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## MICROLEARNING: EXPERIENCE OF TEACHING AT A CHINESE UNIVERSITY

### МІКРОНАВЧАННЯ: ДОСВІД ВИКЛАДАННЯ В КИТАЙСЬКОМУ УНІВЕРСИТЕТІ

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### ABSTRACT

**Purpose.** Responding to the demands of an increasingly digitized and knowledge-driven era, microlearning has become a crucial educational methodology, facilitating adaptable and accessible learning experiences.

The purpose of this article is to share the experience of implementing different technologies to design and deliver microlearning content to the students at Shangqiu Normal University (China) to demonstrate how microlearning can be used effectively in the classroom at tertiary level.

**Methodology.** The study employed a mixed-methods approach, combining a theoretical analysis (analysis, synthesis, comparison) of literature on microlearning and pedagogical practices with empirical data gathered through direct observation and structured discussions to understand the implementation and impact of microlearning on Chinese university students.

**Мета.** У відповідь на виклики цифрової та орієнтованої на знання епохи мікронавчання стало важливою освітньою методологією, що сприяє гнучкому й доступному навчанню.

Метою цієї статті є представлення досвіду впровадження різноманітних технологій для розроблення й подання мікронавчального контенту студентам Педагогічного університету міста Шанцю (Китай), щоб продемонструвати ефективне використання мікронавчання у вищій освіті.

**Методи:** У дослідженні застосовано змішаний підхід, що поєднує теоретичний аналіз (аналіз, синтез, порівняння) літератури з мікронавчання та педагогічних практик з емпіричними даними, зібраними шляхом безпосереднього спостереження й структурованих обговорень, для вивчення впровадження та впливу мікронавчання на китайських студентів.

**Results.** In response to the temporal constraints of a 'Teaching Methods of English' course at Shangqiu Normal University, microlearning was implemented, utilizing short, interactive video lectures and modularized traditional materials. Interactive elements and assessments were integrated to activate prior knowledge, proving effective for Chinese students, who were motivated by incentives to actively participate. WeChat facilitated ubiquitous access to micro-lectures, and gamification enhanced engagement. To mitigate knowledge fragmentation, microlearning was combined with traditional methods. Technical support ensured seamless implementation. Future developments in AI and gamification promise to further enhance the efficacy of microlearning.

**Conclusions.** This article demonstrates the effective implementation of microlearning at a Chinese university, utilizing diverse technologies to enhance student engagement and knowledge retention. Recommendations include integrating micro-lectures, leveraging mobile platforms, and incorporating gamification, while addressing cultural reticence and ensuring technical support. Future research should explore longitudinal impacts and AI integration.

**Keywords:** Chinese students, higher education, microlearning, learning and teaching process, teaching.

**Результати.** З огляду на часові обмеження курсу «Методика викладання англійської мови» в Педагогічному університеті міста Шанцю було запроваджено мікронавчання з використанням коротких інтерактивних відеолекцій і модифікованих традиційних матеріалів. Інтерактивні елементи й оцінювання були інтегровані для актуалізації наявних знань, що виявилось ефективним для китайських студентів, яких мотивували стимули до активної участі. Платформа WeChat забезпечила повсюдний доступ до мікролекцій, а гейміфікація підвищила залученість. Щоб уникнути фрагментації знань, мікронавчання поєднувалося з традиційними методами. Технічна підтримка сприяла безперебійному впровадженню. Майбутні розробки у сфері штучного інтелекту й гейміфікації обіцяють ще більше підвищити ефективність мікронавчання.

**Висновки.** Ця стаття демонструє ефективне впровадження мікронавчання в китайському університеті з використанням різноманітних технологій для підвищення залученості студентів і збереження знань. Рекомендації охоплюють інтеграцію мікролекцій, використання мобільних платформ і впровадження елементів гейміфікації з одночасним урахуванням культурної стриманості та забезпеченням технічної підтримки. Подальші дослідження мають зосереджуватися на вивченні довгострокових наслідків та інтеграції штучного інтелекту.

**Ключові слова:** китайські студенти, вища освіта, мікронавчання, навчальний процес, навчання.

## INTRODUCTION

In contemporary society, characterized by the widespread use of, and accelerated evolution of technology, the exponential growth of information dissemination, and the imperative for lifelong learning, microlearning has emerged as a pedagogical approach of paramount significance. Specifically, microlearning, defined as the delivery of educational content in concise, readily digestible modules, aligns seamlessly with the exigencies of modern educational paradigms, which necessitate rapid, convenient, and personalized access to knowledge (Shatte & Teague, 2020).

Indeed, within a context where temporal constraints are a persistent challenge, microlearning presents novel opportunities for optimizing educational processes by facilitating the integration of learning into daily routines, even in brief intervals. Furthermore, the proliferation of contemporary digital platforms enhances the accessibility of this format, supporting a diverse array of content modalities and presentation styles.

Empirical evidence derived from pedagogical practices at Shangqiu Normal University (China) (Holubnycha et al., 2025) substantiates the active implementation of

microlearning within higher education, particularly in the context of educational digitalization. Consequently, the integration of this approach into educational frameworks has been shown to enhance learning efficacy and accommodate the evolving needs of contemporary student populations. In contrast, traditional educational models frequently fail to address the challenges faced by modern professionals, including time scarcity and the rapid obsolescence of knowledge.

Therefore, microlearning is gaining increasing relevance, especially within the context of prevailing global trends such as digitalization, the exigency for continuous professional development, and the transformation of educational paradigms. Moreover, microlearning, through its inherent accessibility and practical orientation, enables learners to address knowledge gaps, thereby fostering the development of self-directed learning skills and adaptability, which are indispensable competencies in the contemporary world.

Through the strategic utilization of interactive technologies, mobile applications, and online platforms, microlearning has become an efficient tool for higher education, facilitating the personalization of learning experiences to align with individual student needs, which, in turn, significantly enhances motivation and productivity. To ensure the effective implementation of technology in teaching and learning, in fact, it is imperative to explore alternative pedagogical methodologies that address both the advantages and limitations of these technologies.

Consequently, microlearning has become a focal point of recent scholarly inquiry. An analysis of these studies reveals that microlearning in higher education is being investigated across multiple domains. For example, numerous studies have examined how the implementation of microlearning technologies has enhanced student learning outcomes (Rof et al., 2024; Sathiyaseelan et al., 2024; Senandheera et al., 2024). These investigations have demonstrated that the adoption of microlearning correlates with increased student satisfaction, knowledge acquisition, and skill development, thereby enhancing teaching and learning efficacy.

Furthermore, a substantial body of research has focused on the instructional design of microlearning, particularly through the utilization of platforms such as TikTok (Conde-Caballero et al., 2024), Facebook and other social media platforms (Grevtseva et al., 2017), as well as animated videos (Huang and Janakiraman, 2024).

To this end, the integration of technologies familiar to learners within their daily routines facilitates the seamless incorporation of innovative pedagogical approaches. Thus, the development of a specialized content delivery system designed to cultivate high-quality microlearning experiences is a viable and increasingly adopted strategy. In addition, scholars have explored the methodologies that underpin microlearning, including competency-based approaches (Zhang & West, 2020) and process-based approaches (Cahyanto et al., 2024), which are deemed effective for professional development.

Moreover, subsequent to the COVID-19 pandemic, researchers have directed considerable attention towards the role of microlearning in e-learning, positioning it as a viable alternative for lifelong learning (Drakidou, 2018), a best practice for future educational models (Eden et al., 2020), and a means of integrating microlearning content into traditional e-learning platforms (Díaz Redondo et al., 2021).

Given that this essay focuses on a Chinese case study, we have conducted a thorough review of literature pertaining to the implementation of microlearning in Chinese higher education. However, it is important to note that there are a limited number of

publications on this subject, and those available tend to focus on professional teaching and learning within narrowly specialized domains.

For example, Ning et al. (2024) explored the attitudes of prospective primary school educators in China towards the integration of social media and microlearning strategies for enhancing students' oral English proficiency. Similarly, Zhu et al. (2022) examined the use of interactive microlearning pedagogical strategies to enhance the financial competence of Chinese university students.

Ma et al. (2023) conducted an impact assessment of technology-enhanced microlearning on the learning engagement, cognitive restructuring, and academic outcomes of professional teachers, utilizing knowledge-mapping methodologies. Gill et al. (2020) investigated post-COVID-19 educational trajectories, specifically focusing on the integration of microlearning within product design curricula.

Nevertheless, there remains a lacuna in the literature concerning the specific technologies of *content delivery* employed within microlearning strategies applied to general Chinese higher education students, necessitating a more detailed examination.

Consequently, the **purpose** of this article is to share the experience of implementing different technologies to design and deliver microlearning content to the students at Shangqiu Normal University (China) demonstrating how microlearning can be used effectively in the classroom at tertiary level.

## METHODOLOGY

To effectively address the stated purpose of this research, a comprehensive methodological approach was employed, encompassing both theoretical and empirical frameworks. Specifically, the following methods were utilized:

Firstly, at the general theoretical level, a suite of analytical techniques was implemented to facilitate a rigorous examination of existing literature and pedagogical practices. These techniques included the following:

- analysis, to enable the deconstruction of complex microlearning methodologies into their constituent components;
- synthesis, to facilitate the integration of disparate theoretical perspectives and empirical findings to construct a coherent understanding of microlearning principles;
- comparison, to allow for the systematic evaluation of diverse microlearning content design and delivery modalities.

These theoretical methods were indispensable for identifying and selecting the most efficient pedagogical strategies for the development and dissemination of microlearning content tailored to the specific educational context of Chinese students, thereby ensuring the pedagogical soundness of our approach.

Secondly, at the empirical level, observational and discursive methodologies were deployed to gain nuanced insights into the practical application of microlearning and the specific learning behaviours of Chinese students. Notably, direct supervision, involving the systematic observation of student engagement and interaction during microlearning sessions, provided invaluable data on the efficacy of various pedagogical interventions.

Furthermore, structured discussions, conducted with both students and fellow educators, contributed to a deeper understanding of the personal and cultural

idiosyncrasies that influence the learning experiences of Chinese students. These empirical methods, in conjunction with the aforementioned theoretical approaches, provided a robust and comprehensive foundation for the research, enabling the authors to draw meaningful conclusions and offer practical recommendations.

## RESULTS

In the context of our pedagogical experience at Shangqiu Normal University, a Chinese institution focused on teacher training, during the 2023/24 academic year, the delivery of our 'Teaching Methods of English' course, comprising 30 academic hours of classroom instruction, was structured by university administrators into blocks of three consecutive sessions, each lasting 50 minutes, with a 10-minute break between sessions. Given the temporal constraints imposed by this format, which limited the comprehensive conveyance of essential curricular content, we decided to supplement traditional pedagogical methodologies with the implementation of microlearning strategies.

Indeed, the core principle of microlearning involves the dissemination of knowledge and skills through succinct educational modules, typically ranging from several minutes to a maximum of 15–20 minutes, delivered in an interactive format. This temporal scope aligns with scholarly findings (Velychko & Fedorenko, 2020), which delineate the aforementioned duration as the optimal range for sustained active learning. The microlearning approach is predicated on the utilization of digital platforms, including mobile applications, online courseware, video tutorials, and interactive activities. Key attributes of microlearning include:

- a focused concentration on a singular topic or skill, wherein each module addresses a discrete subject, thereby facilitating in-depth comprehension;
- inherent flexibility and adaptability, enabling learners to integrate educational activities into their daily routines, leveraging brief periods of availability;
- a multimedia-rich environment, incorporating video, audio, textual, and graphical elements to enhance learner engagement and efficacy.

Researchers (Mostrady et al., 2025; Nikkhoo et al., 2023), through extensive empirical investigations and theoretical analyses, have delineated several salient advantages inherent in the microlearning pedagogical approach. These advantages, which collectively contribute to the efficacy and appeal of microlearning, include:

- enhanced learning efficiency, predicated on the principle that the assimilation of small, discrete information segments is facilitated by the focused concentration of attention on a specific, delineated aspect of the subject matter;
- ubiquitous ease of access, a characteristic directly attributable to the widespread availability of microlearning modules through diverse digital devices, enabling learners to engage with educational content at any time and from any location, thereby transcending the temporal and spatial constraints of traditional learning environments;
- enhanced learner motivation, a consequence of the reduced cognitive load and the mitigation of overfatigue and subsequent loss of interest associated with prolonged learning sessions, which are often characteristic of conventional educational methodologies;
- a high degree of individualization, wherein students are empowered to curate their learning pathways by selecting topics and modules that align with their specific

academic needs and preferred learning pace, thereby fostering a personalized educational experience;

- optimized time management, as microlearning enables students to acquire and consolidate knowledge within limited time intervals, accommodating the exigencies of contemporary schedules and professional commitments. These multifaceted advantages, as articulated by the scholarly community, served as a primary impetus and compelling motivation for the strategic implementation of microlearning methodologies within our instructional course.

In order to identify the most efficient and pedagogically sound modalities for the design and delivery of microlearning content, we undertook a comprehensive analysis of diverse variations and approaches. Through this rigorous examination, we determined that short video presentations, commonly referred to within educational literature as ‘micro-lectures’ (see Figure 1), constituted the most prominent and impactful form of microlearning content. These micro-lectures, characterized by their brevity and focused subject matter, provided students with concise, yet substantive, learning opportunities, thereby aligning with the core tenets of the microlearning approach.

### Figure 1

*A presentation for a micro-lecture in the classroom*



The duration of these micro-lectures was typically limited to 15 minutes, providing students with concise learning opportunities. Furthermore, to activate prior knowledge and enhance engagement, we integrated interactive elements and brief assessments into our video presentations. Given the critical role of activating prior knowledge in effective learning, we strategically designed our video lessons and presentations to be interactive, as well as concurrent with the dissemination of learning material. We also incorporated concise evaluative measures to reinforce knowledge acquisition.

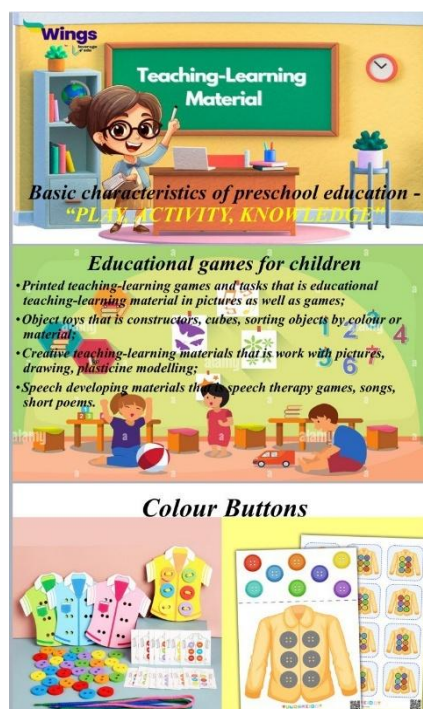
The implementation of this methodology proved particularly impactful for Chinese students, who, in accordance with cultural dispositions, tend to demonstrate a hesitancy to engage in discursive classroom activities or to express their ideas. As students told us, this reticence stems from underlying fear of making a mistake, coupled with appearing inadequate or looking silly. Therefore, an initial pedagogical strategy involved explaining the comparative disadvantage of passive engagement versus active engagement, notwithstanding the possibility of making a mistake, highlighting the experiential learning essential for professional growth.

To stimulate active participation, a motivational framework was established, wherein students were awarded extra points, denoted by plastic 'smiles,' for specific responses. It is noteworthy that students exhibited a pronounced motivation to obtain these incentives, leading to a significant increase in classroom engagement. In effect, nearly all of the students made an effort to offer their opinions or provide additional information.

Moreover, to facilitate ubiquitous access to micro-lectures, thereby enabling students to engage with course content at any time and in any location, we supplemented classroom instruction with the utilization of the WeChat mobile communication platform, chosen for its widespread adoption among Chinese students (see Figure 2).

### Figure 2

*Presentation of the micro-lecture on the smartphone-based application WeChat*



This approach enabled students to master the material at their own pace.

In addition to employing video-based micro-lectures, we extended the application of microlearning principles to encompass traditional learning materials, such as text documents, graphical representations, and other didactic resources. Specifically, these conventional materials were meticulously segmented into smaller, discrete modules, thereby transforming them into an alternative modality for microlearning content delivery. These modularized materials were strategically utilized to facilitate students' review of past coursework, to deepen their comprehension of specific thematic areas, and to consolidate the principal concepts presented during formal lectures into a succinct and readily accessible format.

Furthermore, as an integral component of our comprehensive microlearning strategy, we incorporated gamification elements, including interactive prompts designed to stimulate critical thinking, brief quizzes to assess immediate knowledge retention, and mini-competitions to foster a spirit of collaborative learning.

These gamified activities were intentionally integrated to serve a dual purpose: firstly, to increase student motivation by introducing an element of engagement and challenge, and secondly, to cultivate a more relaxed and open learning environment, thereby

'liberating' students from the potential anxieties associated with traditional assessment. Moreover, these gamified microlearning sessions were found to effectively consolidate knowledge by providing immediate feedback and reinforcing key concepts within the context of short, focused learning encounters (see Figure 3).

### Figure 3

*Mini-competition within a short learning session*



While microlearning offers significant advantages in adapting educational programs to contemporary demands, potential challenges still exist. For example, the fragmented nature of microlearning may compromise the systematic acquisition of knowledge. To mitigate this risk, we integrated microlearning with other pedagogical strategies. Moreover, the successful implementation of microlearning necessitates robust technical support (Holubnycha et al., 2021). Fortunately, Shangqiu Normal University's well-equipped classrooms obviated any technical challenges, as confirmed by the authors' personal experiences (see Figure 4).

### Figure 4

*The authors share teaching experiences with Chinese colleagues.*



Looking ahead, the ongoing development of artificial intelligence (Chetveryk & Veretiuk, 2025; Veretiuk & Chetveryk, 2025), gamification, and personalized learning algorithms (Chetveryk, 2025) promises to further enhance the efficacy of microlearning. It is plausible to posit that this approach will become increasingly integrated into mainstream teaching and learning practices, providing flexible and effective opportunities for knowledge acquisition.

## DISCUSSION

Microlearning, as a contemporary pedagogical innovation, represents a strategic and meticulously designed approach to education, specifically formulated to address the multifaceted challenges inherent in information-saturated societies of the 21st century. Indeed, the benefits to this approach, notably its inherent suitability for diverse learning contexts, its enhanced effectiveness in facilitating knowledge acquisition, and its inherent pedagogical flexibility, render it an indispensable instrument for both personal and professional developmental trajectories.

Notwithstanding the recognition of certain implementation challenges and potential limitations, microlearning demonstrates substantial potential to fundamentally improve the processes of teaching and learning, as well as to effectively cater to the diverse and evolving needs of modern student populations.

In our present study, we have empirically demonstrated the effectiveness of short video presentations, commonly referred to as micro-lectures, as a viable modality for the delivery of microlearning content. In this regard, our findings align with and corroborate the research presented by Hlazunova et al. (2024), who revealed similar improvements in student learning outcomes and heightened levels of student and teacher satisfaction through the implementation of microlearning strategies utilizing video content.

However, it is pertinent to note a methodological distinction between our study and that of Hlazunova et al. (2024). Specifically, our research presents a case study based on our pedagogical experiences, whereas Hlazunova et al. (2024) employed an experimental design to rigorously validate the efficacy of video-based microlearning. Thus, while both studies underscore the value of video content in microlearning, the experimental approach employed by Hlazunova et al. (2024) provides a more robust empirical foundation for their conclusions.

Furthermore, our investigation is consistent with the case study presented by Gherman et al. (2021), which also examined the application of microlearning as a means of extending traditional learning modalities within the higher education sector. Nevertheless, a significant divergence exists in the focus of these studies. Namely, Gherman et al. (2021) concentrated on the development of a personalized learning system within a microlearning framework, emphasizing individual knowledge construction. In contrast, our research has described and evaluated the implementation of diverse strategies for delivering microlearning content to a complete student cohort, thereby addressing the needs of a broader student population.

Moreover, similar to the methodological approach adopted by Díaz Redondo et al. (2021), who integrated microlearning content into formal distance learning environments, we incorporated microlearning technologies alongside both innovative and traditional pedagogical methodologies suitable for face-to-face teaching and learning.

However, while Díaz Redondo et al. (2021) assessed their results based on the opinions of lecturers from diverse international contexts regarding the potential of combining microlearning and e-learning, our evaluation was founded on our direct observations of student engagement, perceived interest, and observed learning outcomes. It is important to acknowledge, however, that we have not provided a quantitative analysis or detailed description of learning outcomes within this article, which represents a limitation.

In conclusion, the findings of our pedagogical experience with the implementation of microlearning content among Chinese students largely coincide with the propositions and recommendations articulated by the aforementioned researchers. Consequently,

these findings contribute to the growing body of empirical evidence supporting the efficacy of microlearning as a valuable pedagogical tool in higher education. To further enhance our understanding, future research should focus on the quantitative assessment of learning outcomes and the exploration of diverse microlearning modalities in various educational settings.

## CONCLUSIONS

Thus, this article has sought to share the pedagogical experience of implementing diverse technological strategies for the design and delivery of microlearning content to students at Shangqiu Normal University in China. Specifically, the aim of this study was to demonstrate the effective utilization of microlearning within a tertiary educational setting. Indeed, the findings presented herein underscore the viability and efficacy of microlearning as a contemporary pedagogical approach, particularly in contexts characterized by cultural nuances and temporal constraints.

Firstly, the strategic integration of micro-lectures and modularized traditional learning materials proved to be instrumental in enhancing student engagement and knowledge retention. Moreover, the adoption of mobile communication platforms, such as WeChat, facilitated the universal access to learning resources, thereby accommodating the diverse learning preferences of students. Furthermore, the incorporation of gamification elements, including interactive prompts and mini-competitions, fostered a stimulating and interactive learning environment, leading to increased student motivation.

However, it is crucial to acknowledge the cultural reticence observed among Chinese students regarding active participation in academic discourse. Consequently, the implementation of motivational strategies and the cultivation of a supportive learning environment were essential in promoting active engagement. In addition, in recognition of the potential for knowledge fragmentation associated with microlearning, traditional pedagogical methodologies were integrated with this approach, to ensure a comprehensive and cohesive learning experience.

As such, the findings of this study provide valuable insights into the practical application of microlearning in higher education. Specifically, the successful implementation of diverse technological strategies at Shangqiu Normal University demonstrates the adaptability and effectiveness of microlearning in enhancing student learning outcomes. Therefore, educators are encouraged to consider the strategic integration of microlearning into their pedagogical practices, particularly in contexts where cultural considerations and temporal constraints necessitate innovative approaches.

In effect, this article contributes to the growing body of literature on microlearning by providing a practical demonstration of its implementation in a Chinese university setting. Moreover, it highlights the importance of adapting pedagogical strategies to meet the evolving needs of students in the digital age. Looking ahead, future research is needed to explore the potential of microlearning and related technologies to enhance teaching and learning in diverse educational contexts.

Based on the empirical findings derived from our implementation of microlearning strategies at Shangqiu Normal University, several **recommendations** can be proffered to enhance pedagogical practices within higher education, particularly in contexts characterized by cultural nuances and time constraints. Firstly, given the demonstrated efficacy of micro-lectures and modularized traditional materials, educators are advised to strategically integrate such microlearning components into their course design.

Specifically, the creation of concise, interactive video presentations and the segmentation of textual and graphical resources into digestible modules can significantly increase student engagement and knowledge retention. Furthermore, considering the widespread utilization of mobile devices among contemporary students, the adoption of digital platforms, such as WeChat, for the dissemination of microlearning content is strongly recommended. Indeed, this approach facilitates universal access to learning materials, thereby accommodating the diverse schedules and learning preferences of students.

Moreover, the incorporation of gamification elements, including interactive prompts, quizzes, and mini-competitions, has been shown to foster a stimulating and relaxed learning environment, consequently enhancing student motivation and knowledge consolidation. However, it is imperative to acknowledge and address the cultural reticence observed among Chinese students regarding active participation in academic discourse.

Therefore, the implementation of motivational strategies, such as awarding extra points, or offering incentives, coupled with the cultivation of a safe and supportive learning environment, is crucial to encourage active engagement. In addition, in recognition of the potential for knowledge fragmentation associated with microlearning, it is recommended that this approach be employed in conjunction with traditional pedagogical methodologies. Specifically, microlearning should be utilized to complement and reinforce formal lectures and assignments, thereby ensuring a comprehensive and cohesive learning experience.

Additionally, the provision of robust technical support is essential for the seamless implementation of microlearning. As such, institutions should ensure that both students and educators have access to the necessary technological resources, as well as prompt technical assistance. Furthermore, given the critical role of prior knowledge activation, educators should prioritize the integration of interactive elements and brief assessments into microlearning content. In essence, these strategies serve to enhance student engagement and facilitate the effective assimilation of new information.

Finally, in light of the dynamic evolution of educational technologies, future research should explore the longitudinal impact of microlearning on student learning outcomes and the potential of AI-powered microlearning platforms. Moreover, comparative studies across diverse disciplines and educational contexts, as well as investigations into educators' perspectives on the implementation of microlearning and the ethical considerations surrounding AI integration, are warranted. Ultimately, these recommendations aim to provide a framework for the effective and ethical utilization of microlearning in higher education, thereby enhancing the learning experiences of students and preparing them for the demands of the modern world.

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### **CONFLICTS OF INTEREST**

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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