LUMIO BY SMART IN DISTANCE LEARNING: A CASE OF EFL VOCABULARY LEARNING

Research article

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Abstract

The article validates the possibility and efficiency of implementing Lumio by Smart as a smart learning technology to teach EFL (English as a Foreign Language) in distance learning. The objectives of the current research are to investigate the linguodidactic potential of Lumio by Smart in teaching EFL, to describe the algorithm of teaching vocabulary via Lumio by Smart, and to check the effectiveness of the devised algorithm. The article provides examples of the practical application of Lumio by Smart in a case study of vocabulary learning. The methodology was tested on the EFL students of the Bachelor study program in Civil Engineering implemented by Peter the Great St. Petersburg Polytechnic University in the year 2021. The methods of this research include both theoretical (assessment of the key pedagogical principles of smart technology integration, systematization, categorization and generalization of facts and concepts, survey data analysis) and empirical ones (methodological algorithm development, a set of experiments: educational and control, evaluation of educational outcomes, questionnaire). The result of the educational experiment indicates that the average level of vocabulary knowledge has increased, which confirms the hypothesis of the research on the effectiveness of Lumio by Smart as a tool in teaching vocabulary in distance learning.

Keywords: smart technology, smart learning, distance learning, vocabulary learning, EFL students.

LUMIO BY SMART В ДИСТАНЦИОННОМ ОБУЧЕНИИ: КЕЙС ОБУЧЕНИЯ ЛЕКСИКИ АНГЛИЙСКОГО ЯЗЫКА

Научная статья

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Аннотация

Статья описывает возможности и доказывает эффективность использования смарт-технологии Lumio by Smart в дистанционном обучении английскому языку как иностранному. Цель исследования - изучить лингводидактический потенциал платформы Lumio by Smart и описать алгоритм ее использования в обучении лексике, а также проверить эффективность разработанного алгоритма. В статье содержатся примеры использования Lumio by Smart в обучении лексики. Разработанная методика была апробирована на студентах-бакалаврах инженерно-строительного института Санкт-Петербургского политехнического университета Петра Великого в 2021 году. В статье использованы теоретические методы (описание основных педагогических принципов использования смарт-технологий, методы систематизации, категоризации, обобщения, анализа данных) и эмпирические методы исследования (разработка алгоритма, обучающий эксперимент, оценка результатов эксперимента, опрос). Результаты обучающего эксперимента показали повышение уровня владения лексикой у студентов, что подтвердило гипотезу об эффективности использования технологии Lumio by Smart в обучении лексики в процессе дистанционного обучения студентов иностранному языку.

Ключевые слова: смарт-технологии, смарт-обучение, дистанционное обучение, обучение лексики, студенты изучающие английский язык как иностранный.

Introduction

The development of modern technologies requires modifications in the approach to teaching and learning. The changes result in the usage of smart technologies in distance learning and the creation of a smart learning environment. There is no clear definition of what SMART is in the context of learning and teaching. However, while mentioning SMART in a didactic context, researchers tend to highlight the following characteristics:

a - the ability to quickly adapt to the level of knowledge and needs of students [15],

b - the ability to study at a convenient time for the student and anywhere [4], [11],

c - the ability to adapt the educational process to various environmental changes [13], [14],

d - the ability to achieve the effect of virtual presence [15],

e - the ability to increase the speed of content exchange and significantly simplify communication between different participants in the learning process [15].

Some foreign language teachers are beginning to implement smart technologies to solve specific tasks in teaching English, for example, improving grammar competence [5], improving reading comprehension [9], and vocabulary development [3]. Others focus on the refinement of EFL teaching through smart technologies in higher education in general [2], [7], [8], [10].

The main advantages of introducing smart technologies in teaching a foreign language are integration into an authentic natural environment of communication, the opportunity to communicate with native speakers; personality-oriented approach to learning, creation of an individual learning path; prompt feedback from teachers and other students; free posting of materials on the network, access to various sources of information.

The current research considers the problem of integration of smart technology into the system of distance language training in the higher school in the case of EFL vocabulary learning.

The COVID-19 pandemic caused the closure of educational institutes and transformed classroom learning media into distance learning. This situation led to a surge in demand for smart teaching tools and the accelerated implementation of smart technologies in the educational process. It is abundantly clear that to apply any smart technology in the teaching process, it is crucial to study its methodological value and to check its effectiveness in solving a didactic task. For the current study, we chose a smart technology Lumio by Smart and put forward the following goals:

a - to investigate the linguodidactic potential of Lumio by Smart in teaching EFL,

b - to describe the algorithm of teaching vocabulary via Lumio by Smart,

c - to check the effectiveness of the algorithm devised,

d - to examine students' motivation resulting from applying smart technology Lumio in EFL classes.

Research methods and principles

Participants

A total number of 100 first-year EFL students from Peter the Great St. Petersburg Polytechnic University majoring in Civil Engineering participated in the study in the year 2021. The average level of English is Intermediate (B2).

Procedure

The research carried out lasted one month and consisted of three steps.

1) The educational experiment aims to teach vocabulary on the topic 'Travelling and Tourism' in the form of distance learning via Lumio by Smart (experimental group) and in the form of classroom learning (control group).

The control group vocabulary learning comprises the following strategies:

a - planning: choosing what to focus on and when to focus on it; types of strategies: choosing words, choosing the aspects of word knowledge, choosing strategies, planning repetition and spending time;

b - sources: finding information about words; types of strategies: analysing words, using context, consulting a reference source, using parallels in L1 and L2;

c - processes: establishing knowledge; types of strategies: noticing, retrieving, generating (creative use);

d - skill in use: enriching knowledge; types of strategies: gaining in coping with input through listening and speaking, gaining in coping with output through reading and writing, developing fluency across the four skills.

2) The control experiment is needed to check the effectiveness of the devised algorithm and compare the level of knowledge of the topic-related vocabulary of the students in the control and experimental groups.

The control experiment comprises *the vocabulary test*, which includes 30 questions based on the topic 'Travelling and Tourism', containing different types of non-communicative and semi-communicative exercises (the number of correct answers is assessed, at least 18 points for pass), *the speaking task*, a 2-minute monologue on the topic 'Travelling and Tourism' (the number of correct use of topic-related vocabulary is assessed, at least 15 words or collocations for pass). Here is an example of a speaking task.

Talk about the topic 'Tourism and Travel'. In your monologue, you should say why people travel, what is the difference between a tourist and a traveler, what is virtual tourism and armchair travel, and share your personal travelling experience.

3) The questionnaire is designed to investigate the attitude of the students in the experimental group towards Lumio by Smart as a tool to learn the vocabulary of EFL.

The questionnaire asked students to what extent they are satisfied (very satisfied/ satisfied / dissatisfied/ very dissatisfied) about the use of Lumio by Smart as a tool to introduce new vocabulary, practice vocabulary in receptive exercises, memorize vocabulary, practice vocabulary in speaking, and reflect on what they have learned. The question inquired students how often they would like to use some elements of distance learning work with Lumio by Smart when learning in class (often, occasionally, seldom, never).

Methods

The following methods have been used in our research:

a - methods of a theoretical analysis (assessment of the key pedagogical principles of smart technology integration, systematization, categorization and generalization of facts and concepts, survey data analysis)

b - empirical methods (methodological algorithm development, a set of experiments: educational and control, evaluation of educational outcomes, questionnaire);

c - a tabular and graphical presentation of information.

Materials

Lumio by SMART (formerly SMART Learning Suite Online) is the digital learning platform that helps to create engaging and entertaining lessons, share learning experience, and engage students in the educational process.

The main advantage of this smart tool is that you can easily transform your ordinary lecture and deliver it to student devices in a browser via Google or Microsoft Teams. This technology gives a wide range of opportunities to interact with the class.

For teaching vocabulary, we have chosen the smart technology Lumio due to its strong lingoadidactic potential. Lumio by Smart gives us opportunity to add engaging activities, formative assessments, and student collaboration to facilitate active learning, create interactive lessons from PDF, PowerPoint, and SMART Notebook files, use compelling graphics, animations,

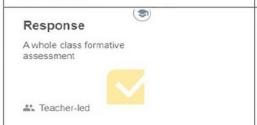
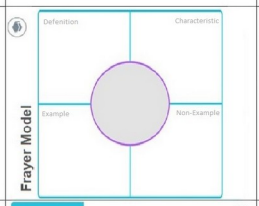
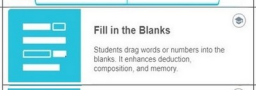
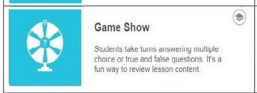
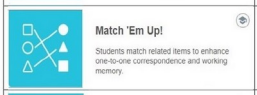
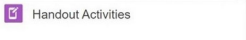
and sounds to keep the students engaged at a SMART Board, choose from many activity options: multiple choice races, sorting exercises, fill in the blanks, and many more.

Main results

The results of the educational experiment

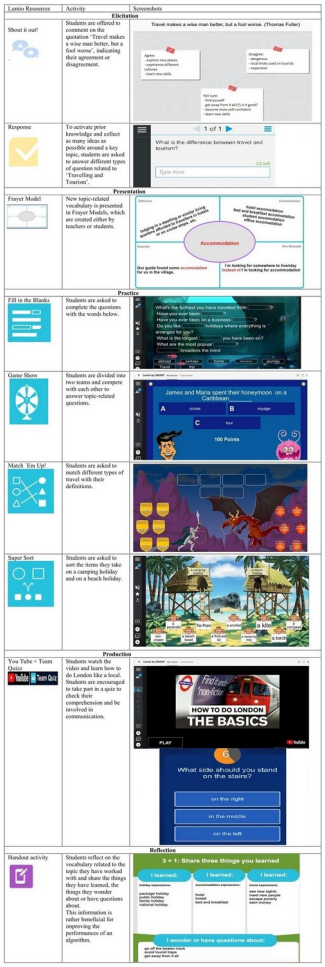
Having examined the linguodidactic potential of Lumio by Smart, we devised the algorithm of EFL vocabulary learning via Smart Lumio Resources. The algorithm represents the ordered list of Lumio resources, including brief descriptions of their practical applications, that correspond to the stages of teaching EFL vocabulary (Table 1).

Figure 1 - The algorithm of teaching vocabulary via Lumio by Smart

Stage of teaching	Lumio Resources	Description
Elicitation The aim: to elicit the new language forms to see how well the students use topic-related vocabulary to avoid teaching already-known language.		A whole-class activity enables students to share their ideas about any subject given as an icebreaker at the beginning of the lesson. It is also helpful for conducting a brainstorming session.
		A whole class formative assessment provides different types of question: multiple choice, true or false, multiple answer, poll/opinion, and short answer. It is helpful for activating students' background knowledge about a lexical unit, e.g. to compare the lexical density of spoken language with written language, to focus on lexical chunks and the use of vague language.
Presentation The aim: to introduce new vocabulary		The resource provides a vocabulary development tool to introduce and deepen the student's understanding of topic-related vocabulary. The Frayer Model includes a key word or a concept in the center and a framework for examples and non-examples as well as a definition and a list of characteristics.
Practice The aim: to provoke students into using new vocabulary and get them thinking about word meaning, especially in context.		The resource provides a gap-filling vocabulary activity.
		The resource provides multiple choice or true false activities and tests students' vocabulary knowledge on a topic in an entertaining way.
		The resource provides a matching vocabulary activity.
		The resource provides classification and grouping vocabulary activities.
Production The aim: to encourage students to practice new vocabulary in speaking		The resource allows us to import any topic-related video to create a quiz and to organize a discussion.
Reflection The aim: hold up mirrors to vocabulary practice		The resource provides some instruments for reflection on what was learned.

In Table 2 there are some examples of work with the algorithm mentioned above while teaching vocabulary on the topic 'Travelling and Tourism'.

Figure 2 - The performance of a devised algorithm of teaching vocabulary via Lumio by Smart



The results of the control experiment

The results of knowledge of the level of topic-related vocabulary knowledge of students in the control group (classroom learning) and the experimental group (distance learning) are presented in the graph below (Figure 1), which illustrates that 70 % of the students in the control group and 90 % in the experimental group managed to get 18 points out of 30 (60 %) and passed the vocabulary test. In the speaking test, there is not a big difference in the students' results, because speaking is not only about the number of topic-related vocabulary, coherence, cohesion, grammar accuracy, linkers also play a vital role. Nevertheless, slightly more students from the experimental group managed to use at least 15 keywords and collocations accurately in two minutes talk.

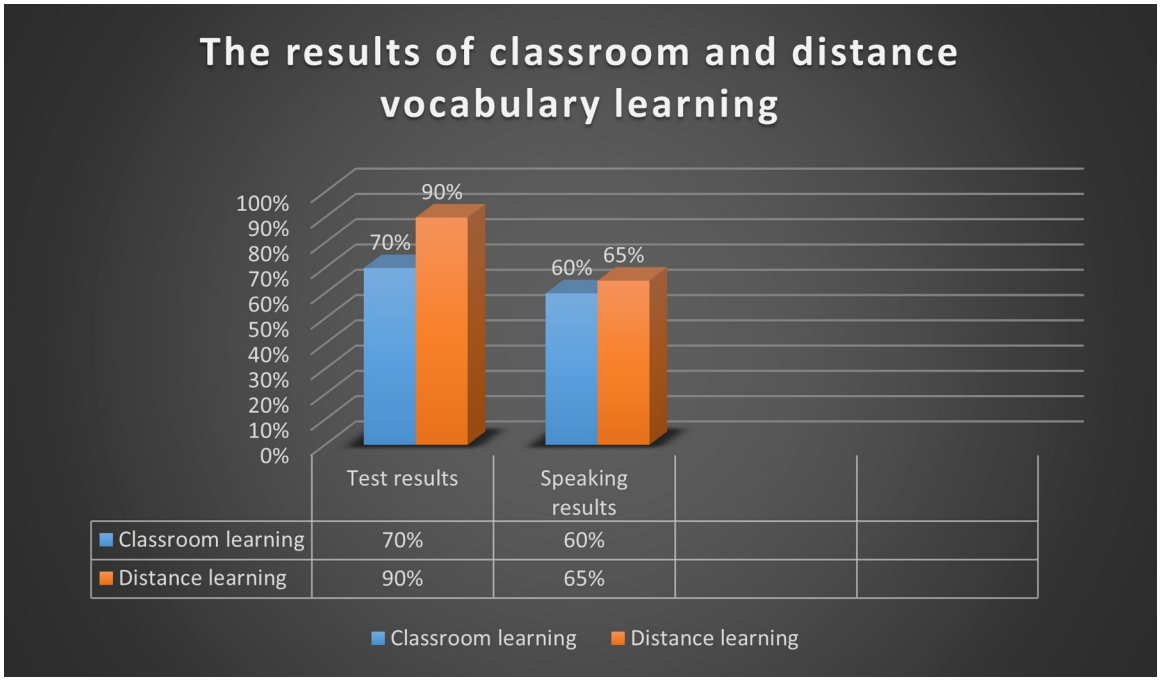


Figure 3 - The results of the level of topic-related vocabulary knowledge

Therefore, we can conclude that the devised algorithm helps to boost the vocabulary, as the students showed better results in both aspects.

The results of the questionnaire

The results of the questionnaire (Figure 2) showed that the students of the experimental group were quite satisfied with the implementation of Lumio by Smart in the vocabulary learning process. The majority of students (85-100 %) found this smart technology especially beneficial for introducing new vocabulary, practicing new topic-related collocations in vocabulary exercises and speaking, providing better comprehension of context new vocabulary should be used. Most of the students (80%) emphasize that Lumio by Smart was helpful for memorizing vocabulary. 75 % were satisfied or very satisfied with the use of Lumio by Smart as a reflection tool. More than half of the students (63%) would like to continue their work with Lumio by Smart not only in distance learning, but also in the classroom.

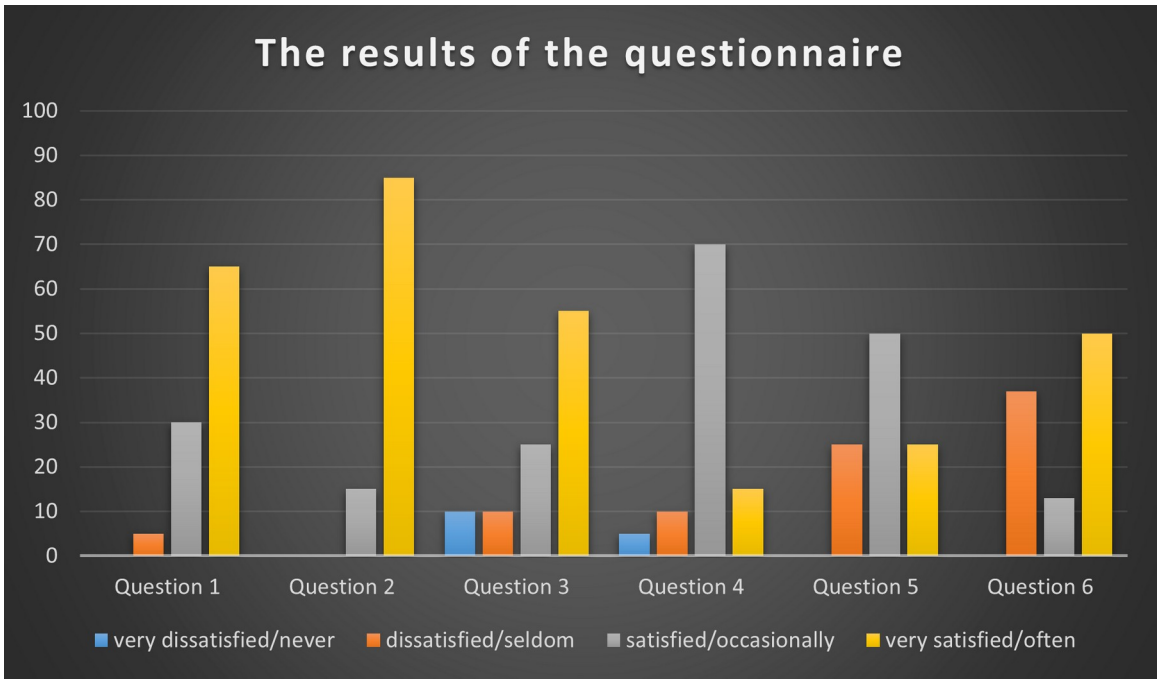


Figure 4 - The results of the questionnaire

Discussion

Digital technologies in education have become very important for post-industrial society, as education becomes part of the modern electronic culture. With the digitalization of learning, new opportunities arise. Smart technologies in the teaching of vocabulary have proved its validity in linguistic studies.

Lexical tools refer to the various meaning technologies [6] used by learners to obtain the meaning of the new vocabulary items. Intelligent vocabulary learning systems help to obtain higher results in teaching and learning. The design of such systems often makes use of a user-action tracking system [12] or is integrated with complicated arithmetic algorithms to analyze learner information [1] to design suitable learning paths for the learner. It helps to record various access and performance information of the learner: results for each exercise attempted, words with which the learner experienced learning difficulties, and an overall lexical profile of the learner (vocabulary level, number of trials, study time, exercise types, etc.). The teacher can view all the students' results and generate the most essential one. This is the advantage of Lumio by Smart in comparison to other platforms, to have access to the results, which can help you to analyze the progress.

The use of smart technologies in vocabulary learning may make it more effective compared to traditional ones. Lumio by Smart is a set of resources that any teacher can use. It combines lesson delivery, assessment, collaboration, and game-based learning software into one easy-to-use system. Using this application helps to solve different language problems faced by students, especially in learning vocabulary.

Conclusion

In summary, Lumio by Smart is considered as a smart learning platform with strong linguodidactic potential which provides unique resources to create comfortable environment for distance learning, new ways of curriculum delivery, novel forms of communicative interaction, and greater opportunities for immediate feedback.

Lumio by Smart has proved its validity in teaching vocabulary, supposing that a certain algorithm is executed.

I. Elicitation
· Shout it Out!
· Response
II. Presentation
· Frayer Model
III. Practice
· Fill in the Blanks
· Game Show
· Match `Em Up
· Super Sort
IV. Production
· YouTube + Team Quizz
V. Reflection
· Handout Activity

The result of the educational experiment indicates that the average level of vocabulary knowledge of the students has increased, which confirms the hypothesis of the research on the effectiveness of Lumio by Smart as a tool in the teaching of vocabulary.

The accumulated experience of teaching students via Lumio by Smart can be transferred to the classroom or used in the development of distance courses.

Конфликт интересов

Не указан.

Рецензия

Все статьи проходят рецензирование. Но рецензент или автор статьи предпочли не публиковать рецензию к этой статье в открытом доступе. Рецензия может быть предоставлена компетентным органам по запросу.

Conflict of Interest

None declared.

Review

All articles are peer-reviewed. But the reviewer or the author of the article chose not to publish a review of this article in the public domain. The review can be provided to the competent authorities upon request.

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