

The Virtual Mathematics Workshop

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Introduction

In the Netherlands we started a virtual mathematical workshop with Cinop, the National Institute for the Innovation of Adult Education, and a number of schools. We want to try with this mathematics workshop to encourage students from different schools to communicate with each other about mathematics problems.

Our point of view is that Internet is not only a means that provides information for learning settings but it should also be an instrument for students for communicating and working out mathematics problems

The objective of the virtual mathematics workplace is to experiment such an Internet communication among students.

The goals of the virtual mathematical workshop:

The main goal is to encourage students from different places to work jointly on mathematical problems that ask for application and integration of different mathematical skills. In the Netherlands we call that Integrated Mathematics Activities. An important point is that students have to work together but sometimes there is no peer student available in the learning group. Via Internet there can be a virtual student available as a substitute. Another goal of the workplace is to discover Internet as a very promising communication medium among students from one country but also for communication between students from different countries.

To achieve this it is very important that mathematics problems will be developed and placed on Internet that are attractive for adult students. Such problems should have strong visual components and little text as it should also be accessible for weak readers and low schooled adults. Finally the math problems should challenge the students to have discussions on it.

Another objective of the virtual workplace is to start discussions between teachers from different places in the country. The math teacher is quite often an isolated person in a learning center. For the development of good math teaching it is necessary that teachers develop ideas and have discussions on it with colleagues. Besides teachers should provide math problems for the Internet site. For that reason a separate teachers site has been created to exchange ideas and discuss teaching issues.

The procedure of making the tasks for the virtual mathematics workshop:

We started with a group of teachers to develop some math problems, each teacher should create a task. Via Internet on the teachers site, the teachers discuss the tasks. After that the tasks are placed on the students site. Every month there are three new problems.

Documents about the setup and objectives of the project are also available on that site. The teachers site is only accessible for the teachers of the development group.

The method of the virtual mathematics workshop

The students work on the problems and send their solutions to the bulletin board. Via the bulletin board they can also see the work of other students. The math problems are spread over three levels of difficulty. If you visit our website you can experience some tasks.

An example of a problem is for example the next one:

Wim en Harrie live both 50 km away from school.
How far do they live from each other?

Another problem is a picture of a foot ball.
The question is: how many pieces of leather are used for this ball?



The aim of this problem is that students work in groups of three or four students. They solve the problem and describe their way of problem solving on the students bulletin board.

Other groups of students do the same. After that they start discussing their ways of problem solving via Internet. In this way we try to start vivid discussions on math problems.

The address of the virtual mathematics workshop:

At the moment you can find the web site for teachers on Internet at url:
<http://bve-server3.bvenet.nl/vrww/wrkgrp/opdracht.htm>

and the students web site at:
<http://bve-server3.bvenet.nl/vrww/titelpag.htm>

The Future of the virtual mathematics workshop

We think it is very important that we will use Internet in the future as a communication medium among students. We are standing at the start of new technological period. We think it is very important that different countries exchange their experiences at this point because the great advantage of Internet is that it is so easy and cheap to communicate with people in other countries. Therefor we would like to have contact with people from other countries to start international discussions on this issue and to develop this idea further.