



# ITEC

Designing the future  
classroom

## Case study story Slovakia

Pilot cycle 3: September – December 2012

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## CASE STUDY STORY: SLOVAKIA

### The Learning Story

Redesigning School (RS) & Designing Maths Games

### The teacher

Although the teacher is computer literate, iTEC represented a new way of working for her, especially the introduction of team work and more student-centred approaches.

### The class

- **Age of students:** 12-13 years

### The lesson/s

**The subject:** Maths & Technology

**Aims/Objectives:** To design games for younger students to play in after school activities in the school yard:

- To investigate possible games
- To design a game using SketchUp
- To present the design to younger students and obtain feedback
- To produce a final design incorporating responses.

**Location of lessons?** Classroom, computer lab, elsewhere in school buildings, school yard

### Resources

Word

Excel

SketchUp

RNA

### This case study provides evidence of

- New assessment procedures
- Expressiveness
- Effective use of digital tools
- Use of new learning spaces
- Social/collaborative learning
- Creativity

## What happened? Teacher and student experiences

The Grade 7 students (13 years old) had to design games for younger scholars (age 6-11) for after school activities in the schoolyard. Working in teams, the student prepared pictures-graphics of the boards or figures used in game, and developed rules and simple instructions which could be understood by younger pupils.

After an initial discussion to introduce the project, students were divided into teams. They took measurements of the schoolyard and met with the headteacher to get his suggestions and reactions.



The students then searched for appropriate games which they presented and selected those which match the criteria they had been given. They organised this data in Excel.



The next stage was to create a 3D model of their game using SketchUp. Some students took on the role of graphic designers who had to compile all drawings and pictures into SketchUp and one student was an 'editor-in-chief', who had to document the progress and outcomes of all teams on the class website.

They introduced these games to the young students and observed their reactions and preferences. The students then presented their designs to the headteacher and made a case to get permission to bring their ideas into reality. They also worked with art teachers to for input into the aesthetic aspects of their designs.

## Teacher's comments (+/-)

**On the difficulties of teamwork:** Teamwork is not a regular activity at this school and the teacher found it difficult to engage less self-motivated students to work. The more responsible students were frustrated because their peers did not contribute adequately. Some students were resistant to working with those who were lower achievers.

**On continuity of learning:** The teacher would like to have the project implementation organised as a one day project. She said that students did not remember much from one lesson to another one.

## Main enablers

**Student-centred approach:** Students found the topic interesting. They completed a lot of the work on their own, and they could show their creativity through design; the result was not prescribed, but students could develop their games as they wished. The teacher felt that using SketchUp helped some students to work more autonomously.

**Student skills:** Students at this school have worked on computers from the grade 1 and they enjoy working with computers. While they often use computers for games, music and school exercises, this project was something different and more interesting to students because it had a real life application.

## Students' comments (+/-)

**On working on something with a real life application:** "We are working on the project, which will be implemented." The ICT coordinator said, that students prefer this real life assignment much more than academic assignments.

**On the challenges of working in teams:** The students said that they did not like when somebody of the team did not fulfil his task on time.

## Key innovation/s... What is new/different overall ?

**Changing role of the teacher:** In this learning story, students have more freedom to work on their own, and teacher did not instruct them, she just supported them by discussing what was going well and what could be improved, but she did not intervene in their learning process.

**Cross-curricular working:** Instead of the traditional organisation of the curriculum where each subject is taught separately, this project allowed the combination of multiple subjects (computer science, mathematics and visual arts) within a cross-curricular topic taught over an extended period.