## Goerudio – effective ways of studying science subjects 20.11.2015, Dubrovnik National CARNet Conference





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# **Goerudio - Managing Learning process in science education**

#### KA4 LLP (543223-LLP-1-2013-1-LV-KA4-KA4MP)

Duration: 24 months (January 2015 – December 2015)

Project website: www.goerudio.pixel-online.org

#### 8 Partners from 7 countries:

- Riga State technical school (Latvia)
- •Pixel (Italy)
- 36,6 Competence Centre (Poland)
- Connectis (Italy)
- Fundația EuroEd (Romania)
- Transfer Slovensko, s.r.o. (Slovak Republic)
- Association Alqueria (Spain)
- ZinevArt Technologies (Bulgaria)

















# Aim

The aim of the project is to create a learning community of European science teachers and students willing to identify:

- Solutions to overcome the main obstacles when studying scientific subjects
- Innovative teaching methods for science

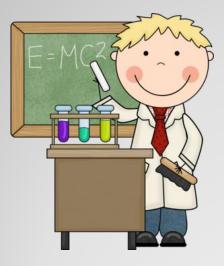




# **Target groups**

The project is addressed to:

- Science teachers
- Science students
- Policy makers in the education sector





# **Main Activities**

 Creation of a network of European science teachers and students

 Sharing information concerning the main obstacles when teaching and studying scientific subjects

- Identification and review of existing projects and initiatives in the field of teaching scientific issues in a more interactive and involving way.
- Production of teaching resources for scientific subjects
- Organisation of national workshops for sharing the produced resources

# **Goerudio network**

**46 schools from 7 countries** are involved in the Goerudio project activities. In each school there are minimum 2 teachers involved, what in total gives more than **90 science teachers**.

Assuming that each teacher has 20 students, there are **1800 students** involved in the project.

## **Goerudio Portal**

#### www.goerudio.pixel-online.org



# **Experience of science teachers and students**

- science <u>teachers' experience</u> in adopting teaching methods to promote students' interest towards scientific issues
- science <u>students' experience</u> describing their difficulties and successes in learning science

Portal contains the repository of:

**375** teachers' experience

**841** students' experience (available in all languages of the project)

# Relevant initiatives promoting science

#### Identification of **219 projects** from all over Europe



# **Educational Products**

More than **120 educational products** (database is updated constantly) developed by teachers and students:

- Lesson plans
- Interactive science lessons
- Educational models
- Videos
- Methodologies

# **Goerudio community - Facebook**

#### facebook.com/goerudioscience



# **Community – Virtual Meetings**

Virtual Meeting – video conferences to allow the teachers involved in the project to exchange their opinions on the project activities





## **Community – national seminars**

Seminars promoting the educational projects developed by teachers and students involved





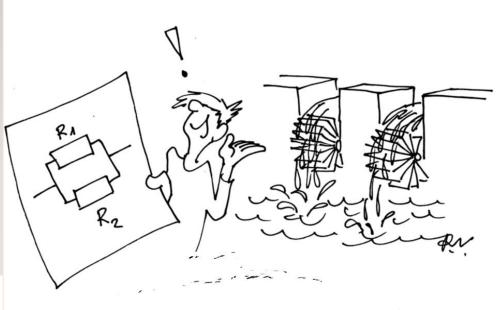
# **Goerudio Approach**



## **Goerudio Method**

Goerudio method was developed by Riga State Technical School, Latvia.

It is based on creation of so-called **comprehension models.** 



# Model

Here a word "**model**" denotes the interpretation of concepts or relations used in a theory, rule, instruction or another notion by expressing them by/through well-known, familiar phenomena and natural, conventional relation that creates a conception that is easy to perceive intuitively – **image**.



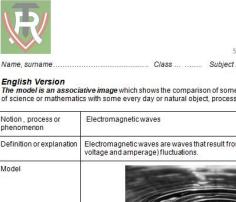
# **Approach based on observation**

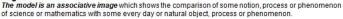
A person does many **observations** during his life and there are many fields where each individual has some comprehension (notions, causations and processes which seem natural to him and he feels comfortable among them).



## **Goerudio Model**

The model is an associative image which shows the comparison of some notion, process or phenomenon of science or mathematics with some every day or natural object, process or phenomenon.





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| Notion , process or<br>phenomenon | Electromagnetic waves  |
|-----------------------------------|--|
| Definition or explanation         | Electromagnetic waves are waves that result from electrical quantities (charge, voltage and amperage) fluctuations.              |
| Model                             |  |
| Description of the model          | Throw a stone in the water. This will cause waves in the water, which will be<br>directed around the place where the stone fell. |



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