METHOD OF ORGANIZING PRACTICAL COURSES OF OBJECT-ORIENTED PROGRAMMING LANGUAGES USING BLENDED EDUCATIONAL TECHNOLOGY.

Khodjabayev Farkhod Davlatbayevich,
Teacher of Navoi State Pedagogical Institute, Uzbekistan

Abstract. *In this work, proposals and recommendations are presented regarding the organization of practical training in object-oriented programming languages using the "Rotational" model of mixed education.*

Key words: *blended learning, rotational, model, object-oriented, flipped classroom, e-learning.*

Along with lectures on subjects in higher education institutions, practical training also performs the functions of educational, training and connecting theory with practice. One of the main features of practical training that differs from lectures is visible in the efforts of participants to achieve joint educational goals [1].

The logical connection between the lecture and practical training is that the information received in the lecture is perceived and processed in the independent work process of the practical training, the examples and problems given in the topics are analyzed with the help of the professor. is done, after which it is firmly assimilated.

The concept of practical training is often given a broad interpretation, that is, it is conducted under the guidance of a professor and deepens scientific-theoretical knowledge, as well as achieving mastery and strengthening of a specific academic subject.

In this regard, according to V.V. Zhuravlev, practical training is a method of reproductive education that ensures the connection between theory and practice, and helps students to apply the knowledge acquired during lectures and independent work, develop skills and competencies. . In this case, the tasks of practical training are as follows [2]: helping students to systematize, strengthen and deepen theoretical knowledge; teaching students how to solve practical problems, helping them acquire skills and competencies; performing calculations, graphics, designing various software products and other types of tasks; formation of the ability to acquire independent knowledge, mastering self-development and control methods.

According to V.P. Bespalko, practical training is, as a rule, aimed at solving various practical problems, that is, training conducted in collaboration between professors and students [3].

Based on the given definitions, it can be said that practical training is aimed at practical application of the theoretical knowledge given in the lecture and practical application of various ideas, and is of great importance in the personnel training system, especially in the training of specialists in the field of information technologies. The problems posed in the practical training of subjects related to informatics and information technologies will be solved with the help of practical and instrumental computer programs.

Based on the analysis of pedagogical experiences, it can be said that practical training in computer science and information technologies, including programming languages, should not be limited to practical skills and problem solving, programming examples and problems. Students should always understand the guiding idea of the course and its relevance to practice.

Therefore, programming languages, in particular, object-oriented programming languages, repeated actions during practical training, if they are different contents of the educational material (changing initial data, adding new elements to the educational task, conditions for solving it change, etc.) together and efficiently distributed, will achieve the goal during training.

According to the analysis of our research, the main shortcoming of practical classes conducted in object-oriented programming languages is that the set of problems to be solved during them is almost exclusively limited to the design of simple problems and practical tasks. These are narrow examples that serve as examples of a single rule and only provide practice in its application. Such examples are necessary, without them it is impossible to do, however, after mastering them in the norm, it is considered appropriate for ordinary students to move on to solving more complex problems that are worth further improvement.

A professor-teacher should conduct a practical session of object-oriented programming languages in such a way that during the whole time students are engaged in intense creative work, searching for correct and precise solutions, so that everyone z will have the opportunity to open and demonstrate the ability. Therefore, it is important for the teacher to take into account the readiness and interest of each student when planning the lesson and developing individual tasks. It is also necessary to use modern educational technologies [4].

But according to the analysis of our researches, we were sure that not enough attention is paid to the practical training of programming languages, especially object-oriented programming languages, based on the above-mentioned sequence in higher education institutions.

Therefore, the problem of improving the system of organizing practical training in object-oriented programming languages in higher education institutions is emerging today. This requires the development of scientifically based methodology.

Therefore, it is proposed to use the "Rotational" model of mixed educational technology in the organization of practical training in object-oriented programming languages within the framework of the research. The following are implemented when conducting practical classes in "rotational" model object-oriented programming languages: 1) Class exchange: exchange of learning methods according to the established schedule or according to the wishes of the professor-teacher. using e-learning, participating in a group of students or individually. 2) Education using Flipped Classroom technology: presence of an approved schedule of daytime educational activities, including projects; effective use of e-learning with some control over learning; choosing a place for electronic education, using it to organize independent educational activities. 3) Individual education: availability of an individual schedule for learning a subject, mandatory online phase of education.

Through this proposed model of blended learning, practical training in object-oriented programming languages is achieved. Therefore, within the framework of the research, a structure of using mixed educational technology was developed in the organization of practical classes in the subject of object-oriented programming languages (see Figure 1).

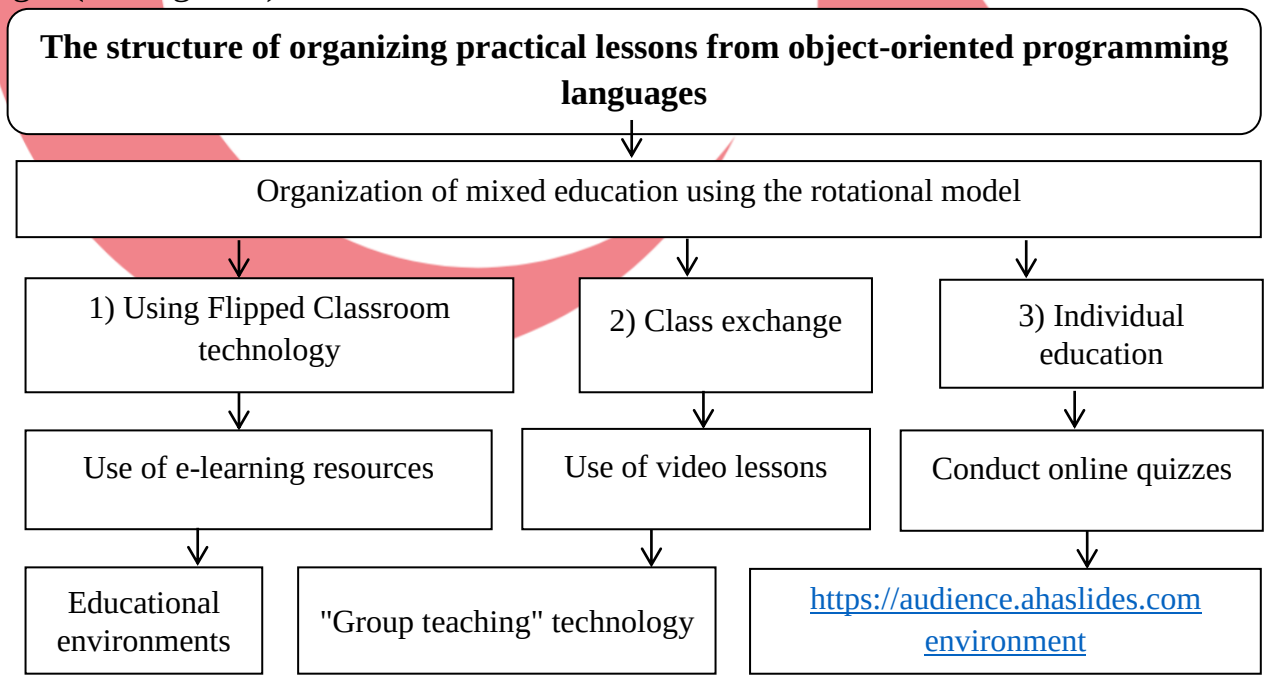

Figure 1. The structure of organizing practical training.

This structure envisages the use of the "Rotational" model in conducting practical training in object-oriented programming languages. It is recommended to use e-learning resources and conduct online quizzes. It is intended to organize them

on the basis of mutual integration of educational environments and "Group teaching" technology.

In conclusion, using the structure proposed in the framework of the research, it serves to a certain extent to increase the effectiveness of teaching object-oriented programming languages and to develop students' competence in object-oriented programming languages.

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