

The influence of the distance learning format on the effectiveness of teaching biology to foreign students in an intermediary language

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Abstract. *Currently, distance learning in universities and its effectiveness are an urgent problem, especially in the field of teaching foreign students in English as an intermediary language. A study conducted among two groups of students, one of which studied remotely and the other in classroom mode, showed that the effectiveness of distance learning using the Moodle distance learning platform and regular videoconferencing is not inferior to the effectiveness of classroom learning and provides additional opportunities to improve the quality of education of students with different levels of motivation. However, the quality of distance learning depends on the level of the electronic information and educational environment of the university.*

Key words: *effectiveness of learning, higher education, foreign students, intermediary language, electronic educational environment.*

Introduction

In recent years, researchers have been paying more and more attention to the fact that the nature of interaction in the "teacher-student" and "student-student" systems is of great importance for the effectiveness of teaching at a university [2, p. 76] and especially of distance learning, since the stereotyped teaching often slows down the acquisition of the necessary competencies and reduces the motivation and responsibility of students. In the conditions of constantly increasing volumes of information, the individual independent work of students while studying remotely acquires a special role in the effectiveness of training [2, p. 76].

The use of distance technologies is of particular importance in teaching foreign students in an intermediary language (English) [4, p. 114], since for them the effectiveness of training depends, among other things, on the cultural transformations of the educational space.

The purpose of the study is to establish the nature of the influence of the distance format of conducting biology classes in an intermediate language (English) on the effectiveness of teaching this discipline to foreign students.

Materials and methods

The study was carried out on the basis of the Department of Biology, Biochemistry and Biotechnology of the Yaroslav-the-Wise Novgorod State University. The materials for the analysis were attestation statements for the first semester in the discipline "Biology" of first-year English-speaking students in the 2019-2020 and 2020-2021 academic years. The progress of 130 foreign students of the specialty 31.05.01 General Medicine, studying in the intermediate language (English), has been analyzed. Of these, 81 students were trained in the first semester of the 2019-2020 academic year in a standard classroom format, 49 students studied the discipline "Biology" in the first semester of the 2020-2021 academic year in a distance format using the Moodle distance learning platform and regular videoconferences of theoretical and practical focus. The content of the educational program has not changed. The total score for the semester was analyzed according to the point-rating system adopted at the university. Statistical data processing was carried out using Fisher's test.

Results and discussion

As a result of the study, it was found that among English-speaking students who were trained in a standard classroom format, the average score in the discipline "Biology" for the first semester was 122.99 points (the maximum score for the first semester is 150), which has no significant differences ($p < 0.5$) compared to the average score among foreign students enrolled in a distance learning format.

At the same time, there were some differences in the performance of the two studied groups: none of the students who studied in the classroom mode was able to score the maximum score per semester, while in the distance format two students managed to do it.

At the same time, among the students who studied in the classroom, there was one person who had never attended classes. He earned 0 points and was not certified. In the distance group there were several students who did not attend conferences, but nevertheless completed part of the tasks on the remote Moodle platform and scored enough points to receive credit.

The data obtained indicate that the effectiveness of distance learning in English is in general not inferior to the effectiveness of standard classroom lessons. At the same time, in conditions of equal effectiveness in its average value, in an individualized understanding of the effectiveness of distance learning, two positive trends are noted.

First, the most highly motivated students striving for knowledge have more opportunities to maximize their aspirations. They may not be distracted by other students, which would be inevitable in classroom lessons in terms of specific cultural attitudes, and arbitrarily limit assistance to other students to such an extent that it does not violate their personal space.

Second, for students with reduced motivation to learn, a solution is created that, from the student's point of view, is perceived as a compromise. While in the classroom mode, such students simply refuse to attend classes, then in the video conferencing mode, combined with educational activities on the Moodle platform, they, as a rule, choose for themselves a mode that involves non-attendance of video conferencing and full or partial completion of tasks in the Moodle system. From the student's point of view, such a regime appears, depending on the level of motivation and responsibility, either as a compromise approach to learning, or as a kind of "deception" that allows "with impunity" not to attend classes in the form of videoconferences. However, from the point of view of the teacher, the very possibility of such behavior of a student of an English-language program is a step towards increasing the effectiveness of learning, which is explained by several aspects:

1) the distance educational course in the discipline "Biology", located on the Moodle platform, is built in such a way that all elements of each topic, including theoretical material, tests and assignments, are maximally consistent with each other and that their type and conditions reduce to a minimum the possibility non-independent execution. Thus, if a student intends to complete at least part of the tasks on the proposed topic, he somehow assimilates the relevant material of the program;

2) for the vast majority of foreign students studying in an English-language program, English is not a native language, but an intermediary language, and therefore an insufficient level of English proficiency reduces the quality of education of such students [1, p. 224]. In classroom lessons, it is more difficult to solve this problem, since it is impossible to organize control over the individual extracurricular work of a student, which would motivate him to further study written sources. In a remote format, a deadline for completing written assignments and tests can increase the efficiency of perception of new material [1, p. 224] due to the availability of oral – in the form of videoconferences – and written – in the form of theoretical material in electronic form – versions of the presentation of information [4, p. 115].

In addition, as the researchers note, the distance learning mode with the use of videoconferences allows not only to bring the learning conditions closer to classroom [3], but also to establish individual contact between the teacher and each student, which in some cases allows influencing the organization of student's individual independent work, which leads to improve their personal results.

At the end of the discussion, it should be said that maintaining the effectiveness of teaching, including the discipline "Biology", when switching to a distance learning format using information technologies directly depends on the consistency and degree of development of the electronic information and educational environment of the university [3]. If the quality of this

environment is not satisfactory, if its maintenance by the university as a legal entity is limited only by numerous checks and penalties in case of violations without conducting training and coordinating activities among teachers and students, then it is impossible to ensure the high quality of distance learning.

Conclusion

Thus, the distance learning format for English-speaking students in the discipline "Biology" does not reduce the effectiveness of training in comparison with the classroom format. Moreover, distance learning using the Moodle distance learning platform and regular videoconferences of theoretical and practical orientation creates the preconditions for increasing the effectiveness of learning from the standpoint of individual educational trajectories, since it takes into account different levels of motivation and responsibility of students, and also allows to level out to a certain extent differences in the degree of proficiency of students in English as an intermediary language. At the same time, the achievement of a distance learning quality comparable to the classroom is possible only if there is and coordinated functioning of the electronic information and educational environment of the university, which requires additional adequate organizational and educational work with teachers and students.

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