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Research article

Microlearning as an Effective Way to Manage Students' Attention in a Foreign Language Lesson

Ksenia V. Lykova

Ural Federal University,
19, ulitsa Mira, Ekaterinburg, 620062, Russia

Abstract. This study investigates the application of microlearning as a teaching method that enhances the effectiveness of foreign language education. With the increasing demand for innovative approaches in language teaching, driven by the digitalisation and technologisation of education and society, it is important to understand how microlearning impacts the cognitive functions of students: attention, concentration, and memory. The purpose of the research is to analyse microlearning from the perspective of how its application affects these cognitive mechanisms and how it can be effectively incorporated into foreign language lessons to improve overall student performance and formulate a knowledgeable approach to the learning process. To achieve this, a systematic and traditional descriptive literature review followed by qualitative data analysis was used. The research materials encompass scientific and methodological articles from periodicals, accompanied by methodological manuals and manuscripts by Russian and foreign authors. Theoretical and empirical scientific research published in Scopus peer-reviewed publications was also utilised to supplement the research. The outcome of this exploration demonstrates that microlearning generates heightened attentiveness in students when engaging in predefined learning tasks. Consistent integration of the method into foreign language lessons strengthens students' aptitude to transition into a state of enhanced focus. The analysis verifies the effectiveness of microlearning as a supplemental strategy when integrated into existing curricula and employed in conjunction with conventional foreign language teaching methods, such as communicative methodology and lexical approach, among others. The findings carry particular methodical importance for teachers, augmenting the theoretical base of microlearning research within the context of foreign language education.

Keywords: microlearning, foreign language teaching, language education, ELT, attention management, digital technologies, attention, concentration, memory

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Исследовательская статья

Микрообучение как эффективный способ управления вниманием студентов на занятии по иностранному языку

К.В. Лыкова

Уральский федеральный университет им. Первого президента России Б. Н. Ельцина,
620062, Россия, Екатеринбург, ул. Мира, 19

Аннотация. Представленное исследование рассматривает микрообучение как метод, позволяющий повысить эффективность обучающей деятельности на занятии по иностранному языку. Актуальность исследования обусловлена возрастающим социальным запросом на новые методики в области иноязычного обучения, что объясняется всеобщей цифровизацией и технологизацией образования и общественной жизни. Влияние этих процессов неизбежно сказывается на количестве потребляемой информации, а также характере обработки данных и взаимодействия с ними. В связи с этим цель исследования представляет рассмотрение микрообучения с позиции того, как его применение воздействует на когнитивную сферу обучающихся: внимание, концентрацию и память. Понимание того, как работают названные механизмы, позволяет грамотно использовать метод микрообучения на уроке по иностранному языку и, как следствие, повысить общую продуктивность обучающихся и сформировать осознанный подход к учебному процессу. Для проведения исследования применялись методы систематического и традиционного описательного литературного обзора с последующим качественным анализом данных. Материалы исследования представлены научно-методическими статьями из периодических изданий, а также методическими пособиями и рукописями российских и зарубежных авторов. Для проведения исследования также привлекались теоретические и эмпирические научные исследования, опубликованные в изданиях, рецензируемых Scopus. Исследование показало, что микрообучение формирует высокую концентрацию внимания у обучающихся при выполнении заранее определённых учебных задач. Регулярное применение метода на уроках по иностранному языку способствует развитию у студентов способности переключаться в режим повышенной концентрации. Анализ подтвердил, что микрообучение наиболее эффективно в качестве дополнительного метода, интегрированного в уже существующую учебную программу и применяемого совместно с традиционными методиками обучения иностранным языкам, такими как коммуникативная методика, лексический подход и др. Полученные результаты представляют особую важность для педагогов с методической точки зрения и дополняют уже имеющуюся теоретическую базу исследований, посвящённых микрообучению как самостоятельной методике в контексте иноязычного образования.

Ключевые слова: микрообучение, методика преподавания, иностранные языки, управление вниманием, цифровые технологии, внимание, концентрация, память

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1. Introduction

In today's digital age, education, especially the teaching of foreign languages, faces some profound challenges due to the impact of technology and media consumption. In today's world of hyper-connectivity and information overload, individuals face the challenge of sorting through a vast array of educational resources. While this abundance of information can offer benefits, it also creates difficulties in identifying the most relevant and valuable content. As further detailed in M. Gusenbauer's research, the excessive availability of scholarly information is causing researchers to invest increased time and effort in the process of identifying pertinent data and information [20]. As K. Caldwell highlights, the complexities are compounded by the relentless influx of information, making it difficult to distinguish between what is important and what is not. This necessitates the development of strategies to limit the volume of incoming content and identify the most significant aspects, especially in the learning process [8].

Recent research from the King's College London has shown that a significant number of adults struggle with decreased focus and concentration, directly linked to our constant use of technology [16]. According to a report by UNESCO on language education amid diversity, incorporating digital elements in foreign language teaching is pivotal for enhancing language education's effectiveness [44]. This raises the need for innovative teaching methods.

Numerous research studies delve into novel teaching methodologies that not only encompass linguistic components but also incorporate neuroscientific advancements to address non-methodical challenges in language learning. These investigations encompass motivational issues [12], emotional facets [13], teacher well-being [19], coping mechanisms [31], age effects [7], and student engagement [42]. In the context of foreign language acquisition through neurodidactics, aspects such as the congruency effect [10], the Emotional Approach [30], and neuropsychological aspects [38] are examined.

Microlearning is one such method, which first emerged in corporate education and training in the 1990s and took off in the 2000s when researchers like T. Hug, N. Friesen, F. Scherer, and M. Scherer and others contributed to its development. Developed in the 21st century, microlearning has been gaining popularity and more studies on its implementation in various fields of education have emerged.

The method is based on breaking down educational content into small, manageable chunks, allowing for immediate review of each piece with micro-tasks [6, p. 71]. According to G.A. Monakhova et al., microlearning can metaphorically be likened to a 'one-pill' method of delivering information in a condensed and efficient manner [33, p. 300]. P. Prasittichok and P. Smithsarakarn describe the method as a type of educational practice that involves working with substantial educational content. The authors claim that microlearning enables the development of easily comprehensible lessons, aimed at minimising misunderstandings and constructing clear steps for practical application. Furthermore, microlearning provides convenient access to educational materials [36, p. 531].

According to T. Hug, the founder of the method, microlearning can be divided into three levels: micro, meso, and macro, each with distinct components [21, p. 17]. At the micro level, we see a focus on individual words, phrases, sentences, while at the meso level, situations and episodes are introduced, and at the macro level, cultural features and complex structures are assimilated.

Microlearning also differs from other methods in terms of time intervals, with microlearning working in seconds and minutes, while macrolearning involves hours, days, and weeks. Similar differences are seen in terms of learning materials and tools as well. Although microlearning can be considered a fragmentation or reduction of educational material, T. Hug emphasises that it goes beyond that, involving structured planning and the use of predefined tasks and materials that work effectively within the scope of the micro-method. The content of such micro-practices can vary, depending on the chosen learning theories, methods, and available resources [Ibid, p. 19]. To support T. Hug's viewpoint, T. B. Lalitha and P. S. Sreeja add that basic microlearning characteristics include brevity, focus on clear learning objectives, multi-modality in content delivery, just-in-time learning, reinforcement, mobile compatibility, and flexibility in terms of self-paced progress [27, p. 231].

With the rapid advancement of foreign language teaching methods, we have reached a point where teaching effectiveness is quite high, with numerous methodologies such as the Lexical Approach [29], the Communicative Approach [35], [9], Dogme ELT [43], the Audio-lingual Method (ALT) [26], problem-based learning [9] and flipped classroom model [12] becoming increasingly popular. However, the area that seems to have been less developed, from a methodological standpoint, is the challenge of accounting for the amount of information that students can effectively assimilate during a specific timeframe. Microlearning, as defined by L. Stracqualursi and P. Agati, appears to be a suitable solution as it consists of short, targeted learning modules specifically designed for students with limited time and attention spans [41]. This is where the concept of microlearning comes into play.

Two research questions have been identified within this study:

RQ 1: How does microlearning function from a cognitive point of view?

RQ 2: How can microlearning be applied in the practical teaching of foreign languages?

By analysing these questions and exploring the theory of microlearning in depth, we aim to better understand its mechanisms, potential benefits, and practical applications in the realm of foreign language education.

2. Material and Methodology

The present study involves a thorough search and analysis of scientific literature on the subject under examination in order to determine the key provisions of the concept under consideration, its theoretical foundations, and practical examples of implementation. The main objective of the researchers is to summarise the results of existing theoretical and empirical research, and to highlight the gaps in current scientific knowledge which will guide future research in this area.

The research uses a systematic and traditional descriptive literature review approach, as well as qualitative data analysis. Research materials include recommendations addressed to the United Nations Educational Scientific and Cultural Organisation (UNESCO), scientific and methodological articles from periodicals (Education Sciences, Education and Information Technologies, Journal of Computers in Education, International Journal of Learning, Teaching, and Education Research, Memory & Cognition, Theory and Practice in Language Studies, Language Teaching Research), methodological literature (Lewis, Thornbury, Meddings, Galskova, Gez, Mirolyubov, and Lyakhovitsky), and manuscripts by Russian and foreign authors (Hug, Kerres, Lado, Passov, Avramenko, Zakharova, Monakhova).

3. Results

This analysis affirms that microlearning has emerged as a highly impactful and efficacious educational tool in the current educational landscape, including the context of foreign language instruction. T. Gorham and colleagues assert that microlearning can be seamlessly incorporated with various learning theories [18, p. 553]. To be more specific, drawing upon the research of K. Kapp and R. Defelice, micro-pedagogy is founded on the following theories: behaviourism, cognitivism, constructivism, and connectivism [23, p. 44].

A substantial fraction of research at present delves into microlearning as a distinctive process of acquiring knowledge, as expounded by scholars such as D. Conde-Caballero et al., who characterise it as the attainment of knowledge or skills in a concise format [11]. A comparable standpoint is maintained by A.M. Al-Zahrani, who denotes it as the acquisition of knowledge [1]. Additionally, some studies, such as those conducted by F. Scherer and M. Scherer take a neurophysiological approach in examining how the brain processes and retains information, regarding microlearning as an influential educational instrument [38]. These examples illustrate that the method of microlearning is intricately intertwined with the cognitive domain and encapsulates the mechanisms of effective knowledge acquisition.

It is necessary to delve further into the cognitive effects of microlearning on education. In particular, it is essential to investigate how micro-pedagogy influences factors such as attention, concentration, awareness, and focus during the learning process. A comprehensive understanding of these effects can

provide valuable insights into the potential benefits of microlearning for enhancing teaching and learning outcomes.

Attention. As human cognitive abilities are limited, it is essential to understand the role of attention and memory in learning. According to current research, humans can only recall a small amount of information in short-term memory [5, p. 38–39]. Cognitive psychology suggests that the brain can hold and process a maximum of four blocks of unique information at the same time [Ibid., p. 171]. This limited amount of data is referred to as working memory capacity. C. Bailey suggests using the term "attentional space" as well when discussing the ability to concentrate on a task.

A research team consisting of Russian and German scientists have corroborated this relationship through a study [25]. The research concluded that an individual's ability to control attention has a direct influence on their working memory. That is, the better a person's focus and concentration, the more information they can store in their memory. Since student attention space is limited, considering this factor is an essential aspect when planning and developing teaching courses.

Meta-awareness, intention, concentration. In the realm of learning, a triad of elements converges – meta-awareness, intention, and concentration. Concentration, being both a constituent and a property of attention, harnesses the faculty to focus effectively. Research by C. Bailey suggests that fostering meta-awareness in a learning context can heighten concentration, which in turn elongates the range of one's attention span. C. Bailey's perspective posits that meta-awareness involves consciously observing the flow of one's thoughts and taking note of the immediate surroundings, thus underscoring its vital role in learning. This aspect is also known as explicit learning, meaning it is a type of learning that occurs intentionally and with one's awareness. As a result, explicit memory entails consciously employing memory to retrieve information [38, p. 119].

Furthermore, establishing a clear intention is critical in eliminating distractions and facilitating a focused approach, ultimately fostering productivity and enabling a deliberate management of attention during the learning process [5, p. 71]. F. Scherer et al. highlight that the learning environment must be devoid of distracting tasks to effectively practice microlearning [38, p. 123]. As they assert, attempting to juggle multiple tasks simultaneously may result in diminished processing speed.

In the context of modern living, people tend to be distracted approximately 47% of the time [40]. Developing the capacity to be consciously aware of one's own thoughts has emerged as a highly effective attention management strategy. Studies suggest that the greater a student's ability to recognise what occupies their working memory and where their attention is focused, the more swiftly they are able to return to their task, regain their focus, and boost their personal productivity when performing educational responsibilities.

From a foreign language learning standpoint, many Russian methodologists (N.I. Gez, N.D. Galskova etc.) emphasise the importance of each student cultivating their own learning style and working with strategies aimed at improving memory and attention. The scholars indicate that mastery of language skills necessitates optimised material assimilation and enhanced memory work. Specific approaches include highlighting keywords, underlining words and sentences in a text, identifying linguistic patterns, and using commonly used expressions. Although these authors do not provide a one-size-fits-all methodology or technology, these activities are considered a valuable tool for promoting focused, intentional language work.

Minimisation. Modern research in the fields of psychology and neuroscience reveals that, on average, a person can retain objects (information) in their working memory for just 10 seconds [4]. Optimising the use of this limited resource can enhance learning effectiveness. Despite the intuitive inclination to maintain as many objects of attention as possible when faced with a large workload, this approach can inadvertently hinder rather than help. Minimising distractions by reducing the number of objects in the attentional space, as advocated by C. Bailey, can actually facilitate task completion and enhance productivity [5, p. 62].

Nonetheless, in the contemporary environment, this level of overburden can adversely impact students' ability to memorise, as noted by C. Bailey. Russian scholars, such as N.I. Gez, M.V. Lyakhovitsky, A.A. Mirolyubov, S.K. Folomkina, S.F. Shatilov further highlight the necessity to curtail unnecessary

aspects of the learning material, suggesting that augmenting vocabulary, grammar, and topic coverage beyond what is strictly needed to fulfil technical learning objectives can actually hinder skill development and impede the achievement of learning goals. The scholars also note that the issue of determining the minimum appropriate range of subject matter and context has yet to be thoroughly addressed.

Nonetheless, contemporary language methodologies are continually evolving and expanding, with an increasing number of sociological and pedagogical studies providing insights that can guide the selection of what should be included in the required minimum and how to reflect these in curricula and educational materials. This highlights the potential of microlearning in addressing this complex challenge, given the growing demand for the fragmentation and reduction of educational information.

Thus, methodological challenges surrounding the formulation of a minimum vocabulary (lexical minimum) have been thoroughly discussed by language methodologists. The process involves a careful selection of words based on criteria such as frequency, compatibility, stylistic neutrality, word-formation productivity, and the thematic principle.

Additionally, F. Scherer et al. note that when determining the minimum size of learning contents, the traditional terms of size and form may not be sufficient. Consolidation happens if information is meaningful to the learner. Thus, small units of learning material need to be meaningful enough for the content to be transferred into long-term memory. So, when fragmenting information, educators face the challenge of providing context that is meaningful to the individual or group of learners. This is where the student-oriented approach becomes crucial: the learning units that are possible depend on the learners' interests, values, goals, and past experiences [38, p. 121]. As A. P. Avramenko points out, microlearning fosters active participation by empowering students to contribute to shaping certain elements of the educational content. This strategy transforms students from passive listeners to active participants in the learning process, enhancing their engagement and comprehension [3, p. 29].

In educational theory, a core principle that underlies the process of memorisation and retention of learned material is revision: when attention is repeatedly directed towards specific information, the likelihood of its memorisation escalates dramatically. In foreign language courses, revision holds a crucial role. If you consistently repeat a new word in a foreign language, it will not only become easier to recall it during a test but it will also increase the chances of remembering it for years to come [38, p. 116]. As such, most contemporary textbooks include dedicated sections for reviewing previously learned topics.

Integrating revision tasks with the key principle of microlearning (limiting the number of educational objects) enables teachers to effectively manage student focus and heighten concentration, thereby facilitating the memorisation of course material. Time constraints, particularly strict ones, have an added benefit of narrowing focus, preventing more creative approaches to tasks but fostering concentrated activity [28]. Media didactics expert, M. Kerres, suggests regulating micro-practice durations to between 5 and 15 minutes for optimal results [24, p. 99].

Focus. At the heart of microlearning is the concept of focus, defined as a state of profound immersion in work characterised by single-minded concentration on a vital task that comprehensively fills the attentional space. Factors influencing the ability to focus encompass: identifying a single primary object; neutralising emergent distractions; and concentrating solely on the essential educational task [5, p. 77]. The more tasks confronted, the more crucial it becomes to determine the requisite number of micro-activities and their contents: what should constitute the central focus of students' attention; how many objects should compete for attention, etc.

As stated previously, within the realm of microlearning theory, the length of micro-practices can extend from five to fifteen minutes, with the number of objects for learning subject to variation. Nevertheless, during the planning of a micro-formatted lesson, it is crucial to bear in mind that the capacity of working memory is restricted to four discrete blocks of information.

According to C. Bailey, achieving optimal focus involves a multi-step process, as outlined below: selecting a productive or significant object of attention; minimising external and internal distractions; focusing intently on the chosen object (for a set duration); repeatedly directing attention back to the selected

object to maintain concentration [Ibid., p. 83]. Notably, to attain the pinnacle of focus, the designated task should maximally occupy the student's working memory (attentional space), while novel learning objects should be correspondingly minimised.

Scatterfocus. The antithesis of the focused state is the scatterfocus mode, which also plays a pivotal role in attention and memory function. Unlike focus, where the chosen task takes up the entire working memory, scatterfocus is characterised by inattention and wandering mind [Ibid., p. 194]. From a neurobiological standpoint, these two states exhibit a state of anticorrelation. Activation of the neural network responsible for scatterfocus leads to a decrease in the activity of the network responsible for focus, and vice versa. These two modes complement each other.

Microlearning is closely tied to the focus mode, where attention management is optimised in a concentrated state to efficiently address tasks involving a set of objects. The scatterfocus mode (diffuse mode) is utilised to generate new ideas, process information, and execute creative tasks, along with reflecting on knowledge gains and planning for the future [32]. Consequently, effective attention management in the focused state enables the processing of a greater volume of information in the defocused (scatterfocus) state [5, p. 220].

Proficiency in any discipline is fostered by amassing and connecting information points (dots), leading to the development of experience, comprehension, and abilities. According to M. Seidl et al., modern learners not only have to distil information down into smaller units, but they must also identify and weave connections between these units to form a "bigger picture" [39, p. 69]. As such, microlearning centres on individual components of the whole, thereby facilitating the gradual comprehension of the larger picture and the integration of knowledge via the brain's innate aptitude for amalgamating related fragments of information. The scatterfocus mode is pivotal in facilitating this process. The more dots we can link into a unified cluster, the more efficiently working memory is applied, as a greater volume of data can be processed when it is linked and grouped together [17].

Protecting our attentional space is crucial. Focusing on valuable information that is timeless and practical in the future is essential. By grouping information, we can accumulate experience and nurture creative potential. In the field of teaching foreign languages, the method of creating mental maps (or mind maps) is widely employed and proven to be effective. This technique helps to structure information and visually group existing and new knowledge blocks. As pointed out by F. Scherer et al., during the integration process, incoming information and pre-existing memories are merged together [38, p. 116]. Additionally, acquiring new information that adds to existing knowledge triggers dopamine production, which generally boosts the effectiveness of the learning process.

Thus, when designing educational programs, it is vital to choose the most crucial and valuable information. Contemporary pedagogists engaged in foreign language instruction often incorporate a stage of needs analysis for students [34, p. 148]. This stage enables the educator to determine which educational materials:

1. Can be classified as the required minimum;
2. Are relevant for the current training stage;
3. Are relevant for individual students or a specific group;
4. Require additional revision, focus or monitoring, among other considerations.

Ultimately, maximising student academic output depends on a deliberate and balanced combination of microlearning and traditional methods of teaching (i.e., macrolearning). In the scatterfocus mode, the consumption of balanced information assumes great importance, encompassing the inclusion of engaging and entertaining content. Modern approaches to foreign language pedagogy provide ample opportunity for the utilisation of an array of information resources, including digital elements such as podcasts, movies, games, mobile applications, online tests, among others. Owing to their entertaining value, these materials garner heightened interest, thus bolstering students' motivation to study and assimilate the information contained within.

Due to its characteristic requirement of intense focus on limited academic tasks, microlearning is ideally paired with conventional methodologies, such as the Lexical Approach, the Communicative Approach, flipped classroom model, and others. Research by E.A. Zakharova further supports this view. In

the study, language teaching methodology teachers were tasked with thoroughly planning micro-learning lessons. The outcomes revealed the effectiveness of encompassing a variety of models, methods, and approaches for optimal language education effectiveness [45, pp. 116–118].

Moreover, technological platforms, such as mobile devices and computers, are frequently and effectively employed in the application of microlearning, further highlighting the adaptability and compatibility of this pedagogical method with contemporary educational tools and technologies. A noteworthy instance is the development by T. Dingler and colleagues of the Quick Learn mobile app, which facilitates efficient vocabulary education within a micro-format [15]. Notably, T. Gorham et al., in their research employing a bespoke application, have elucidated the utility of microlearning in honing students' listening skills and peer evaluation [18]. Nonetheless, J. Inker and colleagues emphasise that microlearning can also be effectively implemented in a live setting without the use of digital technologies [22].

Learning and teaching activities implemented in microlearning courses can exhibit considerable variation, contingent upon the objectives of the course. While specific courses may hone in on the refinement of reading or listening aptitudes, numerous encompass communicative exercises like interactive, mnemonic games, expositions, discussions, flipped classrooms, recreational activities serving dual purposes in both learning and assessment, feedback mechanisms, as well as challenges. A strong emphasis is typically placed on the assessment process for all courses; this process incorporates quizzes, peer evaluation, self-appraisal queries, and assorted forms of evaluation. The objective is to ensure clarity and measurable outcome attainment (Table 1).

The use of a vast array of educational activities and learning equipment within macrolearning practice, can be traced back to the emotional value of these resources. As they are the first to be encoded in the perceptual process, they are prioritised in the competition for selective attention and easily encoded in memory. Emotional arousal plays a significant role in this process, as it narrows attention and gives priority to emotionally significant stimuli. Emotion is also crucial for long-term retention, explaining why we readily remember information in areas of interest but struggle to recall facts from less engaging topics [38, p. 120].

Table 1. Examples of practical application of microlearning in the classroom

1. Authors: D. Conde-Caballero et al. **Name of the research paper:** Microlearning through TikTok in Higher Education. An Evaluation of Uses and Potentials [11]	
Objectives	the development of self-assessment skills through exercises within the instructional videos
Learning activities	explanations, memorization games, interactive games
Equipment	mobile phones
2. Authors: A. M. Al-Zahrani **Name of the research paper:** Enhancing Postgraduate Students' Learning Outcomes through Flipped Mobile-based Microlearning [1]	
Objectives	enhancing knowledge retention, contributing to the long-term retention of information
Learning activities	flipped classroom model, prior-lecture activities (short videos, quizzes, short notes)
Equipment	mobile devices (smartphones, tablets)
3. Authors: T. Gorham et al. **Name of the research paper:** Analyzing Learner Profiles in a Microlearning App for Training Language Learning Peer Feedback Skills [18]	
Objectives	improving students' peer feedback skills and internal feedback skills
Learning activities	Communicative Language Teaching-based activities, peer assessment activities, peer corrective feedback activities
Equipment	mobile devices, the Pebasco app

To recapitulate, it is crucial to underscore that the focus and scatterfocus modes hold equal significance, and their reciprocal interplay is paramount for optimally carrying out educational activities. Microlearning is intimately intertwined with the concept of focus, whereas the "meso" and "macro" levels are most effectively executed in the scatterfocus mode. This consideration is particularly vital when constructing educational curricula and programs, skilfully activating them, and teaching students to intelligently and deliberately transition between the two modes.

4. Discussion and Conclusion

Since the emergence of the initial scientific studies on the micro-pedagogical phenomenon, fascination with the subject has continually escalated, owing to a confluence of factors, the foremost of which is the digital essence of the current epoch. The advent of novel communication channels and the evolution of information technologies have precipitated substantial metamorphoses in the educational realm. This is owing to the fact that consuming exorbitant amounts of data exerts a profound effect on cognitive processes, thereby generating a demand for innovative pedagogical methodologies and approaches.

The inclination of pedagogists to diminish and fragment constituent parts of didactic content has been observable since the termination of the twentieth century. Nevertheless, microlearning is only now emerging as an independent pedagogical methodology, a development substantiated by the growing quantity of theoretical and empirical research. Indeed, the conceptual underpinnings of this approach are extensively addressed through meticulous examination by scholars including T. Hug, G. Siemens, M. Kerres, N. Friesen, M. Seidl, F. Scherer, M. Scherer and additional authors within the scope of their research on the didactic aspects of microlearning [21].

When looking at the growing popularity of microlearning, one can see how this phenomenon is becoming increasingly recognised. Our research aimed to understand what makes it an effective educational method. The analysis of published studies revealed that the micro-method is neurophysiologically grounded and effectively addresses memory, attention, and concentration issues. These factors contribute to the popularity of the micro-method. Its ability to be applied effectively in teaching foreign languages makes it relevant among educators, in general, and for foreign language education specifically.

In alignment with the perspective of T. Hug, we assert that microlearning encompasses more than mere fragmentation or abridgement of the didactic content. To optimally tap into the potential of this pedagogical strategy, it is crucial to diligently plan training sessions and courses. Thus, A.M. Al-Zahrani defines microlearning as an educational design strategy [1], while A. Rof and colleagues explore the capacity of micro-pedagogy to be arranged in a carefully planned sequence of lessons, which ultimately can culminate in a more effective learning pathway [37, p. 3].

Some Russian scholars suggest integrating microlearning into a modular educational format, which would begin with a theoretical aspect delivered through a visually engaging presentation, scheme, or other form of information delivery. Following this, the practical component would involve active use of language as part of the learning process [14, p. 642]. As F.L. Alshammari underlines in his research, the strategic nature of micro-pedagogy, particularly in its technological aspect and its role as a knowledge strategy, should be acknowledged and accounted for. He provides an example in one of his studies, where the strategic manner of micro-pedagogy is manifested in the hierarchical structure of the courses offered by the authors, proceeding in a step-wise fashion, with each part targeting specific learning objectives [2, p. 160]. This aspect underscores the deliberate and premeditated approach to implementing micro-pedagogy as an instructional technique.

At the present juncture, we can observe a conspicuous absence of a unified methodology or pedagogical mechanism that would encapsulate a singular action model pertaining to the integration of microlearning into the sphere of foreign language education. The researchers whose work has been explored elucidate diverging modalities through which microlearning can be seamlessly scaffolded into the educational fabric.

Although there is an increasing number of scholarly studies on microlearning, there is a need to expand the theoretical foundation of the method and develop methodological guidance for its application in foreign language classes. Firstly, our findings can assist scientists, methodologists, and teachers in better understanding the mechanisms of microlearning and implementing it in their own teaching practice. Secondly, these findings hold both theoretical and methodological value, providing a solid basis for further investigation in this field.

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About the author:

Ksenia V. Lykova, PhD in Pedagogic Sciences (pending), is Senior Lecturer at the Department of Linguistics and Professional Communication in Foreign Languages, Ural Federal University (Ekaterinburg, Russia). Spheres of research and professional interest: foreign language teaching methodology, microlearning. E-mail: ksenia.vl.lykova@gmail.com. ORCID: 0009-0003-5540-271X

Сведения об авторе:

Лыкова Ксения Владимировна – соискатель учёной степени кандидата педагогических наук, старший преподаватель кафедры лингвистики и профессиональной коммуникации на иностранных языках УрФУ (Екатеринбург, Россия). Сфера научных и профессиональных интересов: методика преподавания иностранных языков, микрообучение. E-mail: ksenia.vl.lykova@gmail.com. ORCID: 0009-0003-5540-271X

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