PROSPECTS OF INTRODUCTION OF MICROLEARNING INTO THE PROCESS OF TEACHING POSTGRADUATE STUDENTS A FOREIGN LANGUAGE

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Abstract

The phenomenon of microlearning is widely discussed nowadays. Being mostly covered in Western European researches, this subject is still not very popular among Russian scientists. Initially, the microlearning concept began to be discussed in the framework of corporate training, but it seems appropriate to use it also in higher education institutions, in particular, for distance and blended learning. Particularly relevant is the use of microlearning tools in planning foreign languages classes for polytechnic   university students whose major is technical specialties. Some particular features predetermine the need for implementing some particular tools. These features include: an acute shortage of classroom hours; a generally low level of students' foreign-language communicative competence, as well as the lack of homogenity of groups in terms of a foreign-language communicative competence level; and a general focus on learning mainly specialist disciplines, and therefore - decreased motivation for learning a foreign language.

In addition to the above mentioned local peculiarities of educational system, one has to take into account the fact that any learner is exposed to the influence of modern educational and information environment. One of the consequences of that influence and interaction is the shift to the mosaic thinking, which is characterized by the ability to work with a big volume of information, a rapid transition from one problem aspect to another, a preference for non-textual (visual) information, a high speed of information processing, a short attention span and a decreased ability for analytical work. As the changes in educational and information environment have led to the different way of thinking of the modern learner, it is necessary to look for new approaches and techniques in teaching.

Within the framework of the pedagogical experiment the students of the Institute of Industrial Management, Economics and Trade of Peter the Great St.Petersburg Polytechnic University (SPbPU) studied "Business English" discipline with the help of such microlearning tools as infographics and posters, created by the professors of the department of linguistics and cross-cultural communication. The aim of introduction of this technique into educational process was to observe whether presentation of information in the non-verbal format is going to help students to expand their active vocabulary easier and more effectively, to solve the problem of lack of knowledge on their major subjects and to spur students interaction while carrying out oral tasks, such as brainstorming, dialogues, round-table discussions etc.

Although students demonstrated overall good results in progress, and the final tests indicated that the used microlearning techniques could work effectively for non-linguistic English learners, the survey highlighted some areas to be improved. In particular, more time should be allocated for revision, and the use of infographics as a tool for a project work, which could affect greater students engagement into educational process, need to be considered.

Therefore, the main objectives of the article are the following ones: 1) to determine the main features of the microlearning technology; 2) to specify the approaches and tools used in microlearning while teaching English to non-linguistic master students; 3) to analyze the created methodical resources and the approbation results.

Keywords: microlearning, infographics, educational environment, educational process, visual information, attention span, mosaic thinking, non-linguistic students, approbation results.

1   INTRODUCTION

While teaching a foreign language in a non-linguistic institution, the methodologists inevitably face several problems such as: the shortage of class hours, the heterogeneity of groups in relation to students` language level and communicative competence, and the decreased motivation for studying a foreign language, since special disciplines are a priority. The additional difficulty for students at a

master's degree program in a non-linguistic university is the lack of regular English classes during the last years of the bachelor program; as a result, students face an additional problem of the necessity of overcoming the language barrier due to the lack of speaking practice. An important issue for both a teacher and students is the fact that a lot of learners of the master program have the right to change their faculty (and sometimes even the university); as a consequence, the participants of the educational process face a low level of professional training attained by the students. This, in turn, complicates the process of developing a communicative competence within the framework of the "Business Foreign Language" discipline, since the teacher, in addition to teaching the foreign language itself and speech strategies, also has to compensate for the students` lack of background knowledge.

However, the need to search for new formats and tools for optimizing the teaching a foreign language in higher education institutions is due not only to the peculiarities of teaching a foreign language for non-linguist students, the other factors are: the influence of educational and information environment, as well as the change in the way of thinking and learning styles of modern students.

According to the theory of generations of William Strauss and Neil Hove [1], [2] modern students are the representatives of generation Z or the so-called digital generation: they are open to modern technologies (including information technology), prefer virtual communication, have a more developed short-term memory rather than long-term memory, could suffer Attention Deficit Disorder and are susceptible to the syndrome of hyperactivity [2], [3], [4] [5]. In addition to this, changes occur both in the information environment and the educational environment. The information environment today is characterized by the integration of various communication methods, the information overproduction, and the need to quickly navigate in the ever-changing information environment. The modern educational environment embodies such features as a huge information density and a high speed of receiving, transmitting and processing of information.

One of the consequences of all the above mentioned changes was the emergence of so-called mosaic thinking (E. Toffler) [6], [7], [8], characterized by the ability to work with a large amount of information, a quick transition from one problem aspect to another, a preference for non-textual (visual) information, a high speed of information processing and orientation in a heterogeneous information flow, the state of early fatigue, a decreased attention span and the decreased capacity for analysis.

All these issues pose the necessity of finding out new technologies and training tools for modern methodology. Our work is intended for overcoming some problems of teaching non-linguistic postgraduate students the English language by means of introducing some elements of a microlearning technology into the educational process (such as the infographic tool) to activate the communicative activity of students in the process of students communicative competence development.

2   MICROLEARNING DEFINITION

Today, the topic of microlearning as a new educational technology attracts a lot of attention. Most actively it is discussed by West European scientists such as G.Gassler, T. Hug, C. Glahn, M. Lindner, P. A. Bruck, P. Baumgartner, R. Behringer, S. Fiedler, M. Kerres [9], [10], [11], [12], [13], [14], [15]. In the Russian methodological science, on the contrary, this topic has not been properly covered yet. Since the term "microlearning" is new and has not been established yet, it is necessary to clarify its meaning. Microlearning is "a form of learning that includes aspects of learning and education, which focuses on the micro-level, in particular, micro-content or micromedia (media resources in micro-sizes). Micro-teaching concerns relatively small educational units and short-term educational activities "[16, p. 675]. In our work we will use the term " microlearning" as an educational technology, which implies the acquisition of knowledge in the form of small independent blocks, where each of them represents the information that is essential at the particular moment of the educational process and is presented in the most structured, concise and accessible form. First of all, the phenomenon of microlearning began to be discussed in the framework of corporate training, but it seems appropriate to use it also in higher education institutions, in particular, while teaching in distance and blended format.

2.1   APPROACHES TO MICROLEARNING

In our opinion, the emergence and use of microlearning in the educational process is largely due to the shift to the new way of thinking and the characteristics of the modern educational environment.

There are different approaches to the introduction of microlearning in the educational process [14]; microlearning could be used:

• for distance learning as a complete replacement of classroom studies;

• for blended training to expand the basic course, i.e. as additional materials for a more

profound study of some fragments of the course;

• for revision;

• for some group work in class when students need to obtain specific information to complete the task.

In the framework of our study, taking into account these features of teaching a foreign language in a non-linguistic university, we used microlearning to explain a new block of information, to introduce certain terms and concepts, and to spur students activity while performing paired and group oral tasks. Thus, the purpose of the research is to study the potential of microlearning technology in teaching a foreign language in higher education (specifically, in a non-linguist institute) and assess the potential for its use as a tool for an English teacher. The objectives of the study are to determine the main features of this technology, to select the necessary tools for implementing microlearning in the educational process of teaching English as a second language and to conduct a pedagogical experiment of implementing microlearning technology in the educational process.

Speaking about the use of microlearning in higher education, one has to mind the functions of the teacher which are seen in selecting the essential information (reading material, reference material, source materbal,etc.), processing it and presenting it in the compact, concentrated form. The presentation of the material in this case should be extremely understandable, succinct and concise. According to the concept of microlearning, while selecting materials, one needs to be guided by what is necessary "to date" to solve specific tasks, i.e. a necessary and sufficient minimum.

The key features of microlearning are:

• short duration of content units;

• focus on the specific result of the training and practical orientation;

• high mobility.

There are a lot of tools (various applications and programs) with the help of which you can implement microlearning in the university, but each has its own characteristics and deserves to be considered separately. In general, we can distinguish two large groups of such tools: some provide the capability to create video and audio content, others help to create static visualization (for instance, infographics).

2.2 PEDAGOGICAL EXPERIMENT

Within the framework of the pedagogical experiment during the semester such microlearning tools as infographics and posters were used in the process of teaching master students of Management, Economics and Trade faculty of Peter the Great Saint Petersburg Polytechnic University ("Business Foreign Language" discipline); posters were created by the teacher with the help of the "Pictochart" program (https://piktochart.com/17). Four groups with a total of 109 people took part in the experiment; the level of English ranged from A2 to B2 according to the Common European Framework of reference for Languages (CEFR scale) [17]; 2 control groups (CG) (59 people) were engaged in a traditional program, and 2 experimental groups (EG) (50 people) were using interactive tools (Pictochart).

The implementation of these tools into the educational process was realized by means of the infographics and posters created by the teacher and used within the professionally oriented topic to be studied. Since this course assumes an active development of communication skills (including a spontaneous monological and dialogical speech), infographics and posters have been used to introduce the topic and to spur students activity while performing oral exercises (such as "brainstorming", "lexical card ","dialogue"," discussion ", etc.); moreover, these materials were used for revision.

2.3 INFOGRAPHICS AND ITS APPLICATION IN THE LEARNING PROCESS

Let us consider the example of application of posters in the learning process. One of the main issues for the students was the lack of background knowledge on the professionally oriented topic to be

discussed. While having a discussion in pairs or groups, students experienced difficulties not only because of the lack of some active vocabulary of the target language, but also because of their poorly mastered knowledge in professional disciplines; the same was observed while considering certain special terms and concepts. In order to eliminate lexical difficulties, the created infoposters were visually divided into blocks, where each block corresponded to a certain sub-topic within the framework of the topic of the whole unit. During our experiment while studying the "Business English" discipline, students had to master a fairly large amount of new vocabulary; moreover, an obligatory part of the work with vocabulary was reading authentic articles on the professionally oriented topic. Each topic was reviewed from different aspects and for each sub-topic there was selected some particular article with new terms and collocations in it. As it was mentioned above, the difficulty of mastering the new vocabulary was also related to the fact that students often could not explain what the term meant because of the lack of or a low level of background knowledge on the topic itself.

Thus, in each section of the poster there were presented images most fully and accurately, from the point of view of the teacher, reflecting the core of the phenomenon under discussion; similarly, posters were prepared for the explanation of the most complex special terms and concepts. For instance, the topic of leadership included several aspects and one of them was the classification of leadership styles; so one of the poster`s sections contained several images and each of them "defined" a particular type of a leader. There were no names of the leadership styles, so students had to "decode" the pictures, i.e. to guess and discuss which style it was; after that there was a whole class discussion aimed at making the full classification. To provide additional information on the topic some listening tasks were added and finally students had to discuss and share with the group the peculiarities of each of the styles mentioned and try to define in which professional spheres some particular style could work well or, on the contrary, should better be avoided. As a result, students participated actively in all the tasks and discussions and had to put much more effort into gaining the necessary information.

It is noteworthy that to learn new vocabulary or revise it and get information on the topic discussed students of CG were reading authentic texts and articles and doing listening tasks (they were provided with abstracts from lectures on the topic under discussion). Students of EG, in turn, were learning the same vocabulary and getting background information on the subject with the help of above mentioned infographic tool. Students were provided with posters where the information mentioned in the articles was visually presented; only after completing "the posters tasks" students were given the articles to read; therefore, this strategy allowed us to immerse students deeper into the topic and make reading of the article much more meaningful for them. For EG the articles served more as a source of extra additional information and some clarification, while for CG it was more the source of understanding the main concept; hence, EG got an opportunity to study the same topic more profoundly and consciously.

It is important to note that while creating a poster, you need to pay the most attention to visualization, while minimizing the actual textual information, because the student's task is not just to perceive what is written, but to guess what the meaning of the image is and how it relates to the studied material.

While working with infoposters, students were forced to make more effort to obtain the necessary result, which helped to better assimilate information and its possible transition to the knowledge level. The use of infographics was aimed to not only expand the range of vocabulary, but also to improve the level of professional knowledge. In addition, in our view, this also contributed to the development of analytical skills and critical thinking and stimulated the team work, as the majority of exercises were done in pairs or mini-groups.

3   APPROBATION RESULTS

By monitoring the behavior of students during the semester, it was found out that the students of the EG as a whole took a more active part in the discussion and various oral assignments compared to the students of the CG. Also, according to the questionnaire, the positive effect of the use of infographics and posters on the motivation of students was recorded. The students of the EG noted that the visual and laconic presentation of the material facilitated the perception of new information and stimulated a more active participation in the discussion. At the end of each unit (topic) the students were split into mini-groups and were given a discussion task that required a good knowledge of professional vocabulary connected with the topic studied, a high level of knowledge in the professionally oriented topic itself and an active participation from all the members of the team, as every student was given some specific role and the final aim of the discussions was to come to an agreement and to find a solution of the problem described in the task. As it is demonstrated in Figure

1, at the beginning both groups were struggling with the task, because the students had difficulties due to the lack of professional vocabulary and background information on the topic and, in addition to that, some participants had some language barrier that obstructed the discussion; as a result, the discussions were rather short and non-productive. During the term both groups showed good dynamics in expanding their professional vocabulary and improving communicative skills; still it is obvious that the EG was progressing faster and their improvement was more significant. As a consequence, by the end of the term discussions were longer as students had more knowledge and a bigger range of vocabulary, they had "more to say", so the discussions became more meaningful and these tasks became more effective.
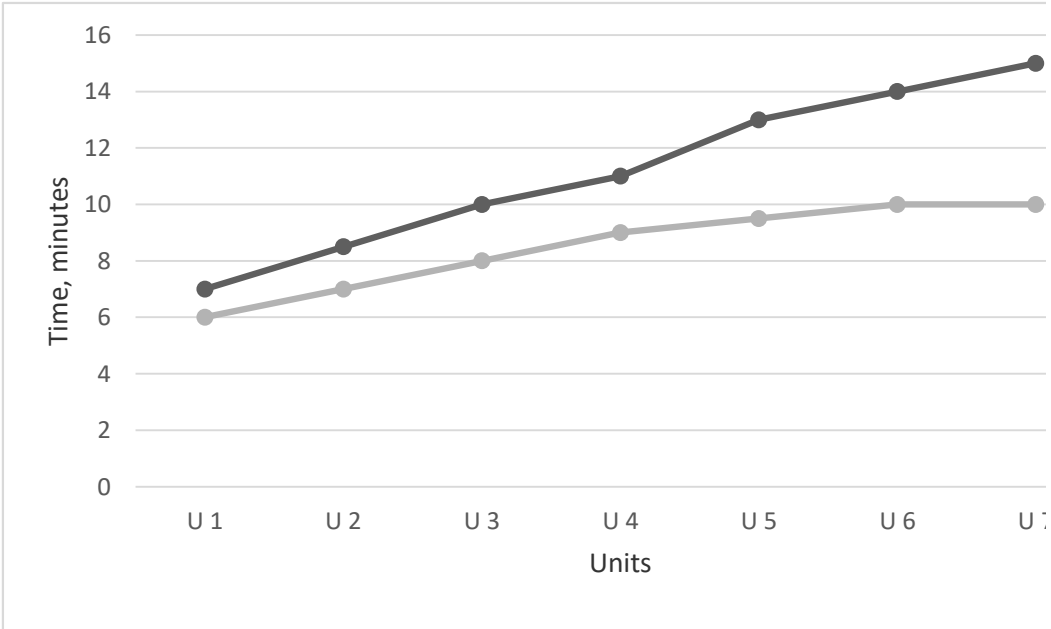

Figure 1. Dynamics of students` active participation in the discussion during the term

Students also pointed out that a clear structuring of the information presented helped to better understand the logic of the presentation of the material and to navigate in it easier while carrying out assignments. As for the teacher, it helped to structure the material more competently, focusing attention on the most essential information and avoiding unnecessary details at this stage.

During the semester, a number of tests and oral interviews were conducted to check the mastering of new vocabulary. Testing included test-tasks such as "multiple choice", "fill in the gaps" and "matching". Oral test tasks consisted of a lexical card, where the student needed to compose a spontaneous oral monologue on the topic using certain lexical units, as well as a dialogue in pairs on the topic covered.

As a result of testing, the best dynamics was revealed among the students of EG. During the term students passed 7 written progress tests to check the amount of new vocabulary that was absorbed by the students. As we can see from Figure 1, both groups showed good dynamics, but EG improved their level faster and more significantly then CG.
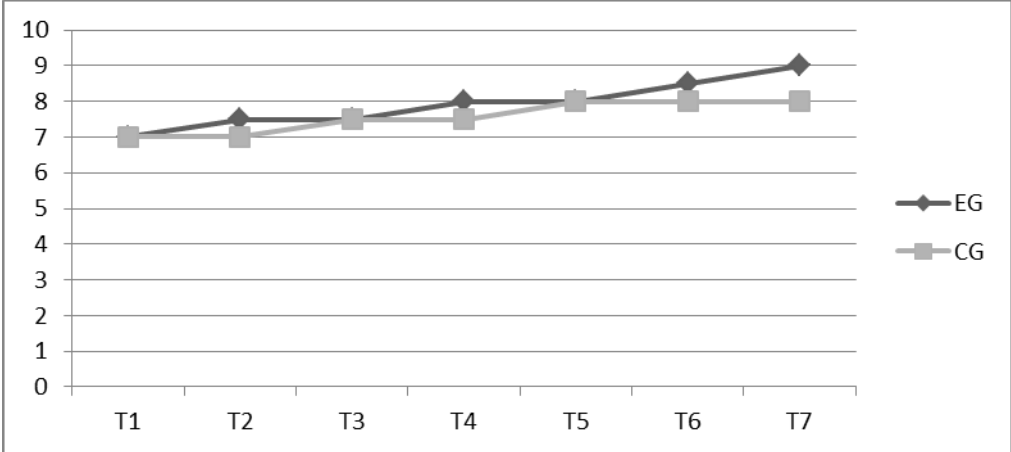
Figure 2. Dynamics of written tests results during the term for EG and CG

As for overall results, the EG also showed better dynamics and mastered the target language more successfully (by mastering the target language we mean not only learning new vocabulary as it is, but also the ability to use it in a professional context, to manage discussions and participate actively in them). In particular, 68% of the students have mastered the whole volume of target language, 27% also showed positive dynamics, but mastered about 70% of the volume of the target language because of a low initial level; another 5% mastered only 50% of the volume of the target language, which can be attributed to a large number of absences. In the CG, the dynamics was also positive, but in percentage terms less than in the EG: 54% mastered the whole volume of the target language; 40% of the students with a low level of English (A2) have mastered about 70%; the remaining 6%, who regularly missed classes, mastered not more than 50% (Fig. 3). Thus, it can be said that the use of infographics as a tool for micro-teaching in foreign language classes can be effective and help in introducing and revising vocabulary and allaying lexical difficulties; in addition, it also helps to increase both the activity of students in class and their motivation.
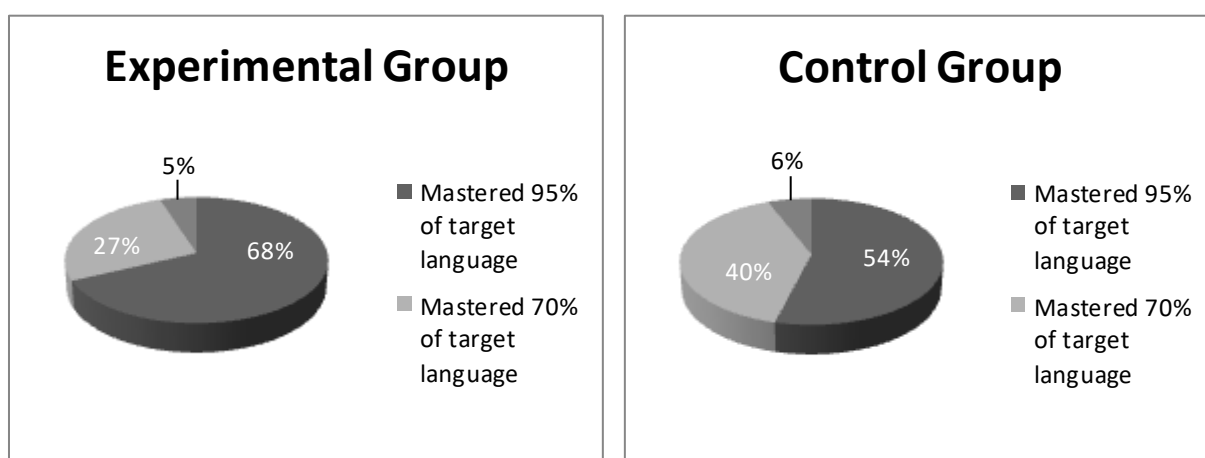

Figure 3. Results of mastered target language in experimental and control groups by the end of the term

4   CONCLUSIONS

Despite the generally good dynamics in the results of the educational process, areas that require a further improvement were identified. In particular, more active use of infoposters at the stage of revision is necessary. It seems logical to use infographics to assess the home tasks that would help to examine the materials more rigorously. As an example, it might be suggested that students be divided into pairs or mini-groups and create their own posters based on the one of the topics covered, and then present and defend their project in class. Thus, students will have the opportunity to work through the material more carefully and will train their team work skills. Also this will allow to train the skill of presentation and spontaneous answers to questions that will be useful to them in the future in their professional activity.

Since microlearning is partly based on simplification, it is difficult to imagine how it would help to provide fundamental knowledge with it, but it seems possible to use this educational technology as an auxiliary tool: to introduce the new topic, generalize, clarify specific terms and concepts or revise the studied material. Of course, for the active implementation of microlearning technology into the educational process, it is required to conduct a large number of pedagogical experiments and the subsequent analysis of the received data and learning outcomes. However, it can not be denied that in today's educational environment we are confronted with great information density, a high speed of transmission and receiving information and the personification of receiving and processing information [18], moreover, modern students are carriers of a new way of thinking; therefore, new ways of adapting students to these changes have to be found to help them with their successful socialization and further professional development.

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