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IMPLEMENTATION OF LMS INTO TEACHING ESP TO ECOLOGICAL FACULTY STUDENTS

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The purpose of this study is to identify the relevance of LMS-based flipped classroom model for teaching English for specific purposes. The research is based on a case study conducted with a group of 2d year Environmental Sciences students who study English for specific purposes at a university level. To integrate computer-assisted module into everyday educational practices an LMS-based course was created. The students were asked to log into the LMS on a weekly basis and perform activities complementing on-site learning. The process has been evaluated by means of weekly follow-up as well as monthly quizzes. The students were asked to take part in a survey contemplating the motivational and educational value of the LMS-based training. The paper discusses the findings, outlines major challenges the instructor has to overcome having employed such semi-flipped classroom format and offers plausible solutions.

Key words: flipped classroom, LMS, English for specific purposes, case study

INTRODUCTION

The concept of bringing technology to the classroom is not new, it has been studied in many respects within the framework of blended learning [1—3]. The idea behind seamless technology integration is in combining traditional in-class activities with enhancing target language use outside the class [4]. Reversing the traditional teaching model with substantial amount of work done by the students independently and the classroom activities reserved for discussion and practice, is usually referred to as flipped teaching model. This term has been coined recently, though the approach itself has existed for a while [5]. Alongside with inverted [6] and inverted classroom [7] this term has been used to describe teaching model that requires substantial preparation on the student's side prior to classroom discussion and practice. Pedagogical value of the described approach roots in active learning — the students get involved in acquiring new information on their own, coming up with elaborations and ideas by themselves, rather than being fed ideas by the instructor [8]. Active learning transforms the teaching process — it becomes student-centered, rather than teacher centered [9]. As a result, the amount of time spent on theoretical activities reduces significantly, allowing to double the time spent on practical activities [10] Practical activities involve group discussions, problem-based learning, case studies, collaborative learning and inquiry-based learning — all of that aimed at fostering motivation and increasing consistency of educational strategies.

INTENDED OUTCOMES

This paper focuses on the discussion of introduction of LMS-based active learning component into the course of English for specific purposes at university level. This approach is aimed at addressing several challenges. Firstly, students of non-linguistic specialization at RUDN University have very limited number of English classes, however, they are supposed to present their BSc thesis in English. Apparently, this requires high level of academic English proficiency. LMS-based classes create educational setting for independent language practice and extensive reading on the major specialization subject with further comprehension activities, resorting classroom time for targeted discussion and clarification [11]. Secondly, it is possible to choose the most comfortable and productive pace of learning, with numerous short iterations or few longer sessions, depending on personal preferences [12].

Thirdly, flipped classroom technology fosters creating self-regulative study groups with all members sharing the workload and helping each other to acquire better understanding of the problems considered [13]. Finally, active learning contributes to students' independent learning skills and enhances their abilities to work autonomously.

IMPLEMENTATION

The flipped classroom model was introduced at the Ecological Faculty of RUDN University to the 2d year Bachelor's students (25 students in total) during the Autumn semester of 2016. We used the in-house tele-education system TEIS recently deployed at RUDN University to foster blended learning. TEIS system is password-protected and creates individual educational environment for every student. They log in the system from their personal PCs or smartphones and browse all courses they have been assigned to. Once the student enters the designated course, the system records time and duration of the visit. The teacher can generate the report on the amount of time each student spends working on the assignment, number and frequency of logs. The teacher can also leave individual comments and grade the work, providing formative assessment.

In order to facilitate the implementation, 12 lessons were created to supplement in-class activities for the English for specific purposes course. All of these lessons were assigned readings with numerous reading comprehension and translation exercises. The readings were chosen to complement in-class activities, focusing on similar vocabulary, but also looking into certain scientific findings, providing extra practice of general academic vocabulary as well. Each lesson contained questions for further in-class discussion, the students were asked to prepare for the discussion at home. Quiz questions were provided on a monthly basis to encourage students to complete the assignments. The overall model of the process was as follows (Fig. 1).

The learning process followed similar pattern. At first the problem was introduced in the class. The students did intensive reading of small chunks on academic texts, listened to the dialogues on corresponding issues, made their own dialogues and wrote essays or reports on dedicated environmental issues. Then they were asked to log into the LMS and read an academic article on the corresponding topic. All articles were accompanied

by 5—6 reading comprehension exercises that the students were asked to perform individually online:

— Finding the opposites;
— Gap filling;
— Multiple choice;
— Source-target and target-source translation;
— Matching, etc.

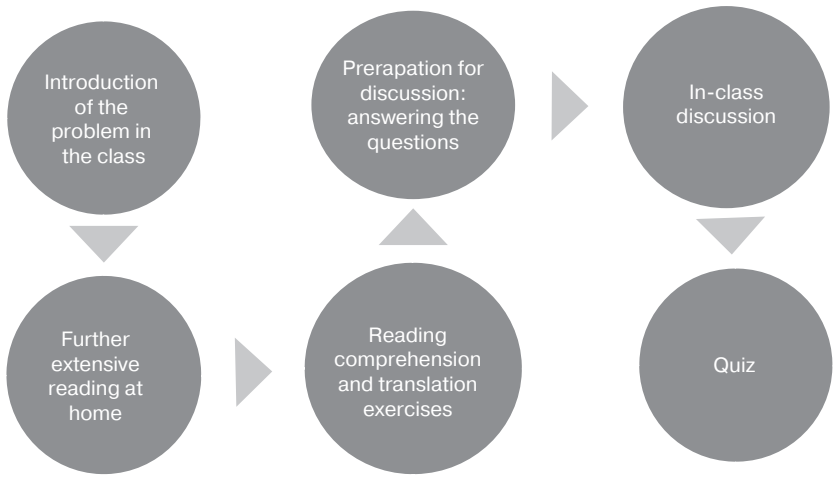

Fig. 1. Pedagogic Process Model

Having completed the tasks, the students were offered a few questions for discussion, based on the article they had just read. This was the final stage of in-class discussion preparation. The onsite activities were mostly teacher-led. Since the students already had prior knowledge of the articles, the teacher could rely on them calling them out to elaborate on the discussion questions. Other times, the activities were not teacher-centric, the students were split into several groups, each group had a discussion assignment for the debate. In general, all in-class activities, regardless of their focus, were intended to practice new knowledge the students had acquired while working on their individual assignments at home.

OUTCOMES FOR THE INSTRUCTOR

Preparation of the LMS-based course presented a few challenges to the instructor. Firstly, teaching English for specific purposes requires solid understanding of the major subject, which should be even more emphasized when it comes to collecting readings for advanced students. Quite a few articles appeared to be ambiguous and raised heated discussions among students. However well this contributed to their speaking abilities, expert moderation of such discussions is strongly recommended [14]. Secondly, prepared questions helped the instructor to quickly review the content of the lesson and assess general understanding during the in-class activities. Due to prior preparation, all students were highly engaged in discussion and demonstrated high degree of engagement. Thirdly, from the administrative point of view, off-site lessons appeared to have higher attendance

rate than on-site classes. This could be attributed to flexible schedule allowing to work at one's own pace and keeping up with the group even when incapable to come to the class. In terms of formative assessment of the off-site classes, it appeared to be a challenge, as providing individual comments for 25 students on a weekly basis appeared to be time-consuming. Thus, it appeared to be a valid idea to collect typical errors and misunderstandings and discuss those in class with the entire group, rather than commenting on those in LMS individually. Overall, on the instructor's side positive outcomes were plenty and challenges were few and manageable.

OUTCOMES FOR THE STUDENTS

All the students were asked to take part in a survey and answer the questions with regards to (1) the content of the LMS-based course, (2) the in-class follow-up activities, (3) their general impression of the blended learning model with respect to learning English for specific purposes. To evaluate the results all the students were grouped according to their performance throughout the course. Group 1 (TOP) was comprised of students who received 90% grade in the course ($n = 9$), Group 2 (MIDDLE) — 70—89%% ($n = 10$), Group 3 (BOTTOM) — less than 70% ($n = 6$).

Responses were used to evaluate data on the particular characteristics of the readings. The students were also given an opportunity to leave comments to further elaborate on each question. All students reported that the readings they were offered were engaging and interesting (Table 1). The majority of the students (76%) believed the readings to be appropriately challenging (Table 2). None of the students found the readings too easy.

Table 1

How engaging and interesting were the readings?

Estimated value	All ($n = 25$)	TOP ($n = 9$)	MIDDLE ($n = 10$)	BOTTOM ($n = 6$)
Very engagingand interesting	64% (16)	20% (5)	28% (7)	16% (4)
Somewhat engaging and interesting	36% (9)	16% (4)	12% (3)	8% (2)
Not engaging and interesting	0%	0%	0%	0%

Table 2

In general, the content of the readings was

Estimated value	All ($n = 25$)	TOP ($n = 9$)	MIDDLE ($n = 10$)	BOTTOM ($n = 6$)
Too difficult	24% (6)	4% (1)	8% (2)	12% (3)
Appropriately challenging	76% (19)	32% (8)	32% (8)	12% (3)
Too easy	0%	0%	0%	0%

A series of responses were used to evaluate the in-class follow-up activities, which primarily included:

— Instructor-led discussions;
— Pair and group work;
— Instructor-facilitated debates;
— Group activities and tasks to practice information previously learnt.

Firstly, the students were asked to rank the above activities scoring the most engaging ones the highest and the least engaging ones the lowest. According to the results of the survey the activities were arranged in the following descending order (Table 3):

Table 3

Degree of engagement

RANK	ACTIVITY
1 (most engaging)	Instructor-facilitated debates
2	Instructor-led discussions
3	Pair and group work
4 (least engaging)	Group activities and tasks to practice information previously learnt

According to our observations, group activities and tasks to practice information previously learnt appeared to be the least engaging activity of all. In order to increase engagement and facilitate formative assessment the instructor used calling on students. Most students considered it to be very effective, with 60% finding it crucial for overall in-class engagement and 40% admitting it was sometimes necessary (Table 4).

Table 4

The role of calling on student in overall engagement

Estimated value	All (n = 25)	TOP (n = 9)	MIDDLE (n = 10)	BOTTOM (n = 6)
Crucial for maintaining engagement during the in-class activities	60% (15)	20% (5)	24% (6)	16% (4)
Sometimes necessary for maintaining engagement during the in-class activities	40% (10)	16% (4)	16% (4)	8% (2)
Irrelevant for maintaining engagement during the in-class activities	0%	0%	0%	0%

Finally, the students were asked to comment on their overall impression of the blended learning model and incorporation of technology-based component into their curriculum. The students were asked to provide open-ended comments, for us to elicit individual response. Among the positive comments, we could mention “interesting readings”, “engaging tasks”, “positive classroom dynamics”, and even “heated discussions”. On the negative side, some students were less prepared for increased amount of independence practice. Some of them lacked individual feedback throughout the LMS-based stage, others found it intimidating to address their peers for advice, rather than an instructor.

ADVANTAGES

LMS-based blended learning approach apparently has a few advantages worth mentioning. Firstly, the overall impression of students was very positive, they were engaged and motivated throughout the course. Secondly, although it required much time to prepare a course, throughout the semester it helped reduce preparation time, besides, the course can be reused and recycled by the entire department involved in teaching English for specific purposes. Thirdly, distance learning mode allows students to work in their own pace and capacity regardless to their personal circumstances, so being absent from the class is no longer an obstacle for learning.

CHALLENGES

Apparently, one of the major challenges for the instructor is time management. The issue of individual feedback yet has to be addressed, as leaving a written individual feedback to large groups on students on a weekly basis is extremely time-consuming as opposed to brief explanation and discussion with the entire group in class. Secondly, it is essential to take into consideration the feedback that we received for the in-class activities and plan them accordingly to the engagement ranking. Thirdly, with more classroom time for productive activities the instructor has to adjust the curriculum, carefully planning more group and pair-work activities, which is not always easy providing we teach English for specific purposes and any discussion requires solid understanding on the major specialization.

CONCLUSION

Overall, introduction of LMS-based component to the English for specific purposes classes can be considered a positive experience. According to our findings it fosters students' engagement and contributes to their interest in learning a foreign language. Furthermore, it has a positive impact on their independent learning skills and has a tremendous pedagogical potential for students and instructors alike. There are quite a few challenges that still have to be addressed, therefore further research on integrating technology into the classroom is needed.

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ВНЕДРЕНИЕ СИСТЕМЫ ТУИС В ОБУЧЕНИЕ СТУДЕНТОВ-ЭКОЛОГОВ ИНОСТРАННОМУ ЯЗЫКУ

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Целью данного исследования стала оценка целесообразности внедрения телекоммуникационной учебно-информационной системы (ТУИС) в процесс обучения студентов-экологов иностранному языку специальности. К обсуждению предлагаются результаты педагогического эксперимента, проведенного со студентами второго курса экологического факультета РУДН, изучающими английский язык по программе бакалавриата. Для внедрения модели смешанного обучения был создан учебный курс в системе ТУИС, внедренной годом ранее в РУДН. Студенты получили еженедельные задания, которые им предлагалось выполнять в рамках электронного курса в дополнение к занятиям иностранным языком, проводимым в традиционной форме. Задания для самостоятельного выполнения еженедельно обсуждались с преподавателем в классе, текущий контроль знаний осуществлялся с помощью тестирования раз в месяц. Студентам было предложено пройти опрос для оценки мотивационной и педагогиче-

ской ценности смешанного обучения. В работе обсуждаются результаты и основные проблемы, выявленные в ходе эксперимента, а также предлагаются пути их решения.

Ключевые слова: смешанное обучение, электронный курс, язык специальности, эксперимент

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