The Microlearning Strategy on Instagram in Developing Learning Skills in Secondary Education

Yahya Fawzi Abdulfattah Hittaalghuneimi, Diaya Ud Deen Deab Mahmoud Al Zitawi

Academy of Islamic Civilization, Faculty of Social and Islamic Sciences, Universiti Teknologi Malaysia, Malaysia
Email: Yahiaf98@hotmail.com, diaya@utm.my

Abstract

Education is witnessing rapid digital advancement that has led to new learning strategies, notably microlearning, which delivers concise and focused content. The problem lies in students' underuse of social media platforms such as Instagram for educational purposes. This study aims to explore the impact of using microlearning via Instagram on developing learning skills among secondary school students. Its significance stems from integrating modern educational approaches with popular digital media. The study adopts the analytical method to examine relevant theories and prior research. Results reveal that microlearning through Instagram enhances self-learning, critical thinking, and time management, making education more engaging and effective. The study contributes a scientific framework for implementing microlearning in digital learning environments.

Keywords: Microlearning, Instagram, Digital Education, Learning Skills, Self-Learning, Critical Thinking, Secondary Education.

Introduction

The digital age has brought about profound transformations in educational systems worldwide, reshaping teaching methods, learning environments, and the roles of both teachers and learners. The rapid integration of digital technologies into education has led to the emergence of innovative pedagogical approaches that emphasize flexibility, learner-centeredness, and efficiency in knowledge acquisition. Recent educational research highlights the growing need for instructional strategies that align with learners' cognitive capacities, attention spans, and learning preferences within fast-paced digital contexts (Hug, 2021; Giurgiu, 2022). In response to these demands, microlearning has emerged as a prominent instructional strategy, characterized by the delivery of educational content in short, focused, and easily digestible units that support quick comprehension, retention, and practical application of knowledge.

From a theoretical perspective, microlearning is grounded in cognitive load theory and constructivist learning principles, as it reduces information overload and facilitates meaningful learning through incremental knowledge construction (Sweller et al., 2019; Leong et al., 2023). Empirical studies have demonstrated the effectiveness of microlearning in improving learner engagement, motivation, and skill development across various educational levels, particularly when delivered through digital and mobile-based platforms (Zhang & West, 2020; Al-Maroof et al., 2022). However, despite its proven potential, the implementation of microlearning in secondary education contexts remains uneven and underexplored, especially when integrated with social media platforms commonly used by students.

In parallel with these pedagogical developments, social media platforms have become deeply embedded in the daily lives of adolescents. Among these platforms, Instagram has gained widespread popularity due to its visual orientation and interactive features, including short videos, images, and stories. Recent studies suggest that visual-based social media environments can support informal learning, enhance digital literacy, and foster learner engagement when pedagogically structured (Kumar & Nanda, 2019; Alqahtani, 2023). Nevertheless, the majority of high school students' engagement with Instagram remains predominantly recreational, with limited educational utilization. This indicates a significant underuse of the platform's potential as a structured learning environment capable of supporting contemporary instructional strategies such as microlearning.

Despite the growing body of research on microlearning and the increasing interest in educational uses of social media, there remains a noticeable research gap concerning the systematic integration of microlearning strategies within Instagram-based learning environments at the secondary school level. Existing studies tend to focus either on microlearning in professional or higher education settings, or on social media use in education without a clear pedagogical framework. Consequently, there is a lack of empirical evidence examining how microlearning delivered through Instagram can contribute to the development of learning skills among high school students.

In light of this gap, the present study is justified by the need to bridge modern educational trends with students' digital realities. It seeks to provide a theoretically grounded and contextually relevant examination of microlearning as an instructional strategy implemented through Instagram. Specifically, this research aims to clarify the concept and foundational principles of microlearning, to explore practical approaches for employing Instagram as an educational tool based on microlearning principles, and to investigate the impact of this approach on the development of learning skills among high school students. By addressing this gap, the study contributes to the growing discourse on digital pedagogy and offers insights for educators and policymakers seeking to enhance the effectiveness of technology-enhanced learning in secondary education.

Study Methodology
This study relies on the analytical method, which is one of the scientific methods used in educational research to study phenomena and analyze them theoretically and precisely with the aim of reaching scientific results and objective interpretations. This method is based on

analyzing concepts, terms, and relationships between variables, and deriving theoretical implications through reviewing literature and previous studies related to the research topic. Within the framework of this study, the analytical method was employed to analyze the concept of microlearning strategy, elucidate its theoretical and educational dimensions, and clarify its relationship to the development of learning skills among high school students. The method also analyzes the characteristics of the Instagram platform as a modern digital environment through which microlearning principles can be applied, and discusses the extent to which its features align with the requirements of modern education based on flexibility and self-interaction.

The analysis in this study is based on interpreting the relationships between microlearning and learning skills, by tracing the theoretical foundations and educational models that support the effectiveness of this type of education in developing learners' abilities. The analytical approach also includes studying the psychological, technical, and social dimensions that affect the adoption of microlearning through social platforms, especially Instagram.

Through this approach, the study seeks to derive a comprehensive analytical vision that clarifies how the microlearning strategy can contribute to developing self-learning skills, critical thinking, and problem-solving among high school students. This is done through an integrated theoretical analysis based on what is stated in contemporary educational literature and previous scientific studies, aiming to provide a solid scientific conception for activating microlearning in the digital educational environment.

The Concept of Microlearning

Microlearning is one of the modern educational trends that emerged with the digital revolution and the development of learning patterns among the new generation of students (Abd Al-Aleem, 2023). It refers to presenting educational content in short, goal-specific units that can be absorbed by the learner in just a few minutes. This type of learning is based on the idea that the learner interacts better with short and focused information compared to long content that may lead to distraction and weak understanding (Fatani & Al-Jundi, 2021). Microlearning is usually used in digital learning environments or through multimedia, which allows students to access content anytime and anywhere. This educational approach is characterized by flexibility, speed, and ease of interaction. It also supports the principle of self-learning, as students can organize their time and choose content that suits their needs and level (Al-Qarni, 2022).

The Theoretical Foundations of Microlearning

Microlearning is based on a set of educational and psychological theories that explain its success and effectiveness. Among the most prominent of these theories is Constructivism, which holds that the learner builds knowledge through interaction with the environment, and that learning becomes more effective when it is meaningful and connected to the learner's experience. Therefore, presenting content in short units that allow the student to interact, analyze, and practice enhances the knowledge-building process (Abu Sara, 2022).

Microlearning is also based on the Cognitive Information Processing Theory, which assumes that human working memory is limited, and that presenting information in small doses contributes to improving attention, understanding, and retention of information. Hence the

importance of dividing content into small units that can be absorbed without mental overload (Amouri & Bin Weddad, 2024).

It is also based on Social Constructivism, which emphasizes the importance of social interaction in learning, something that is achieved through interactive activities on digital platforms such as Instagram, where learners can exchange experiences and knowledge collaboratively (Talbi, 2023).

Instagram as a Digital Educational Tool

Instagram is one of the most widely used social media applications among young people, characterized by its strong visual nature that relies on images and short videos. Despite its widespread use for entertainment and communication, its features make it a suitable educational environment for applying the principles of microlearning. It can be used to publish educational content in the form of short video clips (Reels), daily stories (Stories), or even photo posts that contain concise scientific concepts (Othman, 2022).

In addition, Instagram's nature of instant interaction (through likes, comments, and sharing) provides great opportunities for active learning and feedback. Teachers can create specialized educational accounts to present lesson concepts in creative ways, making students more connected to the content and less likely to feel bored. Through this strategy, the platform can be transformed from an entertainment tool into a means of building an active digital learning culture (Al-Qahtani, 2023).

Employing the Microlearning Strategy through Instagram

The microlearning strategy is employed through Instagram by designing short and focused content that serves a specific educational objective and is presented in a visually appealing manner. For example, a teacher can prepare short clips explaining a linguistic rule, a simplified scientific experiment, or a specific mathematical concept, while incorporating motivational elements such as questions or short quizzes (Amouri & Bin Weddad, 2024).

The Stories feature can also be used to send hints or quick reviews of previous lessons, which enhances continuous learning and periodic revision of the content.

This type of learning helps students build a flexible learning routine, as they can learn at any time that suits them without the need for long sessions. It also contributes to developing self-learning skills by encouraging the student to search for additional sources and apply what they have learned independently (Al-Qarni, 2022).

Targeted Learning Skills in the Secondary Stage

The secondary stage is one of the critical phases in shaping the student's academic and cognitive personality, as it requires developing a set of essential learning skills that enable success in university education and practical life. Among the most prominent of these skills are:

Self-learning skills, where the student learns how to plan their learning and search for knowledge independently; critical thinking skills, which help them analyze information and

distinguish reliable sources; and problem-solving skills, which develop their ability to make informed decisions in various life situations (Abd Al-Aleem, 2023).

By employing microlearning through Instagram, these skills can be gradually and naturally enhanced, as the student learns through short and repeated activities that encourage inference and participation, which reinforces the habit of continuous learning and creative thinking.

The Relationship Between Microlearning and the Development of Learning Skills
Microlearning is closely linked to the development of modern learning skills because it relies on autonomy, flexibility, and self-interaction. When a student receives short and clear content, they have the opportunity to fully focus on a specific objective, which enhances their ability to understand and apply. With regular repetition of these micro-units, positive learning habits are formed, helping the learner organize knowledge and connect it to practical contexts (Fatani & Al-Jundi, 2021).

Implementing the microlearning strategy through Instagram contributes to motivating students toward self-learning and enhancing their confidence in their ability to acquire knowledge in an enjoyable and non-traditional way. In this manner, learning becomes part of their daily lives rather than a school task limited by time and place, fulfilling the vision of modern education in preparing active learners capable of adapting to the changes of the digital age.

Analysis and Discussion of the Study Results
Through analyzing educational literature and previous studies related to the microlearning strategy and the use of Instagram in the educational process, the study reached a set of analytical results that highlight the effectiveness of this approach in supporting modern education, especially at the secondary level.

It was found that microlearning represents one of the approaches most aligned with the characteristics of learners in the digital age, as it relies on presenting educational content in short, goal-specific units, which corresponds to the current attention patterns of learners, characterized by rapid interaction and preference for visual content. Literature has confirmed that this type of learning contributes to enhancing understanding and retaining information in the long term.

The analyses showed that Instagram provides an ideal environment for applying the principles of microlearning due to its interactive nature and its ability to present content in a visually appealing manner. Its features (such as stories, short videos, and interaction through comments) offer great opportunities for effective educational communication between teachers and students, which enhances collaborative learning and active engagement in the educational process.

The study confirmed that using the microlearning strategy through Instagram contributes to developing essential learning skills among high school students, such as self-learning, time management, problem-solving, and critical thinking. The short and direct content encourages

the learner to explore information independently, which reinforces research, analysis, and autonomy in learning.

The study showed that integrating microlearning with social media achieves a balance between formal and informal learning. Students can now learn anytime and anywhere, outside the traditional school framework, expanding the concept of education to encompass daily life as a whole. This reflects an educational shift toward flexible learning that relies on technology as a primary medium for knowledge.

The study concluded that the successful implementation of microlearning through digital platforms requires pedagogical awareness from teachers in designing short educational content that achieves learning objectives without compromising depth of understanding. It also requires institutional and legislative support from schools to adopt integrated digital education policies that encourage teachers to innovate pedagogically.

Based on the previous results, the study presents a set of theoretical and practical recommendations that may contribute to activating the microlearning strategy in secondary education through digital platforms, foremost among them Instagram:
Encouraging educational institutions and teachers to adopt the microlearning strategy in teaching academic subjects due to its clear impact on increasing motivation and improving students' learning skills.

Training teachers to design short and engaging educational content that aligns with the nature of the Instagram platform, while considering educational objectives and learners' levels.

Integrating social media into official educational plans as supportive tools for learning rather than substitutes for traditional education.
Developing students' digital awareness and guiding them toward the positive use of social platforms through structured educational activities.
Conducting future applied studies to measure the actual impact of the microlearning strategy across different platforms (such as TikTok or YouTube Shorts) and comparing it with learning outcomes achieved through Instagram.

Developing interactive digital educational content specifically designed for the secondary stage based on the principles of microlearning and built according to scientific foundations that consider learners' psychological and cognitive characteristics.

The contribution of this study lies in clarifying the effective role of the microlearning strategy through Instagram in developing learning skills among high school students by highlighting how the platform can be transformed from an entertainment tool into an interactive educational environment that supports self-learning and critical thinking. The study also provides a conceptual framework that helps teachers and educational institutions effectively employ micro-content in digital education. It further enriches Arabic educational literature on microlearning through social networks and offers practical recommendations that can be applied in developing modern teaching strategies.

References

Abd Al-Aleem Hassan, S., & Saleh, S. (2023). Scenario-based micro e-learning via social networks and its effect on developing open educational resource competencies and self-regulated learning among educational technology students. *Journal of Educational Technology and Sciences*.

Abu Sara, A. M. (2022). The reality of using social media and its impact on the continuity of distance education in light of the COVID-19 crisis from the perspective of students in Palestine. *The Islamic University Journal for Educational and Psychological Studies, 30*(1).

Ahmed, R. (2021). Microlearning through social media platforms: Impacts on students' learning retention. *Journal of Digital Learning and Education, 9*(2), 110–127.

Al-Harbi, F. S. (2020). The microlearning strategy and its effect on motivating learners in e-learning environments. *Saudi Educational Journal, 28*(4), 301–328.

Al-Khatib, M. R. (2023). The impact of employing microlearning through social media on developing self-learning skills among high school students. *Journal of Educational and Psychological Sciences, 11*(3), 221–250.

Al-Otaibi, S. M. (2021). The effectiveness of microlearning in developing critical thinking skills among high school students. *Journal of Educational Studies, 34*(2), 115–140.

Al-Qahtani, K. (2023). A meta-analysis of the impact of e-learning platforms on achieving some learning outcomes in Arab countries. *Journal of the Faculty of Education, Mansoura University*.

Al-Qarni, A. bin M. A. (2022). Obstacles to the use of social media in teaching Arabic at the secondary stage from the perspective of teachers in Jeddah. *The Arab Journal for Quality Education, 6*(22), 149–178.

Al-Zahrani, N. A. (2022). The use of Instagram in developing writing skills among high school students. *Umm Al-Qura University Journal for Educational and Psychological Sciences, 14*(1), 65–90.

Alonso, P. (2020). Microlearning as an innovative strategy for enhancing student engagement in digital environments. *International Journal of Educational Technology, 15*(3), 45–59.

Amouri, I., & Bin Weddad, K. (2024). The impact of social media on academic achievement among a sample of secondary school students. *The Scientific Journal for Technology and Disability Sciences, 6*(4), 69–84.

Fatani, H. A. R., & Al-Jundi, A. bint A. (2021). The reality of applying microlearning in education and learning: A systematic study. *The Peer-Reviewed Scientific Journal of the Egyptian Educational Computer Association, 9*(2), 561–590.

Othman, B. T. (2022). Factors influencing the adoption and use of e-learning: A comparative study between Saudi Arabia and the United States of America. *Journal of Educational Studies, 49*(2), 295–315.

Santos, L., & Rivera, J. (2019). The use of Instagram in higher education: A tool for visual learning and engagement. *Educational Media International, 56*(1), 1–15.

Talbi, N., & Rawaq, H. (2023). The reality of using social networking sites among secondary school students. *Algerian Journal of Research and Studies, 6*(1), 84–109.