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GEOMETRY AND ENGINEERING GRAPHICS TESTS FOR THE FIRST YEAR STUDENTS USING PLATFORM FOR DISTANCE EDUCATION

1. INTRODUCTION

The paper is an attempt to present the usage of computer software for exercises checking students' knowledge on geometry and engineering graphics.

In our work with students we often hear an opinion that drawings in textbooks are very poorly readable, especially those of a great number of elements or of complex structure. Additionally, while carrying classes we have observed that poor readability of board drawings done with chalk as well as big number of students result in the fact that students encounter some difficulties with reading the construction and its correct record.

2. SHORT CHARACTERISTICS OF A TASK

The idea of electronic way of solving geometry and engineering graphics tasks was born after detailed analysis and conclusions resulted from didactic experience from the introduction of new formula of classes realization.

The aim of the didactic experiment is to capture space imagination and enable students with the ability to solve space issues in different kinds of mapping used in contemporary technology.

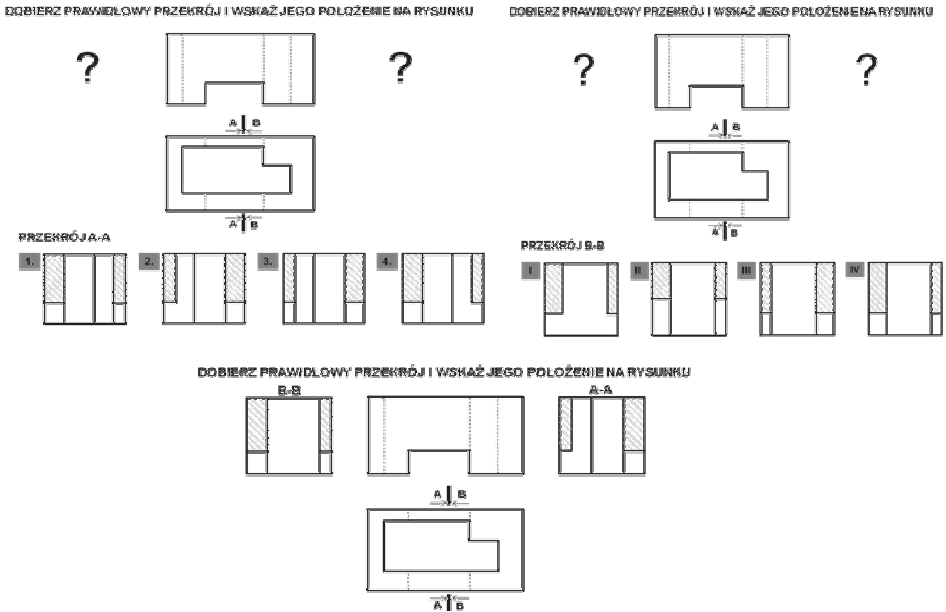
The tasks were initially elaborated in a form of electronic presentations - Power Point. These presentations do not have verbal content but in a system of consecutive steps show the way of mapping currently discussed construction and are presented together with oral commentary of a lecturer. A lecturer, when showing succeeding stages of drawing, tries to direct students to the correct track of reasoning while looking for a solution. Therefore, while making the tasks electronically oral commentary is carried continually as well as discussion with students. Due to the fact that tasks are elaborated electronically during presentation, there is a possibility of detailed analysis of the presented topic with many repetitions.

From observations collected from task solving in the classroom, greater activity and commitment of students in the process of drawing creation can be seen. Diversity of graphic means which enable drawing creation is undoubtedly a big advantage of computer technologies of the presented constructions. Controlling tasks have been created in a way that students themselves choose

one of the variants or draw a solution and a tutor shows the correct one. The layout of the multimedia presentation of tasks which forms a derivative of aims and tasks of education, has been adopted to the perception abilities of students.

Labor input and time needed for preparation of tasks In computer system is compensated by the easiness of carrying classes as well the possibility of their multi-usage. Moreover, electronic solving of tasks allows more effective use of classes time with smaller and smaller number of hours.

Fig. One of the checking tasks of engineering graphics.



3. SUMMARY

The use of computer programs for presenting geometry and engineering graphics tasks can be characterized by easy perception of a recipient and a possibility of creation of different variants of solutions.

The described way of classes realization has had a positive impact on the processes of geometry teaching as well as resulted in enthusiastic and individual students' work in solving constructional problems by them. Therefore, the next step is to put the tasks on the platform for distance education, which is being realized. The purpose is to give all the students access to universal and easy method of checking one's abilities and to check acquisition of a part of knowledge before next classes.