

POLJOPRIVREDNI FAKULTET UNIVERZITET U NOVOM SADU

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Università DEGLI STUDI FIRENZE

DISPAA

DIPARTIMENTO DI SCIENZE DELLE PRODUZIONI AGROALIMENTARI E DELL'AMBIENTE



Universität für Bodenkultur Wien

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DEPARTMENT FÜR WASSER-ATMOSPHÄRE-UMWELT



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# Science for education and education for science

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WP3: Dissemination and exploitation

## Bring research into schools

raise the level of interest in research and higher education in the younger generation











## "Children's university"

- 2 consecutive years
- 4 events
- Younger group (8-9 year old)
- Older group (9-10 year old)
- Environmental related topics + experiment
- What science is, and what is not











### "Children's university"

Modeling clay + ice + water = melting glaciers

















































# "Children's university" Blackboard chalk + vinegar = Erosion







































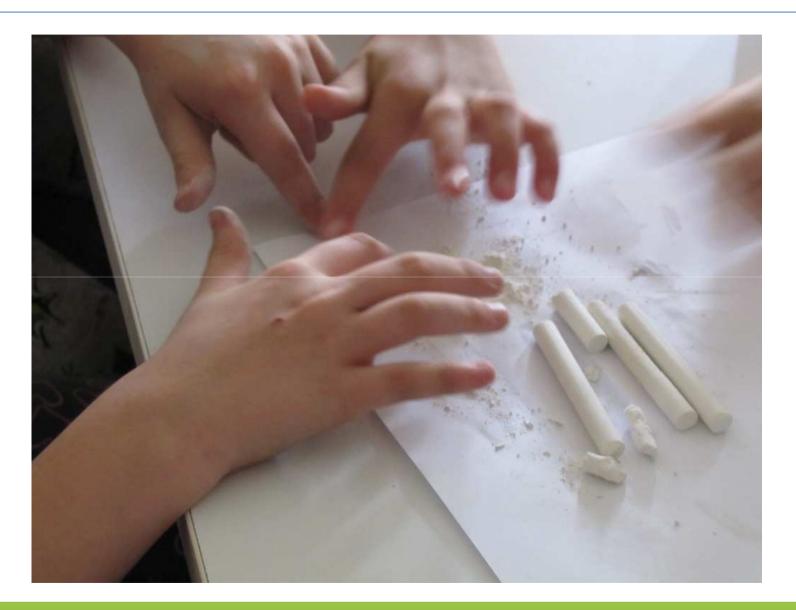






















# "Children's university" basics of the scientific methods and scientific practice













### "Children's university"

basics of the scientific methods and scientific practice

- Science vs. pseudoscience
- Science vs. protoscience
- Scientific knowledge is temporary
- What are the objects of scientific inquiry (everything that can be observed and measured)
- By definition scientific predictions cannot be 100% accurate
- Falsifability of science











# Round table discussions on Critical thinking

- What is critical thinking?
- Why it can be useful?
- Does, and to what extent formal education nurture critical thinking?
- To what extent are characteristics of critical thinking (openness to new ideas, skepticism, fair acceptance of facts and arguments, willingness to change your opinion if facts/arguments point to that) useful in daily life/school/science?











-high schools-

"This kind of discussion will undermine authority of our school and our staff"

"You will force our pupils to conclude that they do not need school at all"











## Round table discussions on Critical thinking

**120** 

vs.

3 days











-high schools-

we chose those prep schools to be representative sample of the upper echelon of our high schools.

It turn out that they probably are representative sample, but not in a manner we expected.











-Faculty of Agriculture-













-Faculty of Agriculture-













#### **Conclusions**

- Attempt to inquire on inquiring minds appears to be (almost) deadly - usual response for challenging established norms
- Both students and pupils:
  - are very aware of the problem...but
  - have quite pragmatic response ...so
  - they lack skills in critical thinking
  - usually try to find justifications for their teachers
  - It seems that prep school students are very prone to various conspiracy theories
  - public vs. private schools