

**Maria HELENOWSKA - PESCHKE**

Gdańsk University of Technology  
Faculty of architecture, Department of Visual Arts  
ul. Narutowicza11, 80-952 Gdańsk, POLAND  
tel 0-58 347 22 87  
e-mail: mhelen@pg.gda.pl

## **E-MANUALS FOR DESCRIPTIVE GEOMETRY AND ENGINEERING GRAPHICS.**

E-education at the academic level can be provided in many various ways that is starting with enriching traditional teaching methods by information technologies and finishing by the courses based on the Internet. The article describes problems with the design process in didactics and evaluating e - textbooks for graphic geometry. The notion of an e - textbook covers an application created by using one of the Internet or multimedia technologies ( PHP, Ajax, CSS, Flash, Java 2, xHTML ) which enables an interaction with a user. That makes an e - textbook unique in comparison with text files and static websites. The presentation of the issue will be supported by the author's works made in Flash and published in Virtual Library of Semantic Net as well as in Department of Visual Arts website at Gdańsk University of Technology. The virtual textbook can be an independent source of information or a systematic and comprehensive record of lectures. The biggest advantage of using Flash technology in terms of drawing constructing is diversity of graphic means which allows to create a drawing step by step like during a normal lecture , animate elements of a drawing and illustrate a virtual content with 3D models . By using a textbook a student can adjust a pace , a place and a time to his own capabilities . In addition the use of web technology gives a possibility of monitoring contents of websites which can substitute personal contact with a teacher . Another significant advantage of virtual textbook is the fact that the updating and expanding processes can take place permanently and are free of any charges.



Fig.1 Title page the virtual e - textbook ‘Exercises in graph geometry ‘

Virtual textbooks are a new means of distributing knowledge and their real value lies in the didactic effect which comprises the range of acquired knowledge and abilities as well as saving time necessary for obtaining given material. The evaluation of methodological values of e-textbooks focuses on answering the question how students use the e-textbooks, what are their expectations about this kind of didactical help and which of them are most of practical help. Undoubtedly the high users’ opinion can be confirmed by the growing number of visits on the website. The virtual e-textbook ‘Exercises in graph geometry ‘, published in the Internet in 2006 , was visited 20600 times ( in April 2008). Students’ positive attitude towards using virtual didactical materials on the Internet seems to be very promising as for the perspectives of more effective organization of didactical process in the field of graph geometry and engineering graphics.