Conclusions

By applying a multidisciplinary approach to the study of metals and the improvement of the curriculum in terms of the core topic of metals, we have obtained qualitative and statistically significant differences in the success rate on the preliminary and final tests in a village and city school. The attempt to modernize the curriculum had the greatest influence on the schoolchildren with the smallest and greatest number of points on the preliminary test, which may mean that the program can be realized not only in regular, but also additional and advanced classes, in the appropriate form. The modernized concept of education contributes to making teaching more dynamic, interesting and suitable for schoolchildren. It contributes to the acquisition of permanent knowledge at the level of understanding and generalization and allows for the synthesis of knowledge from various scientific fields. New research will focus on the application of the expanded and optimized content and its application in the reformed teaching process of chemistry, which is of national strategic interest. An analogous study of the chemistry classes involving the core topic of metals in high schools will also be carried out.

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