


# Chapter 9

## The Synergy of Artificial Intelligence and Self-Regulated Learning Strategies in Enhancing Primary English Language Instruction

**Biao Xu**

 <https://orcid.org/0009-0009-3532-0171>

*Universiti Sains Malaysia, Malaysia*

**Luyang Zheng**

*Universiti Sains Malaysia, Malaysia*

### **ABSTRACT**

*This study delves into the symbiotic relationship between artificial intelligence (AI) and self-regulated learning (SRL) strategies within the context of primary school English instruction. It examines how AI tools can empower young learners to develop autonomous learning abilities. By seamlessly integrating AI technology into educational practices, educators are equipped to offer tailored feedback and create adaptive learning environments catered to individual student requirements. This approach fosters enhanced engagement and motivation among learners, while imparting the fundamental self-regulation skills crucial for successful language acquisition. The research underscores the transformative potential of AI in bol-*

DOI: 10.4018/979-8-3373-7508-3.ch009

Copyright © 2026, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited. Use of this chapter to train generative artificial intelligence (AI) technologies is expressly prohibited. The publisher reserves all rights to license its use for generative AI training and machine learning model development.

*stering self-directed learning in foundational education, thereby establishing a robust theoretical framework for more efficient and engaging English teaching and learning experiences.*

## **1. INTRODUCTION**

In today's rapidly evolving technological landscape, the education sector, particularly English language teaching, stands at a pivotal juncture marked by both immense promise and formidable challenges. A standout transformation is the influx of artificial intelligence (AI) into educational paradigms, revolutionizing teaching methodologies and enriching learning experiences. This integration is notably prominent in primary education, where AI has emerged as a game-changer. AI's prowess lies in its capacity to meticulously analyze students' learning habits, individual needs, and abilities. Through advanced algorithms, AI tailors learning paths that cater to each student's unique profile, fostering an environment conducive to Self-Regulated Learning (SRL). Real-time feedback mechanisms embedded within AI systems allow students to continuously assess their progress, adjust their strategies, and thereby enhance their autonomy in learning. Research conducted by Wei in 2023 underscores the significance of personalized support in nurturing students' SRL competencies, emphasizing AI's indispensable role in this respect. Beyond personalized learning paths, AI serves as a versatile reading companion for students. By suggesting appropriate reading materials based on individual interests and comprehension levels, AI not only augments extracurricular reading but also extends classroom instruction beyond traditional confines. Pan and his colleagues' research in 2024 underscores AI's potential to bridge the gap between formal education and informal learning, fostering a holistic development of reading skills. Moreover, AI empowers educators with innovative teaching methods, transforming the traditional language teaching landscape. Through AI-driven platforms and tools, educators can devise engaging lessons tailored to cater to diverse learning styles and capabilities. These innovations enrich the learning process, making it more interactive, immersive, and effective. Boudjedra and Khebbab's study in 2024 highlights the symbiotic relationship between innovative teaching practices powered by AI and the resultant improvement in students' SRL. As educators leverage AI to enhance their instruction, they inadvertently instill self-directed learning habits in their students, preparing them for a future defined by continuous learning and adaptation. In essence, the integration of AI into English language teaching at the primary level exemplifies the interplay between technology and education. By fostering personalized learning, augmenting extracurricular reading, and enabling innovative teaching methods, AI

28 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/the-synergy-of-artificial-intelligence-and-self-regulated-learning-strategies-in-enhancing-primary-english-language-instruction/392394](http://www.igi-global.com/chapter/the-synergy-of-artificial-intelligence-and-self-regulated-learning-strategies-in-enhancing-primary-english-language-instruction/392394)

## Related Content

---

### Algorithmic Bias, Discrimination, and Corporate Responsibility: Legal, Ethical, and Governance Perspectives

Mohanraj Subramanian, Honey Raj, Noreen Alexeena Dattaand Vimala Govindaraju (2026). *Rethinking Responsibility at the Intersection of AI and Corporate Liability* (pp. 213-236).

[www.irma-international.org/chapter/algorithmic-bias-discrimination-and-corporate-responsibility/409455](http://www.irma-international.org/chapter/algorithmic-bias-discrimination-and-corporate-responsibility/409455)

### The Future of Responsible Investment: AI, Automation, and Human Judgment

Rajesh Kumar, Chandra Prakash Pandeyand Hemang Upadhyay (2026). *AI and Automation in Green Investment Platforms: Next-Generation ESG* (pp. 271-288).

[www.irma-international.org/chapter/the-future-of-responsible-investment/409018](http://www.irma-international.org/chapter/the-future-of-responsible-investment/409018)

### Framework for Circular Economy Industrial Cluster Ecosystems to Evaluate the Sustainability of ESG Performance

Sandhya Singh, Mohammad Irfan, Ankita Saxenaand Aliyu Dahiru Muhammad (2024). *Issues of Sustainability in AI and New-Age Thematic Investing* (pp. 240-255).

[www.irma-international.org/chapter/framework-for-circular-economy-industrial-cluster-ecosystems-to-evaluate-the-sustainability-of-esg-performance/342453](http://www.irma-international.org/chapter/framework-for-circular-economy-industrial-cluster-ecosystems-to-evaluate-the-sustainability-of-esg-performance/342453)

### The Concept of [Robot] in Children and Teens: Some Guidelines to the Design of Social Robots

João Sequeiraand Isabel Ferreira (2014). *International Journal of Signs and Semiotic Systems* (pp. 43-57).

[www.irma-international.org/article/the-concept-of-robot-in-children-and-teens/127094](http://www.irma-international.org/article/the-concept-of-robot-in-children-and-teens/127094)

### Supporting Text Retrieval by Typographical Term Weighting

Lars Wernerand Stefan Böttcher (2007). *International Journal of Intelligent Information Technologies* (pp. 1-16).

[www.irma-international.org/article/supporting-text-retrieval-typographical-term/2415](http://www.irma-international.org/article/supporting-text-retrieval-typographical-term/2415)