PROJECT-BASED LEARNING AND TELE-COLLABORATION

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WHAT WE WILL DISCUSS TODAY ...

Is there a need to adapt/change?

What?

Why?

How to Implement?
DOES THIS LOOK FAMILIAR?
### Top performers in reading, mathematics and science

Percentage of students reaching the two highest levels of proficiency

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>Reading</th>
<th></th>
<th>Mean score</th>
<th>Mathematics</th>
<th></th>
<th>Mean score</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Level 5</td>
<td>Level 6</td>
<td></td>
<td>50%</td>
<td>36%</td>
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<td><strong>Shanghai-China</strong></td>
<td><strong>556</strong></td>
<td><img src="#" alt="Red" /></td>
<td><img src="#" alt="Red" /></td>
<td><strong>Shanghai-China</strong></td>
<td><strong>600</strong></td>
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<td><img src="#" alt="Red" /></td>
<td><strong>Shanghai-China</strong></td>
</tr>
<tr>
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<tr>
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<td><strong>526</strong></td>
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<td><strong>Hong Kong-China</strong></td>
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<td><img src="#" alt="Red" /></td>
<td><img src="#" alt="Red" /></td>
<td><strong>Liechtenstein</strong></td>
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<tr>
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<td><strong>Germany</strong></td>
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<td><img src="#" alt="Red" /></td>
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<tr>
<td><strong>Norway</strong></td>
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<td><strong>Macao-China</strong></td>
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<td><strong>Chinese Taipei</strong></td>
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<td><strong>Ireland</strong></td>
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<tr>
<td><strong>United Kingdom</strong></td>
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<td><strong>Ireland</strong></td>
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<td><strong>OECD average</strong></td>
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<td><img src="#" alt="Red" /></td>
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<td><strong>OECD average</strong></td>
<td><strong>496</strong></td>
<td><img src="#" alt="Red" /></td>
<td><img src="#" alt="Red" /></td>
<td><strong>OECD average</strong></td>
</tr>
</tbody>
</table>

OECD: Organisation for Economic Co-operation and Development
WHY IS THERE A NEED TO CHANGE?

CURRICULAR CHANGES

PSLE bar has been raised too high

I WOULD like to challenge the reasonableness of the current Primary School Leaving Examination (PSLE) model. Over the years, the PSLE has pushed the bar higher and higher in its expectations of the educational standard of the primary school leaver.

The Ministry of Education has maintained that the PSLE has not become more difficult as they compare the exam papers year on year. However, we need to look deeper into the PSLE curriculum expectations.

The PSLE curriculum expects proficiency in both content acquisition and processing skills. Content requirements have increased over time.
## INTRODUCTION OF ICT

Table 1: Ages at which the statutory curriculum first expects skills to be introduced

<table>
<thead>
<tr>
<th>Country/region</th>
<th>ICT skills (using ICT)</th>
<th>Computing skills (ICT technical skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use of software packages, including: word processing, spreadsheets, presentations</td>
<td>Introduction of more technical skills, beginning with basic concepts such as using formulae in spreadsheets, understanding what a ‘programme’ is and suggesting improvements, and, later, adapting and constructing programmes, understanding and/or constructing networks, systems management</td>
</tr>
<tr>
<td>Finland</td>
<td>9</td>
<td>14-16</td>
</tr>
<tr>
<td>Italy</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Japan</td>
<td>10-12</td>
<td>12</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Montenegro</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Ontario</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Serbia</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Singapore</td>
<td>12</td>
<td>16</td>
</tr>
</tbody>
</table>

*Finland has no national curriculum for ICT; these are the ages at which schools might tend to introduce the skills, through their optional courses.*
21ST CENTURY SKILLS

http://www.coetail.asia/mromaine/2012/05/23/21st-century-skills/
21ST CENTURY SKILLS

Ways of thinking
Creativity, critical thinking, problem-solving, decision-making and learning

Ways of working
Communication and collaboration

Tools for working
Information and communications technology (ICT) and information literacy

Skills for living in the world
Citizenship, life and career, and personal and social responsibility

http://atc21s.org/index.php/about/what-are-21st-century-skills/
CONCEPTIONS OF TEACHING AND LEARNING

Behaviorism

- Knowledge is seen as a something to be taught/delivered from the instructor to the learner.
- Considers learning as behavioural responses
- Learning is reactive (response to a stimuli)/passive

Constructivism

- Learning is beyond knowledge acquisition and involves knowledge construction
- Emphasizes active engagement of students
- Student learning is proactive

http://www.faculty.londondeanery.ac.uk/e-learning/small-group-teaching/questioning-and-facilitation-techniques
## Move to Student-Centered Learning

<table>
<thead>
<tr>
<th>Benchmarks for...</th>
<th>Moving from...</th>
<th>Moving toward...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning</strong></td>
<td>Passive absorption of information</td>
<td>Active engagement with information</td>
</tr>
<tr>
<td></td>
<td>Individual activity</td>
<td>Both individual activity and collective work</td>
</tr>
<tr>
<td></td>
<td>Individual differences among students seen as problems</td>
<td>Individual differences among students seen as resources</td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td>What: facts and procedures of a discipline</td>
<td>What, how, and why: central ideas, concepts, facts, processes of inquiry, and argument of a discipline</td>
</tr>
<tr>
<td><strong>Teaching</strong></td>
<td>Simple, straightforward work</td>
<td>Complex, intellectual work</td>
</tr>
<tr>
<td></td>
<td>Teachers in information-deliverer role</td>
<td>Varied teacher roles, from information deliverer to architect of educative experiences</td>
</tr>
<tr>
<td></td>
<td>Teachers do most of the work</td>
<td>Teachers structure classrooms for individual and shared work</td>
</tr>
<tr>
<td></td>
<td>Lessons contain low-level content, concepts mentioned; lessons not coherently organized</td>
<td>Lessons focus on high-level and basic content, concepts developed and elaborated; lessons coherently organized</td>
</tr>
<tr>
<td></td>
<td>Teachers as founts of knowledge</td>
<td>Teachers know a lot, are inclined to improve their practice continually</td>
</tr>
</tbody>
</table>
WHAT WE WILL DISCUSS TODAY ...

Is there a need to adapt/change?

What?

Why?

How to Implement?
WHAT IS PROJECT_BASED LEARNING TO YOU?
WHAT IS PROJECT-BASED LEARNING?

**Input**
Poses challenging questions or problems

**Process**
- Involves students taking ownership in problem solving, decision making, investigation and reflection
- Teacher facilitates instead of teaching
- Could involve use of ICT – for instance in tele-collaboration

**Output**
Artifact creation, public sharing

**Outcome**
Active learning that is student-centric
Engaged, motivated learners, positive learning experience, improved deep learning that extends beyond content to 21st century learning skills
HOW IS A TRADITIONAL PROJECT DIFFERENT FROM PROJECT-BASED LEARNING?

HOW IS PROJECT-BASED LEARNING DIFFERENT FROM PROBLEM-BASED LEARNING?
WHAT IS PROJECT BASED LEARNING?

- Longer Time Period
- Project Driven
- Problem Driven
- Collaborative
- Collaborative
- Autonomy
- Autonomy
- Realistic
- Realistic
- Driving Question
- Driving Question
- Curriculum Based
- Curriculum Based
- Curriculum Based?
- Project Based Learning
- Problem Based Learning
- Projects
Your local zoo plans to host an “Endangered Species Day” on 8 June 2013, Saturday from 10 am to 1pm. The aim of the “Endangered Species Day” is to create an awareness amongst school-going children about endangered animals native to your country. This is to help them understand how they can play a role in protecting endangered animals so as to leave the future generation with a better planet.
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YOUR TASK

- You are to come up with and end-product to educate your audience on endangered animals so that they are aware of how to protect the animals. Your end-product could be presented in one of the following forms: print-form (such as brochures), or visual presentation (debate) or an activity (game show). Your end-product presentation would be for 20 minutes. You have 2 months to complete the project. You can focus on any 3 endangered animals that are native to your country.

- You need to work in groups of five (selected by your teacher). But you are free to choose your own resources. Your Science and Geography teachers would be your mentors/guides and you can approach them to seek guidance on your project plan, team work, product design and product creation.
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• So be creative in your project and do not limit yourself to poster/power point presentations. The projects will be evaluated by yourself, peers and teachers on project plan, team work, product design and product creation. Your teacher will provide you with more details.

• **Tips:** Work with your team to agree on your individual roles and responsibilities, for instance, who is going to be the researcher, writer etc and project time line (how long, when). You may also want to visit your local zoo to find out what and how they do or search the internet resources to get inspiring ideas.
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PROCESS OF PROJECT BASED LEARNING

http://globallearningframework.ning.com/profiles/blogs/how-to-integrate-project-based
http://www.bie.org/videos/video/pbl_in_singapore
TELECOLLABORATION

http://uva-weblearn.net/what_is_telecollaboration.asp
21ST CENTURY SKILLS

http://www.coetail.asia/mromaine/2012/05/23/21st-century-skills/
POSSIBILITIES

- INTERDISCIPLINARY
  - SCIENCE
  - GEOGRAPHY
  - ENGLISH

- INTERCLASS/

- INTERSCHOOL

- INTERNATIONAL
EXPECTATIONS: PURPOSE OF EDUCATION

• To help students become critical thinkers
• To cultivate a skilled workforce
• To teach cultural literacy
• To help students compete in a global marketplace.
• To prepare children for citizenship

EMPIRICAL EVIDENCE ON PBL

- be more effective than traditional instruction in increasing academic achievement on standardized achievement tests
- be more effective than traditional instruction for teaching a varied range of subjects such as mathematics, economics, science, clinical medical skills, social science, and teaching
- be more effective than traditional instruction for preparing students to integrate and explain concepts.
- Results in deeper reflection, higher levels of conceptual processing, better understanding or principles and critical thinking
- Encourages more time on task
- improve students’ mastery of 21st-century skills.
- be more effective than traditional instruction for long-term retention, skill development, and satisfaction of students and teachers
- be especially effective with lower-achieving students.
- provide an effective model for whole school reform.

http://www.corwin.com/books/Book236768
EVIDENCE ON PBL

ARTICLE
Why Teach with Project-Based Learning?: Providing Students With a Well-Rounded Classroom Experience
Project-based learning helps students apply what they learn to real-life experiences and provides an all-around enriching education.
2/28/2008 | 95 comments

ARTICLE
Project-Based Learning: Real-World Issues Motivate Students
Concrete, authentic project-based learning helps students illustrate core knowledge.
11/1/2001 | 80 comments

VIDEO
Project-Based Learning: An Overview
Seymour Papert, a distinguished professor at the Massachusetts Institute of Technology, is among a growing group of scholars who support project-based learning.
11/1/2001 | 63 comments

POLL
Is project learning superior to textbook-based learning?
What do you think? Vote in our Poll and share your opinion!
is project learning superior to textbook learning?
5/3/2006 | 39 comments

ARTICLE
Students Thrive on Cooperation and Problem Solving
Project-based learning teaches kids the collaborative and critical-thinking abilities they'll need to compete.
10/18/2006 | 22 comments

http://www.corwin.com/books/Book236768
http://www.edutopia.org/search/apachesolr_search/project-based%20learning
DOES PBL WORK?
WHAT WE WILL DISCUSS TODAY ...

Is there a need to adapt/change?

What?

Why?

How to Implement?
BUT WAIT
CURRICULUM BASED

21ST CENTURY-IZE
YOUR CURRICULUM

MYTHS ABOUT PBL

• PBL is an extra-curricular activity and so it doesn’t help cover the curriculum.

• PBL works well with teachers’ minimal guidance because PBL is to let students discover.

• I can’t use PBL approach in my school because I don’t have access to any ICT.

• Traditional didactic approaches do not help 21st century skill development and I will teach all the subjects through PBL.

HOW DO WE GO ABOUT PREPARING TO DO PROJECT-BASED LEARNING
PLANNING AND RUNNING PBL

Students from SK Parit Kemang, Malaysia will study and come up with list of methods of rubbish reduction.

Pupils will be divided according to different methods of reduction. Each group will implement the method that they think will produce the least number of rubbish.

Besides the reduction of rubbish produced, the pupils will be able to increase their awareness in applying the reduction method as well as the correct way of rubbish disposal.

It is estimated that this program will be completed within 2 months.
ACTIVITY DESIGN

- MOTIVATION: 2 DAYS
- INVESTIGATION: 10 DAYS
- APPLICATION: 38 DAYS
- ANALYSIS: 7 DAYS
- PRESENTATION: 5 DAYS

TOTAL: 62 DAYS
ASSESSMENT OF PROJECT

Assessment

Formative

Summative

Content learning

Collaboration skills

Communication skills

Critical thinking

Creativity
Tick (v) where is appropriate and write your comment below.

(1- Totally Disagree 2- Disagree 3- Agree 4 -Totally Agree)

<table>
<thead>
<tr>
<th>SELF EVALUATION</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>(Name: ___________________________ )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I did my fair share of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I helped my group reach a decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I knew when to follow someone else’s lead</td>
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<tr>
<td>I understand my role in the group.</td>
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<tr>
<td>I am capable to lead when I was asked to do so.</td>
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<td></td>
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</tr>
<tr>
<td>I could accept other people’s idea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I could accept being criticized</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tick (v) where is appropriate and write your comment below.

(1- Totally Disagree   2- Disagree   3- Agree   4- Totally Agree)

<table>
<thead>
<tr>
<th>PEER EVALUATION</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Name: __________________________)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>He/She did fair share of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>He/She helped my group reach a decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>He/She knew when to follow someone else’s lead</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>He/She understands his/her role in the group.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>He/She is capable to lead when he/she was asked to do so.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>He/She could accept other people’s idea</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>He/She could accept being criticized</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Human Resources</td>
<td>Required or optional?</td>
<td>Specify who or where to find out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------</td>
<td>---------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>Subject teachers</td>
<td>REQUIRED</td>
<td>ENGLISH, MALAY LANGUAGE, ART, MATHEMATICS, PE, LOCAL STUDIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School ICT experts</td>
<td>REQUIRED</td>
<td>ICT TEACHER</td>
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<td></td>
</tr>
<tr>
<td>School based experts, please specify the skills:</td>
<td>OPTIONAL</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External experts or experts</td>
<td>OPTIONAL</td>
<td>OFFICER FROM ENVIRONMENTAL DEPARTMENT / LOCAL CLINIC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative support</td>
<td>REQUIRED</td>
<td>SCHOOL’S ADMIN STAFF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others, please specify</td>
<td>REQUIRED</td>
<td>PTA COMMITTEE MEMBERS</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>PARIT KEMANG COMMUNITY MEMBERS</td>
<td></td>
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</tr>
</tbody>
</table>
# BUDGET ALLOCATION

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>COST (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MOTIVATION</strong></td>
<td></td>
</tr>
<tr>
<td>• Video presentation</td>
<td>$20.00</td>
</tr>
<tr>
<td><strong>INVESTIGATION</strong></td>
<td></td>
</tr>
<tr>
<td>• Scales</td>
<td>$20.00</td>
</tr>
<tr>
<td><strong>APPLICATION</strong></td>
<td></td>
</tr>
<tr>
<td>• COLLAGE</td>
<td></td>
</tr>
<tr>
<td>• Glue</td>
<td>$3.00</td>
</tr>
<tr>
<td>• Paint</td>
<td>$40.00</td>
</tr>
<tr>
<td>• Brush</td>
<td>$5.00</td>
</tr>
<tr>
<td>• TRIP TO RECYCLE CENTRE</td>
<td></td>
</tr>
<tr>
<td>• Bus Rent</td>
<td>$120.00</td>
</tr>
<tr>
<td><strong>ANALYSIS</strong></td>
<td></td>
</tr>
<tr>
<td>• THE CATCH</td>
<td></td>
</tr>
<tr>
<td>• CCTV</td>
<td>$30.00</td>
</tr>
<tr>
<td>• Wiring Fee</td>
<td>$10.00</td>
</tr>
<tr>
<td><strong>PRESENTATION</strong></td>
<td></td>
</tr>
<tr>
<td>• Display Panels (6 units)</td>
<td>$25.00</td>
</tr>
<tr>
<td>• Paper (2 bundles)</td>
<td>$6.00</td>
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<tr>
<td>• Banner &amp; buntings</td>
<td>$20.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$299.00</td>
</tr>
</tbody>
</table>
RESOURCES: UNESCO’S EDUCATION COMMUNITY

Project-Based Learning

Curious to know more about Project-Based Learning (PBL)? Below you will find PBL resources that are available online:

1. Edutopia (http://www.edutopia.org/project-based-learning) – an initiative of The George Lucas Educational Foundation, it is “dedicated to transforming the learning process”, and does this via six core strategies – one of which is Project-Based Learning. The PBL section is a goldmine, as it has text and multimedia resources that can help teachers who are just starting to learn about project-based learning. Below is a sample video clip from the website, an introduction to PBL.

An Introduction to Project-Based Learning
RESOURCES ON PBL

RESOURCES ON PBL

What Is PBL?

In Project Based Learning (PBL), students go through an extended process of inquiry in response to a complex question, problem, or challenge. Rigorous projects help students learn key academic content and practice 21st Century Skills (such as collaboration, communication & critical thinking).

Essential Elements

http://www.bie.org/
RESOURCES ON PBL

Core Strategy: Project-Based Learning

Why Teach with Project-Based Learning?
Project-based learning is a dynamic approach to teaching in which students explore real-world problems and challenges. With this type of active and engaged learning, students are inspired to obtain a deeper knowledge of the subjects they’re studying.

More

VIDEO: An Introduction to Project-Based Learning (3-minute video)
VIDEO: Project-Based Learning: An Overview (3-minute video)

Real-Life Examples

Architectural projects build... Studies validate project-... Real-world examples fuel...
BOOKS ON PBL
In Bangladesh educationists and academics refer a lot to the benefits of Project Based Learning (PBL) but it would be a rare example if some one has enlightened the path rather than focusing on the theoretical aspect of PBL. Some one had to step ahead to guide the path to be involve into the exciting world of PBL, which is mostly based on student focused learning.

UNESCO Bangkok and British Council, Bangladesh collaboratively came one step ahead and offered a three day long workshop on Project Based Learning and Tele collaboration. The workshop took place in Dhaka, Bangladesh on 17 – 19 June, 2011. It aims to achieve the following objectives:

- Build capacity of teachers on ICT in education
- Design and facilitate student-centered ICT-based activities
- Strengthen partnership between teacher and educators

Participants:

The training was offered to the best performing schools from Connecting Classrooms Online (CCD). Twenty-seven teachers from nine schools participated in the training and had very active role.
PARTNERSHIP

CONCLUSION: WHAT DO YOU THINK ABOUT PBL-ING?
CONCLUSION

✓ We have looked at one possible instructional method

✓ We need to think about how to make this method work

✓ When it comes to your school,
SOMETHING TO THINK ABOUT

Educating the future is in our hands
As educators – what are we going to do?
Thank You