THE EFFECTIVENESS OF EXTRACURRICULAR EDUCATION IN THE FORMATION OF SUBJECT COMPETENCIES IN BIOLOGY AND HUMAN HEALTH IN SECONDARY SCHOOL STUDENTS

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The possibilities of out-of-school education in the formation of subject competencies in Biology and Human Health in secondary school students have been studied. Peculiarities of out-of-school education and their role in ecological-naturalistic education of students are revealed. The pedagogical experience of creating out-of-school circles on Biology, Ecology and Human Health in Novomoskovsk district of Dnipropetrovsk region is investigated. A pedagogical experiment was conducted to test the effectiveness of extracurricular education in the formation of subject competencies in Biology and Human Health in secondary school students who additionally attend the society 'Young Nature Conservationists'. It is shown that the training load provided by the Curriculum 'Young Nature Conservationists' for the study of the section 'Natural resources of Ukraine. The flora and its protection' (60 hours) offers an opportunity to consider in detail such topics that according to the programme of the Biology course for the 6th grade at the secondary school have an insufficient number of learning hours.

In the process of learning different methods of teaching and learning were used, practical methods and hands-on experience were prevailing. Thus, excursions are the major learning forms to study the local nature reservation areas in Novomoskovsk district of Dnipropetrovsk region. During the excursion the members of the society were learning about the geography, soils, flora and fauna of their environment, were strengthening their health, and became aware of the necessity to keep fit and healthy and preserve nature.

The members of the society 'Young Nature Conservationists' also participated in a range of contests aimed at developing ecological thinking, preserving nature, creativity and forming major competences in Biology, Ecology and Human health.

It is established that the developed set of educational classes increases the efficiency of formation of competences in Biology and Human Health and their components (logical-semantic, cognitive, operational, research) of members of the group 'Young Nature Conservationists', increases children's satisfaction with the forms of teaching and teaching methods, and ensures students' interest in biology and ecology studied by them at the Centre for Extracurricular Education.

References

1. Henkal, S.E. (2013). Formuvannia predmetnoi kompetentnosti v uchniv profilnykh klasiv na urokakh biolohii [Formation of subject competence in students of profile classes in biology lessons]. Pedahohichni nauky: teoriia, istoriia, innovatsiini tekhnolohii [Pedagogical sciences: theory, history, innovative technologies], no. 4 (30), pp. 127-135. (In Ukrainian).

2. Konoval'chuk, I. (2016). *Teoretychni i tekhnolohichni aspekty formuvannia ekolohichnoi kompetentnosti molodshykh shkoliariv* [Theoretical and technological aspects of the formation of ecological competence of junior schoolchildren]. *Molod i rynok* [Youth and Market], no. 5 (136), pp. 20-24. (In Ukrainian).

3. Mizhnarodna naukovo-osvitnia prohrama GLOBE [International scientific and educational program GLOBE]. Available at: https://nenc.gov.ua/globe/ (Accessed 05 November 2020). (In Ukrainian).

4. Verbytsky V.V. (Ed.). (2018). Navchalni prohramy z pozashkilnoi osvity ekolohonaturalistychnoho napriamu: ekoloho-biolohichnyi profil [Curricula for extracurricular education of ecological and naturalistic direction: ecological and biological profile]. Kyiv, 313 p. (In Ukrainian).

5. Miasoid, H.I. & Yusypiva, T.I. (2019). Formuvannia zhyttievykh kompetentnostei u zviazku iz zasvoienniam tsilei staloho rozvytku u protsesi intehrovanoho navchannia u serednii ta vyshchii shkolakh (na prykladi dystsyplin «inozemna mova» ta «biolohiia») [Forming life competencies and ensuring the acquisition of sustainable development goals in the process of integrated learning in secondary and higher education (with the example of courses "Foreign Language" and "Biology")]. Visnyk Universytetu imeni Alfreda Nobelia. Pedahohika i psykholohiia [Bulletin of Alfred Nobel University. Pedagogy and Psychology], no. 1 (17), pp. 29-35. DOI:10.32342/2522-4115-2019-1-17-4. (In Ukrainian).

6. Pometun, O.I. (2005). *Kompetentnisnyi pidkhid - naivazhlyvishyi oriientyr rozvytku suchasnoi osvity* [Competence approach - the most important reference point for the development of modern education]. *Ridna shkola* [Native school]. Jan., pp. 65-69. (In Ukrainian).

7. Maniuk V. & Maniuk V. (Eds.). (2017). *Pryrodno-zapovidnyi fond Dnipropetrovskoi oblasti* [Natural reserve fund of Dnipropetrovsk region]. Dnipro, 118 p. (In Ukrainian).

8. Machuskyi V.V. (Ed.) (2015). *Formuvannia u vykhovantsiv pozashkilnykh navchalnykh zakladiv bazovykh kompetentnostei* [Formation of basic competencies in pupils of out-of-school educational institutions]. Kharkiv, Madryd Publ., 330 p. (In Ukrainian).

9. Shapovalova, T.H. Formuvannia zdoroviazberezhuvalnoi kompetentnosti vykhovantsiv pozashkilnykh navchalnykh zakladiv cherez zdoroviazberezhuvalni osvitni tekhnolohii [Formation of health-preserving competence of pupils of out-of-school educational institutions through health-preserving educational technologies]. Available at: http://xn--e1aajfpcds8ay4h.com.ua/ pages/view/878 (Accessed 19 November 2020). (In Ukrainian).

10. Zhang, D. & Tang, X. (2017). The influence of extracurricular activities on middle school students' science learning in China. *International Journal of Science Education*, no. 39:10, pp. 1381-1402. DOI: 10.1080/09500693.2017.1332797

11. Yusypiva, T. & Miasoid, H. (2019). The state of bio-ecological characteristics of the one-year shoot of Robinia pseudoacacia L. under the conditions of industrial pollution. *Ekológia (Bratislava)*, vol. 38, no. 3, pp. 340-352. Available at: https://www.researchgate.net/publication/335733039_ The_state_of_bio-ecological_characteristics_of_the_one-year_shoots_of_Robinia_pseudoacacia_L_Under_the_conditions_of_industrial_pollution (Accessed 11 December 2020).

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