Promotion of Information, Communication and Technology Education, and Developing Environment for E-Learning in Informatics and Mathematics

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OBJECTIVE

- The objective of this presentation is to summarize:

  - developed contents based on advantage of learning with ICT

  - potentiality of Macromedia Flash 8 used for the development

  - implementation of these contents in schools in B&H

DEVELOPED CONTENTS FOR ELEMENTARY SCHOOL

- Operations in the set of numbers 1-100
- Fractions
- Angles
- Sets

http://elearningbih.criced.tsukuba.ac.jp

SETS

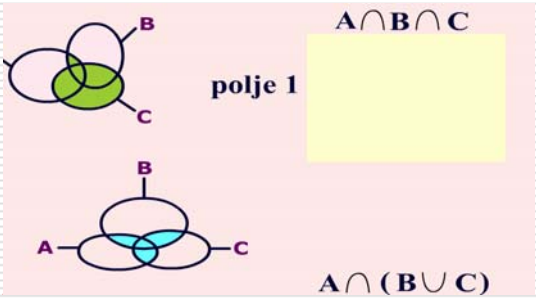
- Motivation

  - First topic in sixth grade.

  -Teaching the topic in school causes many problems, especially when teachers try to explain what is set. In textbooks students can only read that set is a basic term in mathematics which we don't define. Almost all teachers teach mathematical contents as appeared in the textbooks.

  -For students set becomes abstract concept and they lose interest in this topic.

EXAMPLES



MACROMEDIA FLASH 8

- For developing contents I used Macromedia Flash 8

- Macromedia Flash 8 provides:

  - combination of drawing and programming tools
  - possibility to create graphics, effective contents and animations
  - possibility to create online quizzes (includes different interaction types, such as drag-and-drop, fill-in-the blank, multiple choice etc., feedback text that appears when learner answers correctly or incorrectly)

EXPERIMENT

- Teaching experiment was carried out with sixth grade students at "Petar Kocic" elementary school in Prijedor.
- The main objective of the experiment was to check how students would accept new methods of learning mathematics.
- The idea of the lesson was for students to access and complete 3 interactive exercises.
- They studied sets at the beginning of school year so this was a review lesson.

OBSERVATION OF EXPERIMENT

- Class was carried out with 15 students.
- They had 45 minutes to complete exercises.
- 7 students completed all three exercises, 6 students completed two exercises and 2 students completed one exercise.

- TEACHER'S OBSERVATION OF CLASS :
- Students are active and interested in contents.
- Combination of traditional way of teaching and e-learning could improve students understanding of abstract mathematical concepts.

- STUDENTS OBSERVATION OF CLASS:
- All students said that learning with help of computers is more interesting than traditional way of learning.

MY EXPERIENCE

- I held 8 classes in second grade of Electrotechnical school using interactive content on elearningbih.criced.tsukuba.ac.jp (complex numbers).

OBSERVATIONS

- Students were interested in lessons, more active than usual and motivate for the learning.
- Goals of mathematics teaching are accomplished.
- Teacher has more time for communication with students.

CONCLUSION

- How can e-learning help?

-Visual representation is for many students more interesting part of mathematics than computation.

- Effective learning: students are active participants rather than passive receivers of knowledge.

- More interactivity between students and educational contents.

- Access to educational contents, learning and testing of knowledge from home.

THANK YOU FOR YOUR ATTENTION!