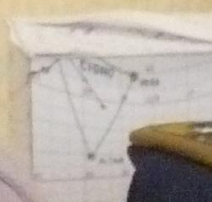


Some quantitative results





THANK
YOU!



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