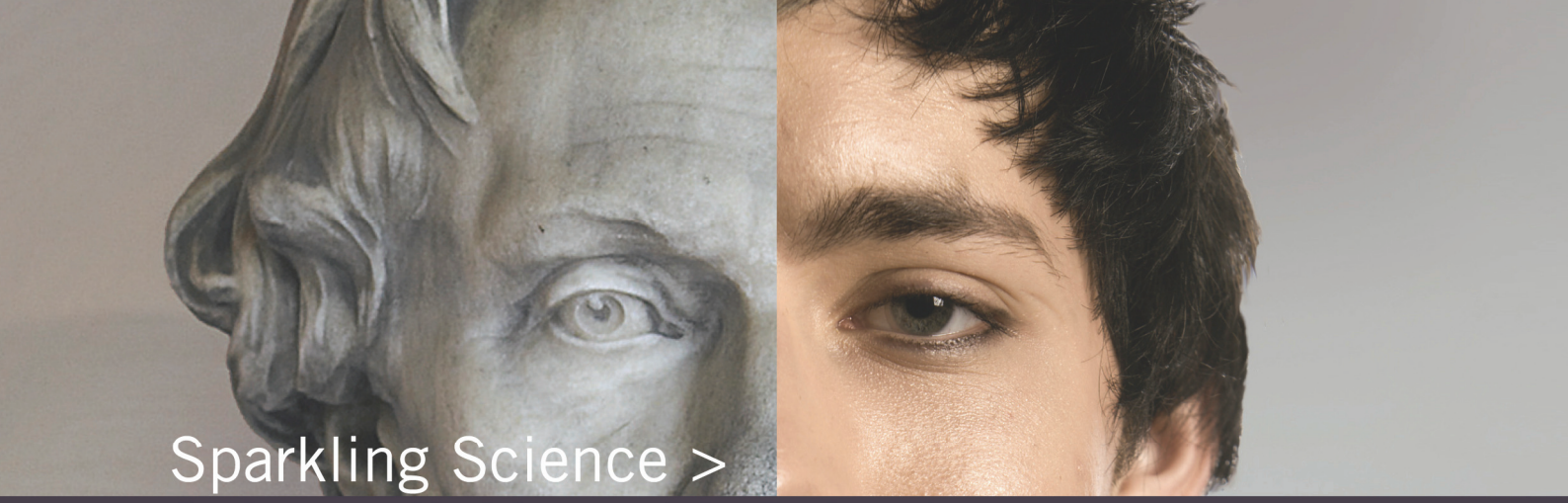

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INTERIM REPORT, July 30th 2009

KiP * Kids Participation in Educational Research

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University of Vienna, Dept. of Marine Biology
University of Vienna, Dept. for Palynology and Structural Botany
University of Vienna, Dept. of Evolutionary Biology
Teacher Training College Lower Austria

SCHOOLS INVOLVED
GRG 22 Theodor-Kramer-Straße, Vienna; BRG 19 Krottenbachstraße, Vienna; HLW Wr. Neustadt; BG/BRG Gmünd; Europa- und Sport-Hauptschule Mautern; BRG 18 Schopenhauerstraße, Vienna; Akademisches Gymnasium Wien I; BRG 6 Marchettigasse, Vienna

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KiP * Kids Participation in Educational Research
Inquiry Learning in Life Science Research Projects

Didactic research with students

The attitudes of students towards the sciences and factors for changes of attitudes are often the subject of educational research. Students are, as in many other social science research projects, objectified. Research is conducted on them and ultimately, they are evaluated. The processes involved in gaining knowledge remain a secret. This is also a deficit in professional research. Hidden data, which only the students are capable of knowing, their specific view of data, their expertise and their deductions are lost in the research.

This is where KiP starts: Students examine in cooperation with teachers and educational research their own learning processes and the quality of the KiP learning environments. The scientists' and students' mutual fields of research are the five projects at the Department of Life Sciences at the University of Vienna (Bio-KiPs) in which they were invited to join by scientists.

At the beginning of the project students took part in a group discussion on their image and ideas of scientific research. The discussion was led and documented by professional researchers. At the same time research based on a questionnaire was undertaken. Findings from the first survey helped in planning the mutual research workshops with students. The results of these workshops were presented in the course of a reflection workshop for teachers and scientists. In the coming phase of the project the focus will be on the detailed analysis on the participative research with students on the learning processes in KiP.

Highlights of the research results

Student Attitudes towards Natural Sciences
The first analysis of the questionnaires on the topic shows that the majority of classes …
* … enjoy dealing with scientific problems.
* … view the natural sciences as meaningful for themselves and society.
* … better understand statements on their own environment due to natural sciences.

Expectations and Ideas from those Involved
* Teachers expect of KiP to learn new methods for the implementation of research learning in standard instruction.
* Researchers expect of KiP to gain new perspectives on their respective subjects from students.
* For students research is observation, collecting and measuring.


Interim Report, July 30th 2009, Franz Radits, franz.radits@univie.ac.at

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Determination of Position for Mutual Research and Learning in KiP: Students Change Research

In the first phases the focus of KiP was on the work in the life science "labs". Students researched and learnt in five biological science research projects (neurobiology, environmental research, marine biology, palynology and evolutional biology). Teachers and students negotiated with scientists the questions and terms for research. Teachers fostered this work in their lessons and reflected upon the experiences with their students. The impressions gained by students in being able to look over the shoulders of professional natural scientists, will be, among other things, the subject of didactic research in the upcoming project phase.

Research with scientists and learning about scientific research
"Yes, well, research, it is much more than just observing where animals look for a habitat." (14-year-old student)

NEURO-KiP (Dept. for Neurobiology and Cognition Research; BRG 6, BG/BRG Gmünd)
Development and implementation of an experiment on the visual system of the Cupiennius salei spider
RESEARCH MEANS CHALLENGING GIVEN KNOWLEDGE AND GENERATING HYPOTHESES: "I still don't understand. The spider is in the lab. How does it know that it's a real tree? You're all assuming that that spider perceives the surface as a tree that the spider wants to live in the tree. It just goes there. We don't know why." (16-year-old student)

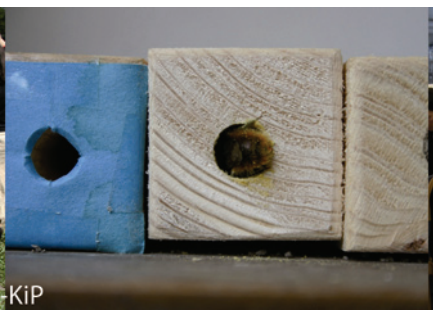
NAT-KiP (Dept. of Conservation Biology, Vegetation- and Landscape Ecology; GRG 22, HS Mautern)
Examination of the biodiversity found in apricot gardens and in the vegetation of field edges
STUDENTS DISCOVER NEW POTENTIALS IN GENETIC ENGINEERING: "Maybe woodpeckers will mutate like Spiderman once that they eat a genetically modified apricot." (14-year-old student)

SEA-KiP (Dept. of Marine Biology; BRG 19)
Observation of the behaviour of Bythograea thermidron vent crabs via video sequences
EVERYDAY PROBLEMS AND DEEP SEA RESEARCH: "We could see if the crabs preferred eating cat food or chocolate" (15-year-old student)

PALY-KiP (Dept. for Palynology and Structural Botany; BRG 18, Akademisches Gymnasium 1)
Implementation of comparative pollen analyses at both schools
RESEARCH IS BOUNDLESS: "We wanted to meet ALL the pollen." (15-year-old student)

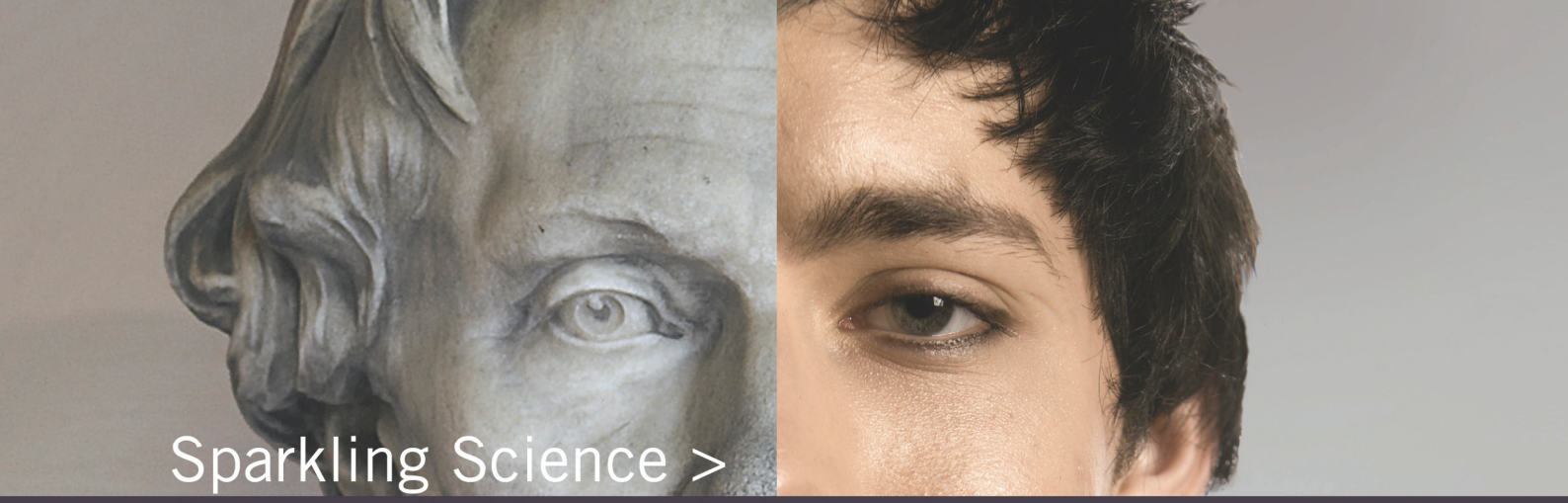
EVO-KiP (Dept. of Evolutionary Biology; HLA Wr. Neustadt, GRG 22)
Development and implementation of attempts to orienteering behaviors of mason bees
STUDENTS AS THEORISTS: "I think that bees can have twins, but it happens rarely, because it can happen with chickens, because last Sunday I had an egg with two yolks." (11-year-old student)


EVO-KiP




Reflexionswerkstatt 1


NEURO-KiP



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