GOERUDIO METHOD AND TOOL TO ACHIEVE NECESSARY LEVEL OF COMPREHENSION

543223-LLP-1-2013-1-LV-KA4- KA4MP

23/25 October 2014

Challenges facing European educational and training systems

- the lack of motivation of secondary and vocational education students in studying scientific related topics, and the related insufficient results that they achieve during their school curricula
- the lack of capacity of teachers and trainers in updating their teaching methods in order to promote the interest of their students toward scientific issues

Main problem

- students approach to scientific issues is too passive, based on memorising rather than understanding

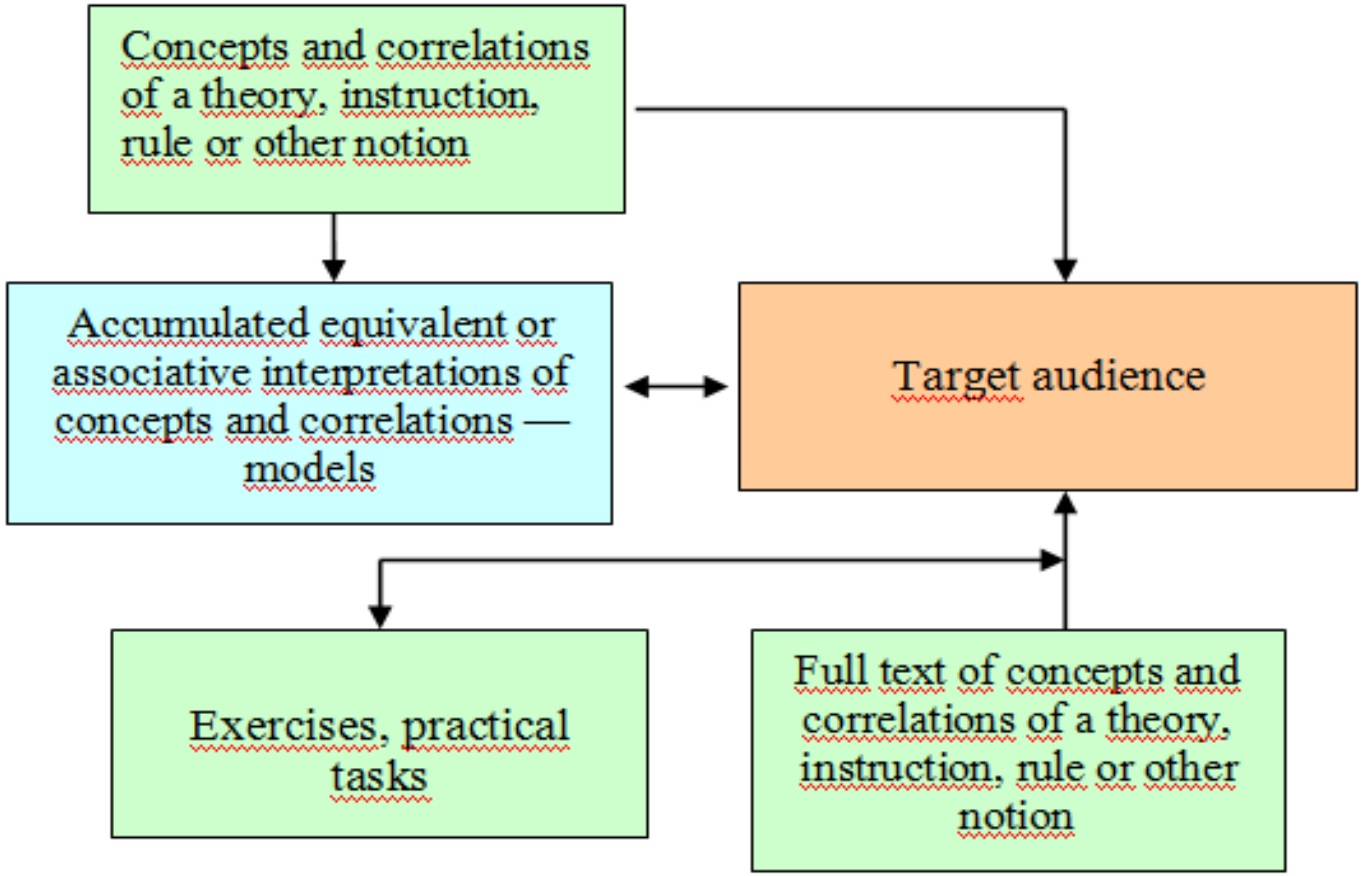
The aim of the project

- create a learning community of European science teachers and students willing to identify solutions to overcome the main obstacles related to scientific subjects studying.

Learning methodology

- user involvement in its application and subject matter development
- user's active use of familiar examples
- interaction and communication among the users
- creating models (familiar phenomena/image- close to recipient – experience, culture, climate, nationality)

New approach of reaching comprehension using models



Comprehension Worksheet

- 1. Comprehension of the concepts and correlations related to the subject matter through models/interpretation more familiar to the particular region and its target audience (these are multiple choice questions, like – what does it mean? why and how does it function?)
- 2. Feedback – participation of the target audience in the development of new models and in the evaluation of the existing ones.
- 3. Verification of models/interpretation submitted by the target audience
- 4. Quality assurance and quality control of the presented material

GOERUDIO learning community

- Teachers and students work together in order to collect and review at least 30 past and on-going projects related to teaching/ learning science
- Experts', teachers', students' feedback on the product attractiveness and accessibility
- Teachers and students produce at least one teaching/learning resource applying ICT

Teachers' testimonials:

- "Chemistry opens doors to our innate curiosity and also provides us with answers. Experiments are memorable either by their visual nature or by testing theory. As a teacher I have tried to communicate the excitement and wonder of the subject I teach and I am interested in to my students so that they will want to take it further. It is a matter of communication: as a teacher you have to share your enthusiasm for your subject with your students in a simple way so that they will understand it."
- "Children should be encouraged to become real chemists and act like them: make predictions and test them, do experiments or make observations. Simple experiments speak volumes and most of the times are more important than pages of abstract theory in terms of raising students' motivation to learn chemistry."
- "Communication is essential when it comes to teaching science. As teachers we have to find and use a language our students understand. If it is too abstract we will lose them from the very beginning

Teachers' testimonials

- "As I have already said experiments appeal to students because they are accessible and intriguing and because students are involved in carrying them out. They are not passive; they feel responsible for what they are doing."
- "I have always believed in the power of learning by doing. That is why I use experiments in teaching my students. Everything becomes observable, visible and clear. They also engage students who are willing to participate and achieve the objectives of their tasks. Everything is shared and is based on the relationship forged between the adults and students."
- "A simple experiment is one of the best ways to motivate your students and raise their curiosity. Make each demonstration looks like a mystery: it is the magic of chemistry

Students' testimonials:

"At first I had lots of problems with physics. It took me some time to realize why it is important to study it. At first I thought it was too abstract because the teacher used words I did not understand."

"For me, science was always the expression of curiosity and strives for never ending knowledge and understanding."

- "I didn't like science when we first started it. I didn't understand it at all. It was like another language. My teacher must have noticed my situation because she tried to explain everything in a clear and simple way. She used experiments to make it clear for us. She engaged us in lots of activities which made our lessons very pleasant and interesting."

- "What I really like about science (physics) is that our teacher doesn't ask us to memorize formulas and definitions at all."

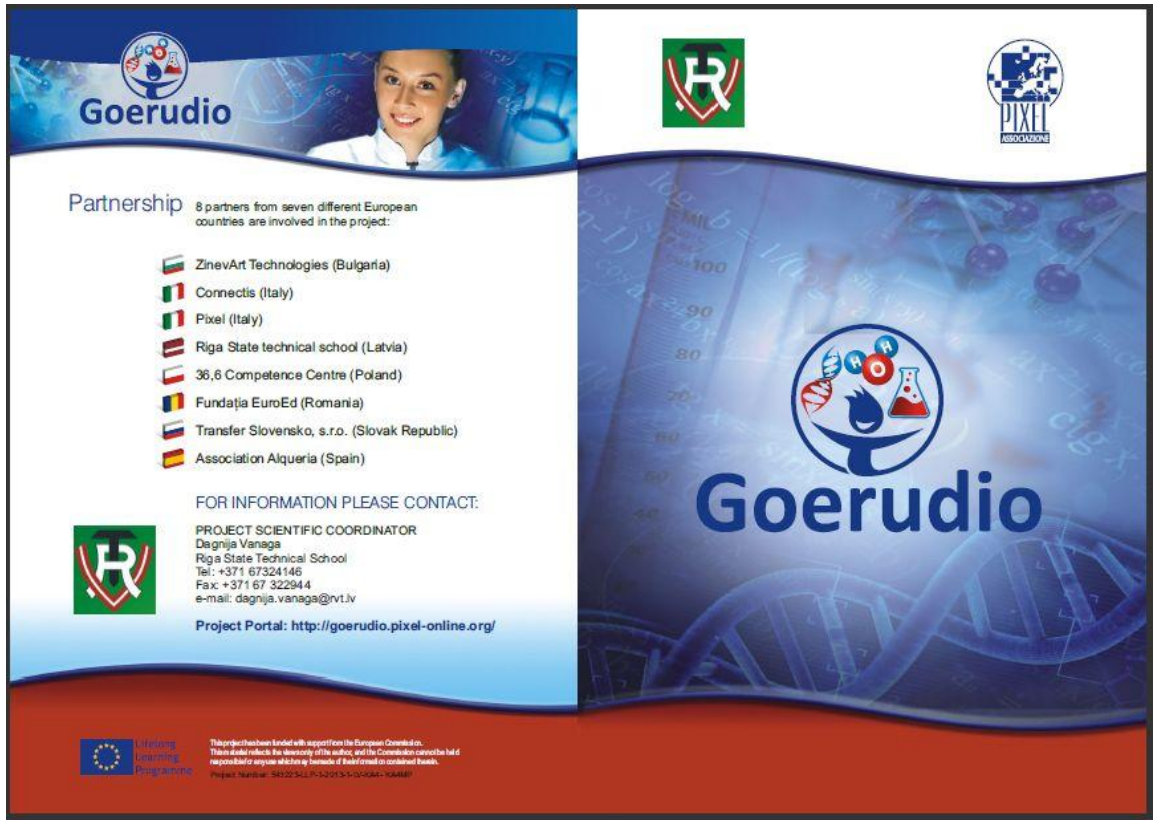
Students' testimonials:

- "When we first started chemistry and flickered through the textbook I got really scared. There were lots of formulas and definitions and very abstract terms. I didn't understand a thing. It was our teacher who made it very accessible through a lot of experiments."
- "I am really disappointed about the Romanian Education System mainly because we study too much and use all the information too little."
- "I encountered some problems in biology because the teacher did not explain it well, although I really like the subject.
- I did not do any experiment in any of the scientific subjects, but I wanted to do at least one. I think that would have helped to better understand these phenomena around me."

Conclusions

- Science plays an important role in everyone's life and has lately touched nearly every aspect of our daily lives. Science is an inspiring process of discovery that helps quench our innate curiosity. Scientific discoveries shape the way we perceive the world and influence our decisions. Science teaches people how to think critically about any subject. It is an integral part of our lives—even if it is not our career.
- Use of models gives benefits in education
- Innovative practices and methods aiming at putting the learner at the centre of the educational and training process and to involve teachers and students in being the protagonists of an international peer to peer based learning community to share, disseminate and exploit the best practices available at European level in the field.
- Teachers should encourage students to be the managers of their own learning process, giving them the chance to achieve personal learning goals in addition to learning the scientific issues that meet their needs.

THANK YOU!


Goerudio
Partnership
8 partners from seven different European countries are involved in the project:
ZinevArt Technologies (Bulgaria)
Connectis (Italy)
Pixel (Italy)
Riga State technical school (Latvia)
36,6 Competence Centre (Poland)
Fundația EuroEd (Romania)
Transfer Slovensko, s.r.o. (Slovak Republic)
Association Alqueria (Spain)
FOR INFORMATION PLEASE CONTACT:
PROJECT SCIENTIFIC COORDINATOR
Dagnija Vanaga
Riga State Technical School
Tel.: +371 67324146
Fax: +371 67 322944
e-mail: dagnija.vanaga@rvt.lv
Project Portal: http://goerudio.pixel-online.org/
Goerudio