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FACULTATIVE PHYSICAL AND TECHNICAL TRAINING OF PUPILS

The process of physics teaching in general school always is accompanied by technical creativity. This activity match the needs of those pupils who have a great interest in physics and engineering. This was facilitated by several factors, in our opinion, the most important of which are: pupils are witnesses of science and technical progress; at schools there were financially provided groups of technical creativity; pedagogical universities directed their graduates for attracting pupils to technical creativity; school had methodical support in development of technical creativity; teachers involved in the group activity received appropriate financial incentives. Reducing the impact of these factors significantly changed the views of participants of educational process and on the group activity. The process of physics teaching is increasingly become as a "Chalk", and extracurricular work of pupils in definite subject which has great possibilities for organizing their technical creativity, more tapering to competitions, tutoring and individual events which are filled with more entertainment than developmental and educational content.

The problem of activation of cognitive activity during the technical creativity of physics learners is considered in publications of M. Boyko, A. Davydenko, A. Kaspersky, V. Sergienko, G. Shishkin, M. Shut. The problem of technical activity in group work (optional study) of electrotechnical components, in our opinion is not enough given attention.

This article presents our own view on the role, content and meaning of technical activity in secondary general educational school and higher pedagogical school on the example of study of electrotechnical elements.

Thus, the course "Bases of electrotechnics" introduces pupils to the sphere of the concepts, principles, ideas, and opportunities of electrotechnical equipment (electrical measuring devices, electrical machinery and apparatus); DC circuits, AC single-phase and three-phase alternating current; transformers, etc.. The study of theoretical material is accompanied by laboratory practical work, independent pupils' work, including solving electrotechnical tasks, individual work of pupils, executing creative tasks of different stage of complexity.

For pupils the facultative educational course of bases of electrotechnics is actually the continuation of the study of physics course in its applied sense, that contribute to informed analysis of physical processes, patterns and laws of nature, which are studied in some branches of physics.

The program has a clear structuring of the content of study and organization of work of those who study according to logically completed units of educational information – content modules that gives opportunity to provide maximal individualization of educational process. One of the important components of the program is its substantive harmonization. It is concerns as a procedure of study of individual modules so as content and depth of using of mathematical tools at different levels. The variation of the giving program gives opportunity to vary the study of some questions of the course according to basic

knowledge in physics and general technical disciplines of pupils and to account the material and technical base of school.