Two Online Competitions in Support of Inquiry Based Mathematics Education

Toni K. Chehlarova, Petar S. Kenderov

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences Acad. G. Bonchev St, Bl. 8, 1113 Sofia, Bulgaria tchehlarova@mail.bg, vorednek@yahoo.com

To promote the inquiry based mathematics education among school students, two online competitions have been introduced in Bulgaria in 2014. One of them is called "VIVA Mathematics with Computer" (VMC) and the other is called "Theme of the month" (TM). The competition VMC is for students from third to twelfth grade. The students are divided in five groups according to age (two grades in a group). It is held two times in a year (in April and December). The competition TM is for gymnasium students. It is held every month. On a certain day (and hour) the registered participants in VMC get access for 60 minutes (through the portal www.vivacognita.org) to a worksheet where 10 problems are formulated. They work on the problems and enter the answers (usually decimal numbers) in specially provided fields in the worksheet. In the competition TM the students get access for one month to a worksheet with 5 problems (related to one and the same mathematical theme) which are ordered in increasing difficulty. The participants are expected to explore the problems and to enter the answers (usually decimal numbers) in the respective fields of the worksheet. At the end of both competitions the participants submit their solutions online. Some of the problems in both competitions are accompanied by a GeoGebra file which facilitates the exploration of the mathematical essence of the problem. It is allowed to use any help (internet, books, friends, parents, etc.). The experience gathered from the conduction of these competitions in the last three years will be shared.