KeyTTT

Teamwork, Training and Technology for Development of Key Competencies

http://keyttt.ect.bg/

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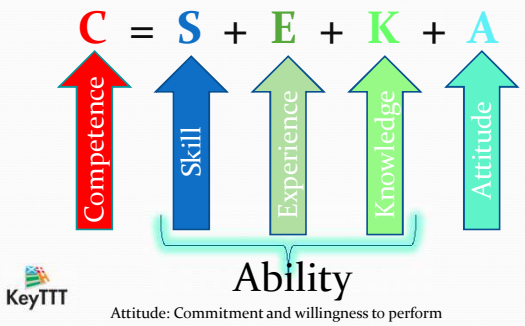
Partners

- Creative Center for Training, Bulgaria
- Europole School Network, Italy
- Space Camp Turkey, Turkey
- Stavenger University, Norway
- Trakia University, Bulgaria
- Wyzsza Szkola University, Poland

Competence



Attitude: Commitment and willingness to perform

Competences

Key Competence	Knowledge	Skills	Attitudes
Communication in the mother tongue	Interpreation Related to others Verbal interaction Vocabulary Grammar	Context related Search & Collect Information Variety	Critical dialogue Aesthetic qualities Social responsibility
Communication in foreign languages	Grammar Vocabulary Oral	Understand spoken messages	Positive Interested Curiosity
Mathematical comptence and basic competences in science and technology	Understanding theories Understanding natural laws Combining 1+2 Awareness of the question	Analysing Ability to generalise in practice Using in everday context Awareness of principles & processes	Positive Respect of truth Interest Assessing the validity of theories

Competences

Key Competence	Knowledge	Skills	Attitudes
Digital Competence	Understanding Support Creativity	Ability to use&produce Internet based services	Responsible use Engaging positive constructive criticism
Learning to Learn	Learning strategies Autonomous learning	Literacy& numeracy Learning strategies	Motivation Qualification
Social and civic competences	International documents Contemporary events&history Other countries societies Healthy lifestyle	Decision Making Communication Negotiating Show tolerance&Empaty	Collaboration Assertiveness Respect Tolerance

Competences

Key Competence	Knowledge	Skills	Attitudes
Sense of initiative and entrepreneurship	Ability to identify avaliable opportunities	Plan, organise, manage	Pro-activitiy Independence Innovation
Cultural awareness and expression	Understand the cultural & linguistic diversity Preserve	Appreciation & self-appreciation Other's point of view Identify	Sense of identity Open attitude Respect Participation

Project Background

- Educational Background
  - Constructivism
  - Problem-Based Learning
  - Experiential Learning (Klob)
  - Multiple Intelligence Theory
  - Learning by Doing
  - Co-operative Learning

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Project Background

- Challenges in Science Education
  - Limited educational materials in classes
  - Limited laboratories
  - Workpackages and worksheet
  - Student interest
  - Attractive activities for students
  - PISA result

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Activities

- Leaf measuring
- Stable construction
- Soil erosion
- Balloon Staging
- Rocket transportaion
- Paper rocket
- Water rocket
- Robotics
- Multimedia math and science
- Eperimentarium
- Cartography
- Working on network
- Robotics and rocketry
- Amusement park
- Pick formula
- From pebble to penny
- Newton car
- Catapult
- Genetics
- Sound hearing

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Test Implementations

- Local Teacher Training Course
- Practice on Local Students
- International Teacher Training Course

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Local Teacher Training Course

- 24 teachers
- Different branches
  - Chemistry
  - Biology
  - Math
  - Science and technology
  - Physics

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Local Teacher Training

Feedback from teachers

I believe that, it will be useful if every teacher and student could participate in the program.

I suggest that it should be disseminated and its content should be extended. It is one of the best workshops I have participated after TUBITAK Workshop. I really thank you.

Thanks. We were cheerful like kids.

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Test Implementations at Schools

- Test on Local Students
  - 13 schools in 5 different cities
  - 563 students from 5th, 6th, 7th, 8th grades
  - 20 teachers
- Implemented Activities
  - Rocket Transportation
  - Balloon Staging
  - Paper Rocket Activity
  - Leaf Measuring

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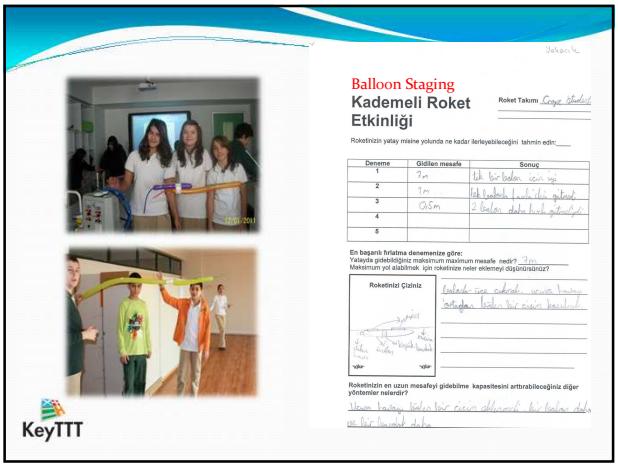

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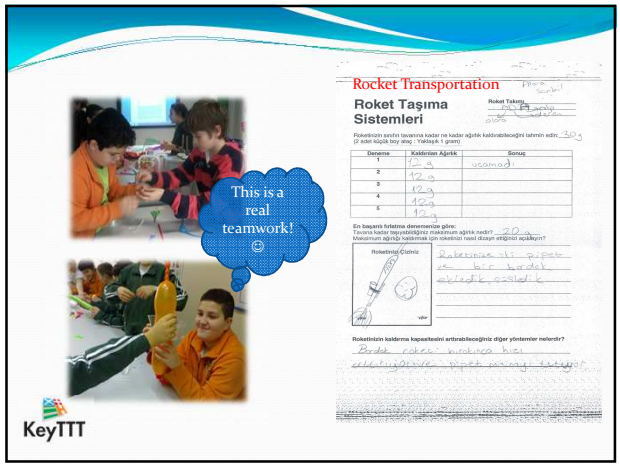

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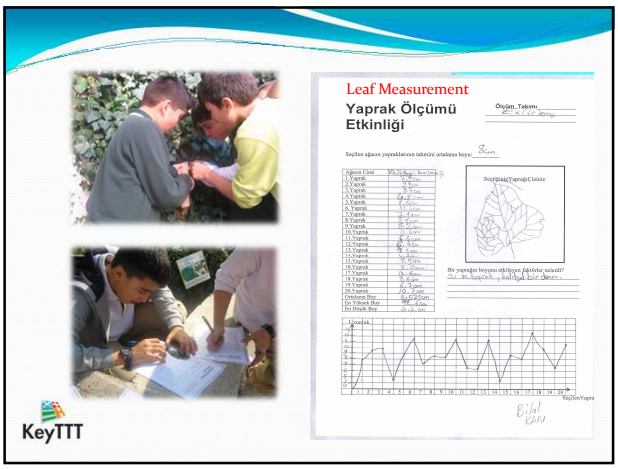

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Int'l Teacher Training Course

International Teacher Training Course

- International Teacher Training
  - 16 teachers
  - From
    - Italy
    - Norway
    - Turkey
    - Bulgaria
    - Poland
  - Video

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Feedbacks from Int'l Teachers

Thanks for making an educational experience as well as useful and interesting also very nice and fun!
I will be happy to do all the activities learned, including certainly videoconferencing ☺

You cannot even imagine how great was the impact of my stay at SCT on the way I perceive my teaching. I know I can do better and you made it possible. Thank you so much for inspiration and smile you brought!

Thank you for new experiences in science education

KeyTTT's Approach to Science Education

- **Interactive web-conferencing (IWC) sessions in teaching sciences**
- In the learning process there are milestones and ways to reach them.
- We focused on how videoconferencing session in teaching approach can significantly improve the *understanding pattern of a group of learners.*
- The major benefit of using the IWCs or smart boards
  - In a videoconferencing (network) mode is the huge amount of knowledge transmitted in compressed time format and the complex character of the knowledge which students receive.
  - This is possible due to the highly emotional and highly interactive environment that connects real people discussing on real objects or problems.

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KeyTTT's Approach to Science Education

- The interactive whiteboards and smart boards are an IT tools that brings innovative education system to the classroom
- The use of interactive whiteboards brings a lot of interaction in the learning process
  - Improves dynamics of the lesson
  - Improves attention
  - Helps to control the group
- The *networking functions*
  - *Allows a connection of two remote classrooms on a real-time communication between a classroom and a scientist, lecturer or a lab, situated in different city or even country*

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Good Samples for Int'l Programs

- Test implementation in Italy with IWB
- **Partner School Science Program**
  - Partnering schools
  - Pairing students
  - Providing secure email accounts for students
  - Meet and Greet videoconferences
  - Videoconferences with NASA
  - Videoconferences between kindergartens

Good Samples for an Int'l Program

For More Information

- http://keyttt.cct.bg/
- The KeyTTT Methodology Basis (In Italian)
- Sample activities (In Italian)
- Sample activities (In English)

Thank you!

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