



***The Impact of Interactive Teaching
Methods Applied to the Interdisciplinary
Learning of Natural Phenomena***

***Workshop
CHEIA, 12-18 July 2010***

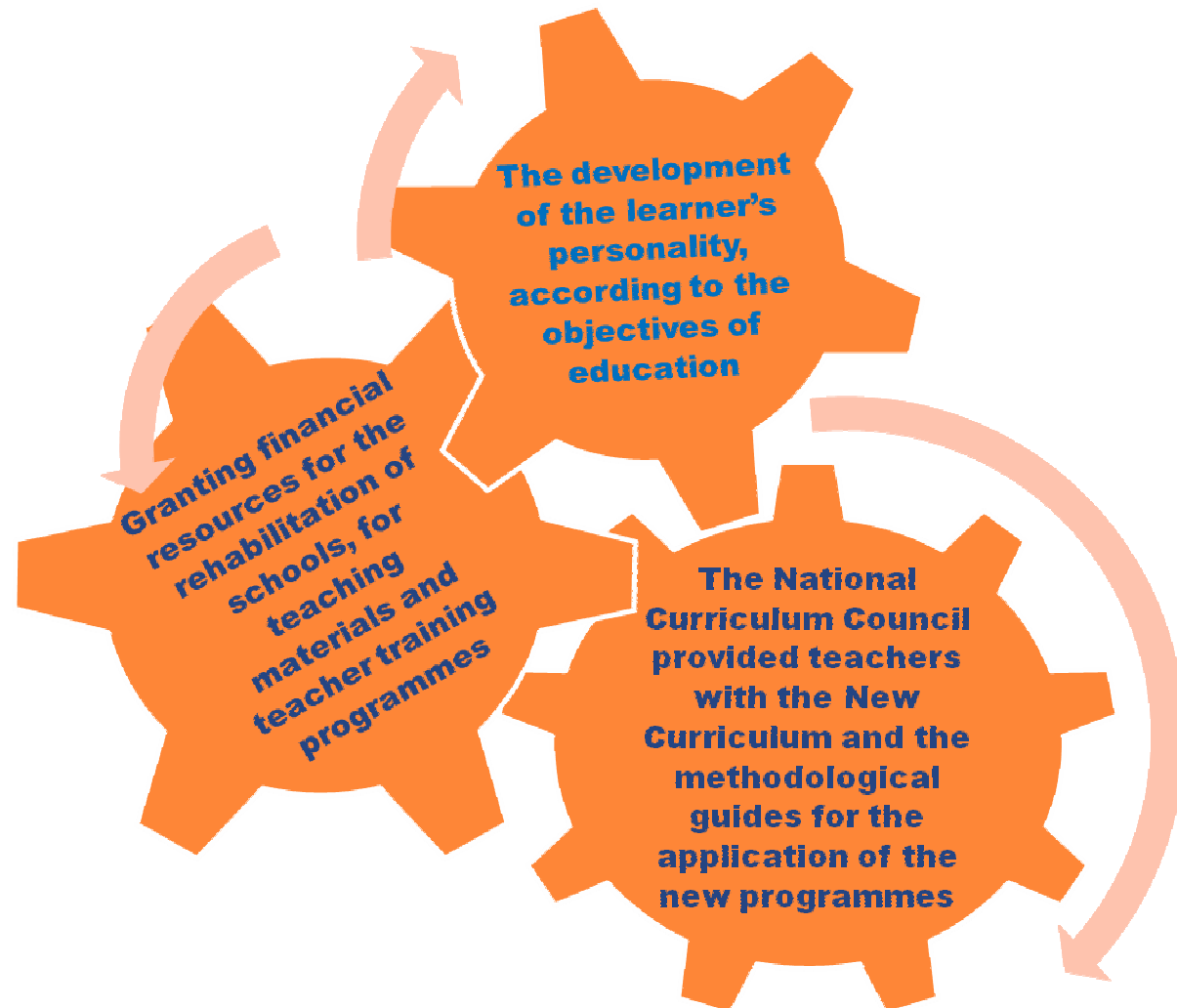
*Author prof. Ileșan Daniela Florentina,
County School Board of Sibiu*





Motto:
***Teachers open the door, but you must go through it
yourself. (Chinese saying)***

The Curricular Reform in the Romanian Educational System





TEACHING STRATEGIES

❑ TEACHER -CENTRED

- ❑ The teacher as source of information
- ❑ Authority
- ❑ One-dimensional communication
- ❑ Transmitting information
- ❑ Evaluation focuses on memorising and reproduction
- ❑ Learner passivity

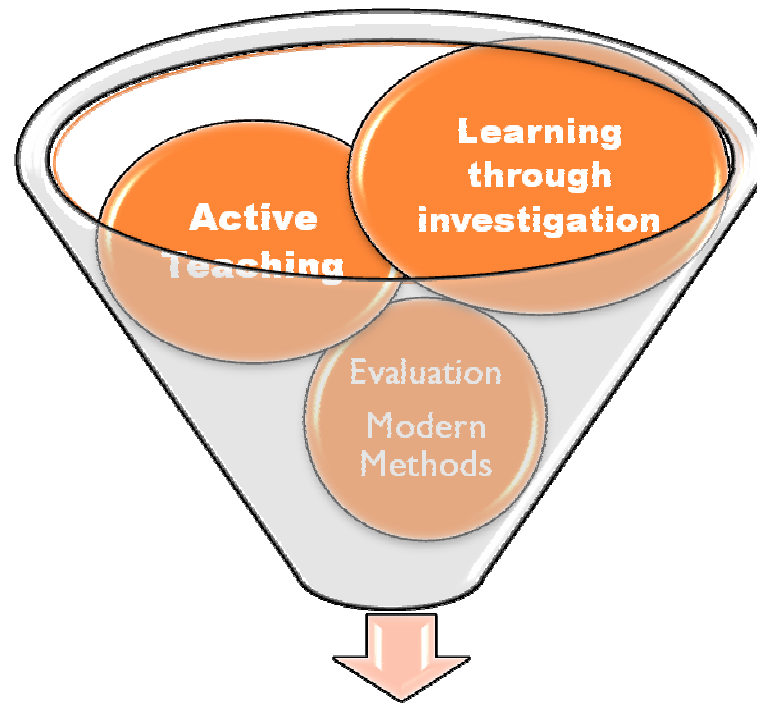
❖ LEARNER-CENTRED

- ❖ Learner- and activity-centred
- ❖ Cooperation: teacher-learner partnership
- ❖ Multidimensional communication
- ❖ Focus on developing thinking, abilities, attitudes
- ❖ Formative evaluation
- ❖ Learner participation: originality and creativity

Reassessing Traditional Methods

<p>❑ Traditional Methods</p>	<p>■ Modern Methods</p>	<p>❖ Interactive Methods</p>
<p>Characteristics</p>		
<ul style="list-style-type: none"> ❑ passive, verbal ❑ convey “ready-made” knowledge ❑ learner: receiver of information ❑ memorising ❑ teacher as main actor: “magister dixit” 	<ul style="list-style-type: none"> ■ active, participative ■ rediscovered and complex knowledge ■ learner effort to gain knowledge ■ learning engages thinking and problem-solving 	<ul style="list-style-type: none"> ❖ integrate verbal, iconic and active methods in teaching systems ❖ stimulate participation and student-student and teacher-student interaction ❖ learning presupposes research, evaluation, exchange of opinions and problem-solving
<p>Examples</p>		
<ul style="list-style-type: none"> ❑ exposition, lecture, explanation, etc. 	<ul style="list-style-type: none"> ■ problematisation, case study, modelling, etc. 	<ul style="list-style-type: none"> ❖ Integrated teaching systems: Gallery Tour, The Carrousel, The Quintet, The Cube, ...

Why do we rethink the teaching-learning process?



**The development of the learner's personality,
according to the objectives of education.**

Project Title: "Teacher training in Science teaching in preuniversity education - Discover!"

Project co-financed from the Social European Fund through The Operational Sectorial Programme for the Training of Human Resources 2007-2013 "Invest in People"

Implementation period: 2009-2011

The Project targets teachers in primary and secondary school and deals with the teaching of Sciences through investigation

➤ The project aims to implement European practice (proiectul Pollen) as well as the French one (La Main a la Pate Project) in Romania



The project „ Discover ! „ in the county of Sibiu

Training period: 5-6 October 2009

Venue: Casa Corpului Didactic Sibiu and
Școala Națională de Gaz Mediaș

Target group: teachers in primary and secondary
school - Sibiu County (200 people)

Aim: Learning Sciences through the inquiry-based
method IBM

Partners:

Center for Science Education and
Training (CSET) București,
The County School Board of Education Sibiu,
Sibiu City Hall,
Casa Corpului Didactic Sibiu

Trainers:

Mr. Olivier Burger , representative of La Main a la Pate Programme , inspector at the Ministry of Education, France

Mrs. Kristina Zoldosova, The Faculty of Education Sciences, University Trnava, Slovakia

Mr. Stefan Jokic, The Institute of Nuclear Sciences , Serbia

Mrs. Lidia Jokic, The Institute of Nuclear Sciences , Serbia

Mrs. Lidia Ochoa Cañigueral, Special Teaching Department, University of Girona, Spain.

Mrs. Adelina Sporea, INFPR Bucharest

Mr. Dan Sporea, INFPR Bucharest

Dissemination of information within the methodic committee!



2009 / 2010

***Integrating the teaching experiment in
the lessons***

***Examples of activities during Science
classes in the county of Sibiu
2009-2010***



***Innovation in teaching.....
Learning actively, closer
to Science
We open the door to
scientific investigation***



WHEN / HOW AND WHY DOES THIS HAPPEN?



Does it mix with water or not?

Pre-primary school pupils

Mixtures



The Volcano



THE SURPRISE ELEMENT

THE TRAVELLING BALLOON

In the end, each group will present the solution



The pupils will express their own opinions about the effects of pollution from exhaust fumes.

***The effects of pollution and
The Global Warming
Phenomenon***

***Alternative Energy Resources
- models made of recycled
materials***



***The educational partnership
“The Young Ecologists”***

SENSE ORGANS

Guess the taste



Guess the smell

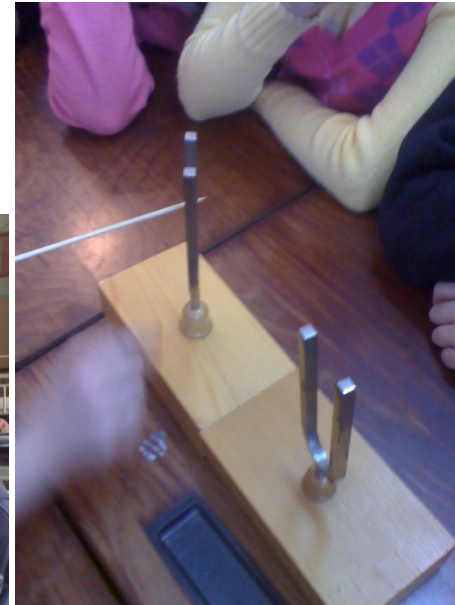


Touch and guess

The sound

The propagation of sound through vibrations

The aquatic trombone



The propagation of the sound

Electrification



WHAT DO YOU THINK ABOUT THE AIR ?



VISCOSITY

THE DENSITY OF LIQUIDS



Discover the world of plants !



The senses of autumn...

Ce se aude...

Putem auzi...
Ciripit de păsărele.
Păsări agitate.
Oameni muncind.
Un tractor arând.
O drujbă.

Ce gust are...

Toamna are gust
de...mere,
de nuci, de zacuscă,
de busuioc,
de umezeală,
de fructe...

Ce mirosim...

Miroase a...
Porumb, a iarbă udă,
a fructe, a pământ, a fum,
a scaieți, a iarbă uscată,
a flori,
a struguri copti...

Ce pipaim...

Putem pipăi...
Pământ rece, uscat,
crengi uscate,
iarba rece,
iarba udă,
picături de apă.

Ce se vede...

Putem vedea...
O livadă cu pomi care au
frunzele îngălbenite.
Pomi înșirați,
golași.. frunzele lor au
căzut.
Un deal cu floarea soarelui.
Este rece
Copacii nu mai au frunze.
Cerul este înorat.



Autumn in the classroom!

Listening to autumn !





Making a model: the water circuit in nature



The team of drops: the condensation of water

The team of clouds: the vaporisation of water



The team of snowflakes: the melting of ice



Conclusions:

THE TRAINING OF TEACHERS HAS IMPROVED THE TEACHING OF SCIENCES IN CLASS.

TRADITIONAL TEACHING IS BEING GRADUALLY REPLACED BY MODERN, LEARNER-CENTRED METHODS.

THE LEARNERS ARE ENCOURAGED TO PARTICIPATE ACTIVELY, TO USE THEIR ORIGINALITY AND CREATIVITY.

WITHIN THE TEACHING-LEARNING PROCESS THE TEACHER COOPERATES WITH THE LEARNERS, THEY ARE PARTNERS.



SELECTED BIBLIOGRAPHY

- **Bocoș, Mușata, Didactica disciplinelor pedagogice. Un cadru constructivist, Editura paralela 45, Pitești, 2007;**
- **Cerghit, Ioan, Metode de învățământ, Editura Polirom, Iași, 2006;**
- **Ionescu, Miron, Radu, Ioan, Didactica modernă, Editura Dacia, Cluj-Napoca, 1995;**
- **M. Peneș, I. Șortan, Geografie, editura Ana, București, 2006**
- **M. Soigan, V. Motrescu, V. Florescu, „ Geografia Romaniei si cunoasterea mediului inconjurator”, E.D.P. Bucuresti, 1996**
- **D. O. Crocnan, E. Hutanu, ”Să descoperim natura!” EDP, București, 2002**
- **CNC, Ghiduri metodologice pentru aria matematică și științele naturii, București, 2001**
- **Malinovschi, Viorel, Didactica fizicii, EDP, București, 2003**

I want to thank my colleagues from the following schools for having provided me with the material for this presentation:

GRĂDINIȚA CU PROGRAM PRELUNGIT NR. 12, MEDIAȘ

CLUBUL ELEVILOR MEDIAȘ

ȘCOALA CU CLASELE I-VIII "MIHAI EMINESCU", MEDIAȘ

ȘCOALA CU CLASELE I-IV, RUSCIORI

ȘCOALA CU CLS. I-VIII NR. 18 SIBIU

GRUP ȘCOLAR MÎRȘA

ȘCOALA CU CLASELE I-VIII "MIHAI EMINESCU" SIBIU

ȘCOALA CU CLS.I-VIII IGHÎȘUL NOU

ȘCOALA CU CLS.I-VIII „I.P. MORAR,, DÂRLOS

ȘCOALA CU CLS.I-VIII ȘEICA MARE

LICEUL DE ARTĂ SIBIU

ȘCOALA CU CLASELE I-VIII OCNA SIBIULUI

ȘCOALA CU CLASELE I-VIII CÂRȚA

ȘCOALA CU CLASELE I-VIII NR.4 MEDIAȘ

CHEIA, IULIE 2010



THANK YOU!

VĂ MULȚUMESC

PENTRU ATENȚIE!