"Computers are incredibly fast, precise and unintelligent; Human beings are incredibly slow, inaccurate and intelligent. Together, their power exceeds any imaginable limit." (Albert Einstein)

Opinions:

Using Geogebra in teaching and using mathematics

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Nowadays, when information and communication technologies have exploded, it is mandatory to integrate these technologies in education and to discover flexible solutions to use in computers during classes and extra-curricular activities. These technologies widen the horizon of education: they facilitate the process of offering information, the way the student process information, the way knowledge is gained.

The use of TIC in teaching/learning offers the user various combinations of images, sounds, voices, animation, videos, whereas HM technologies combine multimedia and hypertext, making it possible to navigate freely between and among various types of data: texts, sounds found images, animated images. The roll of the teacher in the traditional system of education-that of transmittes of information- may become one of facilitator of learning through the re-thinking of his/her own mission: to create an environment (aim information, resources, strategies) which will allow the students to develop their knowledge by using TIC. It is vital for the teacher to complete and/or alternate traditional, collaborative teaching in the classroom, focused on valuing the students- with learning sequences based on educational software hosted by online platform.

"The process of accepting and inserting TIC into the didactic approach must to be experimented constantly in order for it to achieve two well-defined goals: for students-the performance of learning results, for teachers-acquiring or ability to use it efficiently, so that education and learning with be converted into success in life." (CABRI, 3D-an instrument to make the didactic approach more efficient"-by A. Petrovici, Angela T. Sava-at the European Conference on computer science" –Timisoara 2010.)

Among the benefits of using a computer may be included: the precision of the operations performed; the ability to model multiple dynamic representations of phenomena; the computer interactivity; significant and personalized interaction with each and every student; freeing the student from routine activities; stimulating intellectual activity; enhancing motivation; self-paced learning.

Here is an example from mathematics: the Geogebra application. Mathematician Markus Hohenwarter, who created Geogebra, initialized the project in 2001 at Salzburg University. The software was conceived and developed as didactic technological last destined for teaching and learning geometry at lower secondary level, independently from or simultaneously with secondary school algebra. In April 2002 the first three versions of Geogebra 1.0 was offered to

educational institution at pre-university level. The history of the development of Geogebra is the history of an intense research project sought permanently the betterment of informatics performance, along role with following the rigorous specific to mathematics. Each version developed and enhanced the qualities of application, widening considerably the opportunities to be utilized in the teaching/ learning of mathematics as well as of related subjects. The software can be used on-line or off-line and downloaded free of charge from the dynamic platform www.geogebra. org. Currently, the app has expanded to cover 3D geometry-Geogebra 3D.

The qualities of the latest version Geogebra are remarkable in that they facilitate the teaching and learning, understanding of notions which are highly abstract from geometry, algebra, mathematical analysis, analytic geometry, statistics, probability calculus.

Educational software also include a pedagogical strategy (present in the tasks to be solved), which determine the way in which the student interacts with the programme. This interaction, specific to the objective which must be achieved, produces learning. Utilization software or thematic software can be used for specific/individual aspects of the didactic approach, especially for the presentation of a certain mathematical topic and thus they are similar to educational software even though they do not include a didactic strategy.

- Didactic materials using Geogebra can be found on …
- Video tutorials for Geogebra can found on…..
- The didactic worksheets bank Geogebra wiki-created by the community of Geogebra users.
- The virtual library…contains documents created by French teacher Daniel Mentrard.

Geogebra is a free didactic auxiliary which is undoubtedly useful for teaching/learning. Mathematics at all levels, fully meeting the needs of today's generations of students.