



Implementing Blended Learning Technology "Flipped Class" on the Basis of the Platform "Ted-Ed"

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Abstract: Modern higher education is on the verge of changes due to a paradigm shift - the transition from classical to progressive. Nowadays, it is no longer possible to imagine an educational space without the use of information and communication technologies, in connection with which there is a need to revise the methods and approaches to teaching disciplines in higher educational institutions. The concept of higher education should correlate with the requirements of society, in particular the employer, for a graduate of a university. A graduate of the XXI century is a subject of his activity, possessing the necessary competencies for the successful realization of himself in society. Consequently, a higher education teacher faces the task of finding ways and means of integrating new learning formats into the educational process, thanks to which the student will be able to master the competencies of the XXI century. So, to improve the quality of learning, the authors of the article introduce one of the components of the blended learning model - the "flipped classroom". This article presents the concept of the "flipped classroom" technology, examines the possibilities of using this technology with the use of the educational platform "TED-Ed", which, in turn, makes it possible to implement the modern requirements of the professional orientation of the implementation of information technologies in the educational context. The authors of the article have tested this technology within the framework of the "Integration of language Skills" academic discipline, intended for independent and classroom work of 2nd year students studying in the "Foreign Language and Literature" direction. Conclusions are made regarding the effectiveness of this approach. Thus, the application of the technology "flipped classroom" allowed to improve learning outcomes and improve the skills of students' autonomous learning. In general, the authors consider the use of both the technology itself and the TED-Ed resource as a great advantage, which lies in the possibility of their application in various fields of education.

Key Words: Flipped Classroom, TED-Ed, blended learning strategy, Bloom's Taxonomy, competence-based approach, autonomous learning.

I. INTRODUCTION

Over the past decades, modern higher education has undergone significant changes. There is a fundamental shift and a departure from the conditions under which our current approaches to the education system were developed - a new educational space is being formed. Digital educational environments are gradually being created, where the student is no longer an object of learning, but a subject - that is, he himself influences his development. It is no longer always possible to easily integrate old materials and methods into a new educational space. On the contrary, other potentials appear in it. It is important to realize the goal of the new educational paradigm, on which the success of the creation and implementation of new technologies depends - not the assimilation of the amount of knowledge, but the development of a free personality with information and digital competence, critical thinking, able to think creatively, make decisions independently and choose personalized educational trajectories, contributing to the formation of flexibility and adaptability to the realities of modern society. Due to the fact that the competencies mastered by university graduates have become obsolete for several years, an important task of educational institutions is to form the skill of continuous learning and the development of thought processes. It becomes obvious that in order to form a specialist in the 21st century, teachers need to create a digital environment in which students will actively participate as subjects of their activities. The teacher, in turn, is not a "translator of knowledge", but only an assistant in their acquisition. With this approach, it becomes necessary to search for means and ways to integrate new learning formats into the educational

process within the digital educational environment. So, to improve the quality of teaching a foreign language in a technical university, a blended learning model is used [1, p.28], which allows you to introduce new technologies without abandoning traditional teaching methods. In our opinion, blended learning helps to increase the motivation and involvement of students in the context of educational activities due to the interactivity and controllability of the educational process. One component of blended learning is the flipped classroom model. In this article, we will look at the concept of flip class technology, as well as the possibilities of using this technology using the educational platform "TED-Ed" and draw conclusions regarding the effectiveness of this approach.

II. LITERATURE REVIEW

Flipped Learning is a pedagogical approach to blended learning in which classroom and homework are used interchangeably [2]. A review of the literature shows that the term "flipped class" is found both in the works of foreign scientists (M. Lage, G. Platt & M. Treglia [3], J. Bergmann, J. Overmyer & B. Wilie [4], M. Gilboy, S. Heinerichs & G. Pazzaglia, [5], H. Hung [6], Polukhina M.O. & Valeeva E.E [7], etc.). After analyzing the work of scientists, we draw a conclusion regarding the content of the concept of "flipped class". According to scientists, this technology is a pedagogical model in which the typical presentation of the study of new educational material and the organization of homework are presented in reverse.

The founders of this model are chemistry teachers Jonathan Bergmann and Aaron Sams [8]. Initially, it was a means of filling gaps in students' knowledge due to gaps and was subsequently transformed into a full-fledged methodology, the essence of which fully reflects its name. Flipped Classroom ("flipped class") overturns the traditional system of classes [8, p. 32].

1. Students learn new material at home. This process consists of watching video lectures, working with presentations, working with recommended literature and website materials suggested by the teacher.

2. Students in the mode of cooperation and interaction (interactive assignments, group discussions, etc.) work in the classroom.

3. The teacher plays the role of an observer, gives timely feedback and evaluates the work.

The main way to implement this learning model is based on the following principle: direct learning is carried out outside the classroom, and practice and application in the class itself. In general, the essence of the "flipped class" is to rearrange the key components of the educational process. According to the revised taxonomy of B. Bloom [9], depicted in the figure, the "inverted classroom" model means that students perform lower levels of cognitive activity (such as gaining knowledge outside the classroom), focusing on understanding higher forms of cognitive activity (application, analysis, synthesis, evaluation) already in class.



The revised Bloom's taxonomy (L. Anderson, D. Krathwohl, 2001)

With this learning model, students independently master the content of the new educational material in an electronic environment, and then apply the knowledge gained in classroom time through the implementation of practical tasks or discussions.

In our article we refer to the ideas of O. Melnikova, who substantiates the prospects and demand for the inverted class technology. The scientist identifies three reasons for this. First, this technology makes it possible to implement the concept of e-education in the context of blended learning using innovative teaching technologies and, thus, to increase not only the efficiency of the educational process, but also the rating of the university. Secondly, the method of "inverted lesson" is able to facilitate the learning process and remove the associated psychological difficulties of students. By eliminating the hassle of doing typical

traditional homework, it can reduce the stress and anxiety caused by a large amount of learning material to master. It also allows students to learn new material at their own pace, as they can watch the video as many times as they need. In addition, the inverted learning format can be a good support tool for those students who are missing classes, since the training material will be available to them outside the university. Simultaneously with the overturning of the lesson, a revolution occurs in the minds of the teacher and students, which radically changes the attitude of all participants in the educational process to learning, their role and function. Thus, the "flipped class" format allows students to develop a proactive, responsible attitude towards their own education, a culture of learning and the habit of learning, as well as a desire for self-improvement in accordance with their personal and professional needs. As a result, the focus is on a personalized competence approach. Thirdly, the inverted learning model, which is based on the idea of learning in collaboration, contributes to the formation of communicative competence, which, in turn, is the main goal in teaching a foreign language [10, p. 97].

The main format of work on studying new material at home is a video lecture, the preparation of which is carried out in two ways: a) selection of an existing video on a given topic that corresponds to the goals and objectives of the lesson. There are currently a large number of online services (YouTube, TeacherTube, Ted-Ed, etc.) containing vast collections of various videos. The teacher only has to choose the ones that are suitable for the topic; b) creating your own video or audio lecture. There are a number of online applications (Screencast-o-matic, Jing, Camstudio, etc.) that allow you to create screencasts.

This format for the presentation of new material eliminates a number of complex issues inherent in traditional teaching. So, the different level of foreign language competence by students is no longer a factor that hinders active communication in a foreign language lesson. Students with more developed foreign language competence spend much less time mastering the material at home than students with poorly developed foreign language competence. Working in real time at home at a comfortable pace for themselves, students can reproduce the "incomprehensible" fragment of the studied material as many times as they need to fully understand. This approach, according to L.K. Raitskoy changes the motivation of students to study: "each individual student is already free to make a decision - when and where to study the material for the lesson, how much time to spend on studying, or even refuse it. At the same time, all responsibility falls on the subject of the educational process, while simultaneously strengthening the student's autonomous position, laying the foundation for independent and conscious continuous learning throughout life" [11].

III. MATERIALS AND METHODS

In this article, we would like to demonstrate the possibility of applying the lesson developed by us using the innovative technology "flipped classroom" based on the "TED-Ed" platform [12]. The above information gives a complete picture of the content of the concept

Flip class and the benefits of using it, so what follows is about the possibilities of creating classes for technical students using the online TED-Ed platform. This, in turn, makes it possible to implement the modern requirements of the professional orientation of the implementation of information technologies in education. As mentioned earlier, video is a necessary component of the flipped class. The use of video materials contributes to the implementation of the basic principles of teaching: authenticity, communicative orientation, visibility, situational awareness, dialogue of cultures and cultural variability. The uniqueness and innovation of the TED-Ed site lies in the fact that it invites the teacher to create their own lessons based on video TED-Talks (TED-Talks - short public speaking in the fields of culture, art, science and technology) or videos and animation from YouTube ... In the process of using this educational resource, the principle of knowledge integration is implemented, when there is a simultaneous development of both communicative and professional-communicative, informational, academic and social skills.

We use the technology "flipped class" using the resource "TED-Ed" within the framework of the "Integration of language Skills" academic discipline, intended for independent and classroom work of 2nd year students studying in the "Foreign Language and Literature" direction. We find it expedient to introduce the principle of "inversion" to individual lessons containing particularly relevant topics that require deeper and more detailed study. So, for example, in the section "Building materials", students are invited to watch videos on the topic at home and complete several comprehension tasks. It should be noted that the selected video material is relevant and reflects the modern realities of the construction world, which arouses and maintains the interest of future specialists in them. Students receive a link to a ready-made lesson, where they complete assignments prepared by the teacher. An important component of a platform lesson is the opportunity to develop students' critical thinking through participation in an

open discussion on a topic. The teacher, in this case, evaluates and gives feedback, which is important for the effectiveness of the educational process.

IV. RESEARCH RESULTS

Using the platform-based flipped class model

TED-Ed in English classes takes the educational process to a qualitatively new level, opening up opportunities for optimizing the teaching of a foreign language in higher education. For those sections of the course curriculum that used this model, it improved learning outcomes and improved autonomous learning skills. Thus, students completed their homework, actively participated both in online discussions and in class, their interest in the topic under study increased. It is also possible to note the motivation and desire of students to use this technology more often. It is important to take into account the fact that during the use of this learning model, students began to reveal their potential to the maximum in the face of reduced classroom hours and increased hours for independent work.

In general, the ability to select, work out specific educational material, and clearly demonstrate it using interactive video allows you to intensify the educational process and implement a personalized approach to learning, as well as follow the principle of nonlinearity.

V. DISCUSSION AND CONCLUSION

Modern education, in particular higher education, is being transformed by integrating into the digital space. It follows from this that teachers need to keep up with the times, developing and implementing modern information technologies. As the experience of Russian and foreign educational institutions shows, the flipped classroom technology is actively used in the educational process using various online platforms. In this regard, higher education is only gaining momentum, therefore, the demand for this technology will only grow. The innovativeness and originality of the authors' work lies in the adaptation of the methodology used mainly in the school education system to the conditions of higher education. A great advantage of both the use of the technology itself and the TED-Ed resource lies in the possibility of their application in various fields of education.

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