



# The I-CLEEN Project (Inquiring on CLimate & ENergy)

Enhancing an enquiry-based approach to Earth System Science in Italian  
classrooms

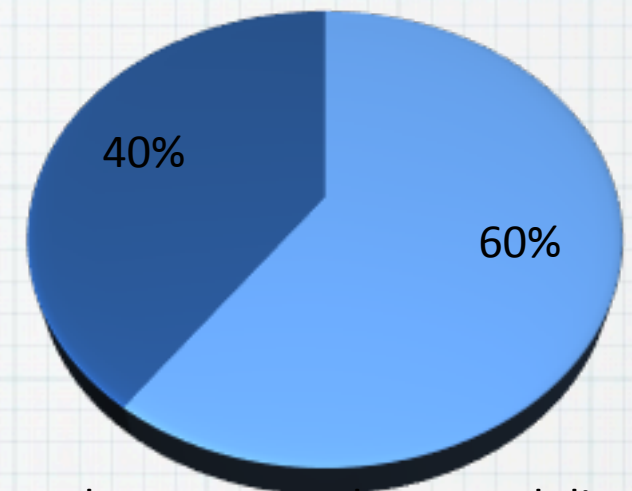
- Matteo Cattadori & the I-CLEEN editorial staff -



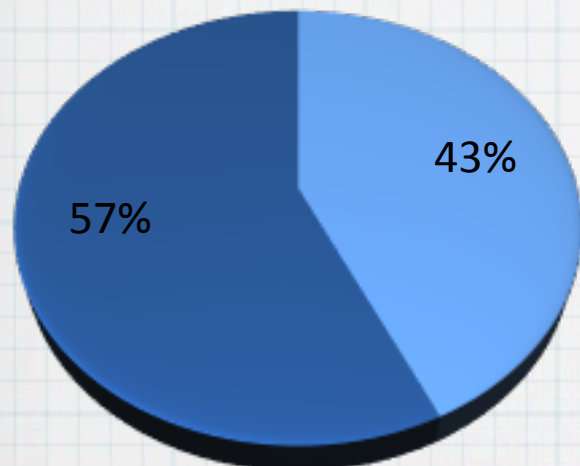
# state of the art-in 3 points



1 “Which of the following teaching methods do you use most in your classroom activity??”



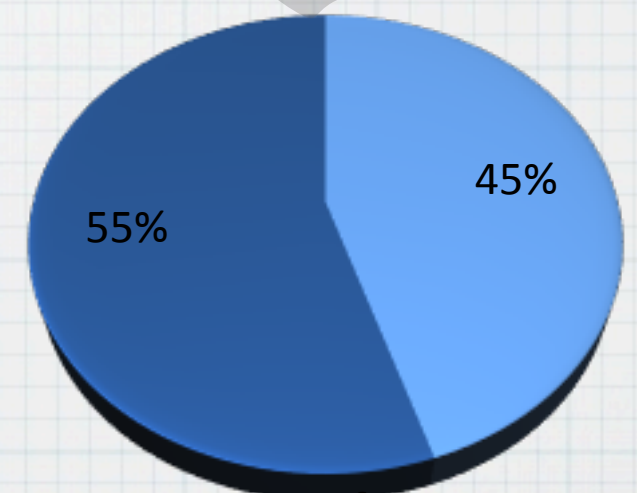
● monologue + monologue and discussion  
● interactive and experimental activities



2 “How would you consider your relations with your colleagues as far as the educational and teaching \ planning is concerned?”

● not satisfactory enough  
● satisfactory or very satisfactory

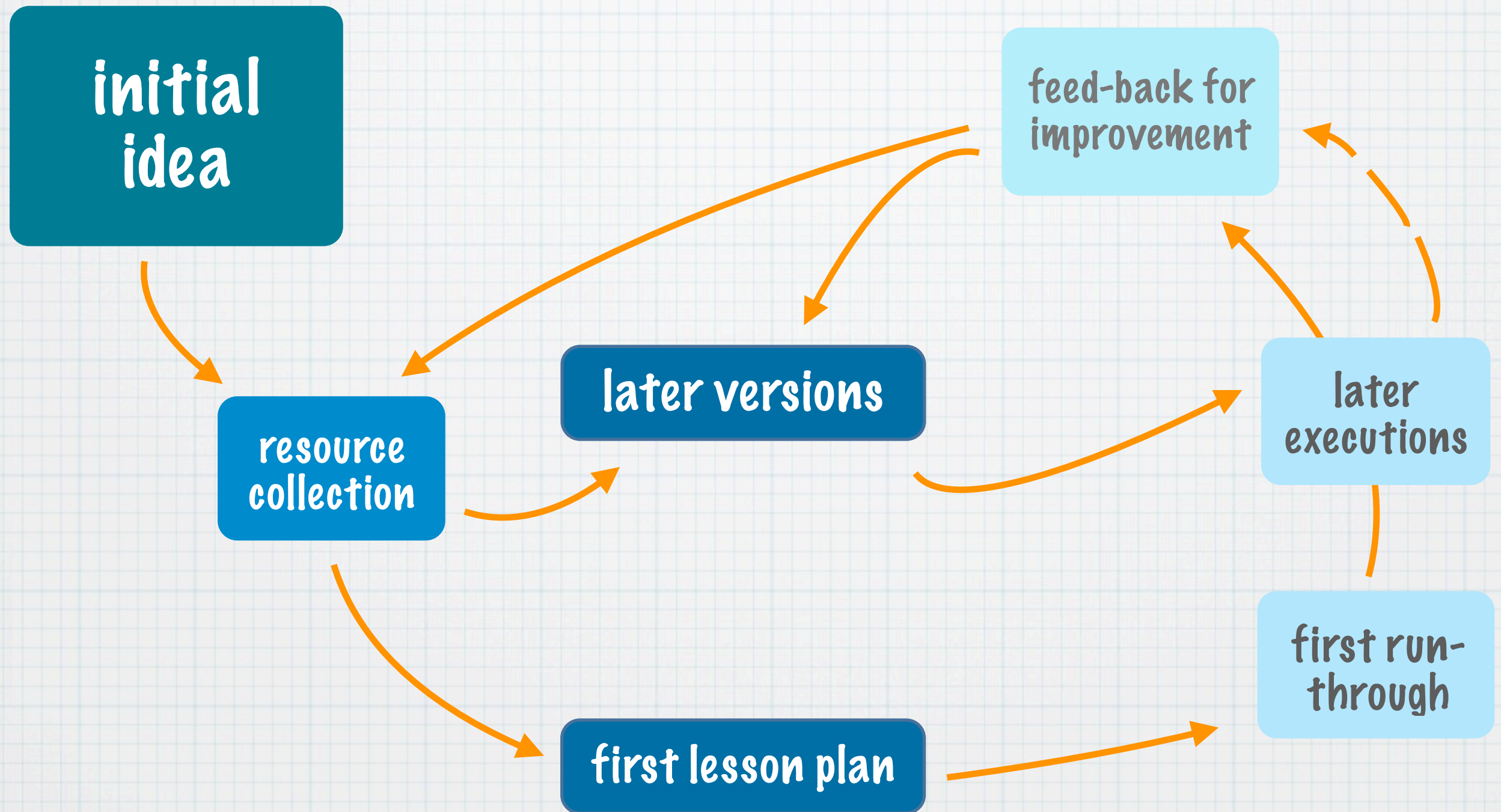
3 “Which of the teacher training methods you have experienced would you consider most effective?”



● training on specific topics I teach  
● all others (9 items)



# the model



# objectives



initial  
idea

res  
coll



A database of resources that **SIMPLIFY THE PROCESS** of setting up an interactive lesson, created using collaborative means.

first lesson plan

later  
xecutions

first run-  
through



# general description



\* **ROOTS**



and



\* **FUNDED** from the Natural Science Museum of Trento (MTSN) and the local School Department

\* project kick-off in September 2008. **ONLINE** since December 2009

\* **EDITORIAL STAFF:** 5 science teachers (all practicing in different places across the country) working on line and in person

\* group of the **SCIENTIFIC REVIEWERS** (MTSN, INGV, UNITN)

\* software house: YMIR srl - Trento







Try



Take part

- \* A repository **MADE BY** teachers and scientists...
- \* ...on a **SPECIFIC RANGE** of science topics (Climate and Energy/Earth System Sciences)...
- \* ..following **BPRACTICES** (DLESE, LRE, OER), guidelines & handbook (DESIRE, SPREAD), and **STANDARDS** , (LOM, DCMI) under supervision of a local agency (INDIRE).
- \* Drawing from **MULTIPLE SOURCES** (teachers experiences, MTSN, NSTA, IODP) and of different nature (not only ICT oriented)
- \* Resources provided with one/some **"SUPPORTS SHEETS"** structured using original templates (quality vs quantity) and published under Creative Commons license



# methods



Try

Take part

- \* Prize contest
- \* Workshops
- \* Several kind of collaborators
- \* Several services (attuned to the users' need)

ICT tools with a tough but flexible **BODY** (software) and a user-friendly **INTERFACE** (GUI)



**LIFERAY**  
Enterprise. Open Source. For Life.





- \* In the first 12 months: 20 **VISITS** per day.  
Over 13k support-sheets **DOWNLOADED** (1.8 dwnlds/visitor)
- \* Two current **STUDIES** of the University of Trento: usability/accessibility and effectiveness of the project
- \* **WINNER** of the e-Learning Award 2010 (EU Schoolnet)
- \* I-CLEEN has been **INCLUDED** in the following repositories: OPAL (Open Educational Quality Initiative) and SCIENTIX
- \* “ We noticed that teachers involved in the project have considerably increased their trust in the reliability of the ICT as effective tools to share and improve their work. ”



# references



- Cavalli A., “Gli insegnanti nella scuola che cambia”, Società Editrice Il Mulino Studi e Ricerche, Bologna, 2000.
- Hofman e Worsford “Selection criteria for Quality controlled information gateways” October, 1999 <http://www.ukoln.ac.uk/metadata/desire/quality/>
- DESIRE Information Gateways Handbook <http://www.desire.org/handbook/>
- SPreaD - Strategic Project Management Tool-Kit for Creating Digital Literacy Initiatives <http://wiki.spread-digital-literacy.eu/>
- Dublin Core Metadata Initiative <http://dublincore.org/>
- Draft Standard for Learning Object Metadata IEEE 1484.12.1-2002 Institute of Electrical and Electronics Engineers Standards Association, New York
- DLESE Digital Library for Earth System Education <http://www.dlese.org/library/index.jsp>
- LRE Learning Resource Exchange for Schools <http://lreforschools.eun.org/LRE-Portal/Index.iface>
- OER Commons Open Educational Resources <http://www.oercommons.org/>
- ODP Ocean Drilling Project <http://www-odp.tamu.edu/>
- NSTA National Science Teaching Association / <http://www.nsta.org/>
- Scientix The community for Science Education in Europe <http://www.scientix.eu>
- OPAL. Open Education Quality Initiative <http://opal.innovationpros.net>





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