

STUDENTS' RESEARCH WORK DURING EDUCATIONAL PROCESS

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The industry of building materials is one of leading branches of a national economy of our country. For developed housing, industrial, hydraulic engineering, transport and other kinds of construction it is necessary to use a plenty of various materials and products. Their rational application in construction is possible only in that case when civil engineers freely are guided in the wide nomenclature of domestic and import building production, know properties and operating conditions of materials in designs of various purposes.

In this connection special importance at studying an obligatory complex of technical subjects in building high school the deep and intelligent development by students (for example, specialities 290500 - City construction and facilities, 290300 - Industrial and civil construction) base disciplines: "Materiology", "Regional application of building materials", "New building materials", etc. It is necessary to note, that volume of hours allocated for given disciplines, it is insignificant - accordingly 36, 34 and 16 hours. Therefore paramount value is got with the competent organization by the lecturer of independent work of students with attraction of research elements. This kind of activity is directed on formation of skills of educational work and research work, methodology of scientific knowledge and carried out in parallel with the cores basic employment.

During carrying out of various kinds of research work of students (RWS) by me it is certain, that the following are especially effective:

Preparation and representation of a theoretical & illustrative material (TIM) on mainframes (themes) of a studied rate. For example, "New building materials" is final in the block of the set forth above building disciplines. The program stipulates carrying out only lecture employment, and in connection with restriction in time, the lecturer has the right to use elements of an advancing method of training: carrying out of traditional discussion at lecture is possible (preliminary students independently study the questions of forthcoming lecture employment defined by the teacher), or representation of TIM.

The educational group is broken into brigades on 3 - 4 persons (with a condition of individual performance of each part of collective work). All themes can be incorporated by the certain concept, the motto, having the logic beginning and the conclusion. Performance similar RWS should occur from studying the theory to performance of a practical part (if it is stipulated). Final result of work is representation by each brigade on accounting employment of an illustrative material (the analysis of theoretical calculations, the image of necessary schemes, figures, graphic information, etc. is briefly resulted) and the oral report (a statement of an essence of a considered theme within 5-7 minutes). Discussion of work and its estimation are obligatory. This kind of research work is good that allows students to expand theoretical knowledge and to strengthen skills of ordering of data, accustoms to the analysis of the technical literature. This work teaches to exchange opinions during discussion and promotes purchase of experience of the organization and performance of scientific work on prospect;

Abstract scientific work: the student is made the generalizing report, for example, on study and the analysis scientifically - the technical literature or to patent search of the certain scientific information, on materials of specialized exhibitions of a building direction, etc.;

Attraction inquisitive, hardworking, having propensity to research work of students to performance of scientific projects of faculty (including grants, thematic plans, etc.) together with the supervisor of studies.

Special interest and importance gets performance of the works demanding independent creative judgment, with use of knowledge from sections of resistance of materials, higher mathematics, chemistry, physics, hydraulics, computer technologies that should promote stimulation and motivation of scientific activity of pupils. Results of similar works are represented at student's conferences.

For readiness for practical realization of the knowledge received in high school, skills students should have the generated scientific thinking.

It is important to consider working capacity, a degree of development of self-checking in the doctrine, a level of readiness of students to search, independent activity at the recommendation of various RWS's kinds with scientific elements.