

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

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Abstract

This study examined the effect of supplementary reading materials on the development of strategic reading skills among Kurdish undergraduate EFL learners. The present study adopted a pre-test–post-test control group design to investigate the role of supplementary reading materials in enhancing skimming and scanning strategies among 155 Kurdish undergraduate EFL learners. Data were analyzed using paired-samples t-tests and analysis of covariance (ANCOVA). While both the control and experimental groups showed significant improvement over time, the experimental group demonstrated greater gains in reading strategy performance. The ANCOVA results revealed a statistically significant group effect on post-test scores after controlling for initial reading ability, indicating that supplementary materials contributed to improved strategic reading development beyond regular instruction. Gender-related analyses were treated as exploratory and did not reveal statistically significant differences. The findings highlight the instructional value of integrating supplementary materials into EFL reading courses to support the development of strategic reading skills.

Keywords: *Supplementary reading materials; Strategic reading skills; EFL learners; Reading strategies; Experimental study*

Introduction

Reading comprehension is a central component of second and foreign language learning, particularly in academic contexts where learners are required to process large volumes of written information efficiently (Edele & Stanat, 2016). Beyond basic decoding, effective reading involves the strategic construction of meaning through interaction between the reader, the text, and the task at hand. Within this framework, reading strategies such as skimming (reading for general meaning) and scanning (searching for specific information) are essential for academic success, as they enable learners to manage time constraints and information overload while maintaining comprehension accuracy (Pikulski & Chard, 2005).

Contemporary theories of reading emphasize that comprehension is not a passive process but an active, interactive, and strategic activity. Interactive models of reading posit that comprehension emerges from the simultaneous operation of bottom-up processes (e.g., word recognition and syntactic decoding) and top-down processes (e.g., background knowledge, expectations, and purpose for reading) (Dechant, 2013). From this perspective, learners continuously adjust their reading behavior depending on task demands, text type, and instructional support. Skimming and scanning, therefore, are not peripheral skills but integral components of interactive reading, allowing learners to flexibly shift between global and selective processing of texts (Graesser, 2007).

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S.Hasib

Closely related to interactive reading is the metacognitive view of reading comprehension, which highlights learners' awareness and regulation of their cognitive processes. Metacognitive reading theory suggests that skilled readers plan how to approach a text, monitor their understanding during reading, and evaluate the effectiveness of the strategies they employ (Haas & Flower, 1988). Skimming and scanning are inherently metacognitive strategies, as they require readers to consciously select an approach based on reading purpose, evaluate whether relevant information has been located, and adjust strategies when comprehension goals are not met. Instruction that explicitly supports these strategies can therefore enhance learners' metacognitive control over reading (Ari, 2017).

Despite the recognized importance of reading strategies, classroom instruction—particularly in EFL contexts—often relies heavily on textbooks, which may not provide sufficient opportunities for strategic practice. Textbooks frequently prioritize comprehension questions over strategy training and may lack variety in text types and task formats. As a result, learners may develop limited flexibility in applying skimming and scanning skills across different academic texts. Supplementary materials, when carefully selected and aligned with learners' proficiency levels, have the potential to address these limitations by offering targeted practice, diverse genres, and strategy-focused tasks that reinforce both interactive and metacognitive aspects of reading (Wang, 2016).

In the context of the Kurdistan Region of Iraq, these challenges are particularly pronounced. Although English is taught throughout secondary and higher education, students often encounter difficulties in reading comprehension at the university level, where English serves as the primary medium of instruction. Factors such as large class sizes, limited instructional time, and inconsistent implementation of communicative methodologies further constrain opportunities for explicit strategy instruction. While prior studies in the region have examined general reading comprehension or learners' perceptions of reading strategies, empirical research that isolates the effect of supplementary materials on specific strategies such as skimming and scanning remains scarce.

To address this gap, the present study adopted a pre-test–post-test control group design to investigate the role of supplementary reading materials in enhancing skimming and scanning strategies among 105 Kurdish undergraduate EFL learners. Grounded in interactive and metacognitive theories of reading, the study examines whether structured exposure to additional, CEFR-aligned texts with explicit strategy-focused tasks leads to measurable improvements in learners' reading performance. In addition, given the mixed findings in the literature regarding gender differences in reading comprehension, the study explores whether the impact of supplementary materials varies by gender.

By providing empirical evidence from an under-researched educational context, this study contributes to the growing body of research on strategy-based reading instruction. Its findings aim to inform EFL teachers, curriculum designers, and policymakers about the pedagogical value of integrating supplementary materials to support strategic reading development, particularly in resource-constrained higher education settings. Thus, the researcher attempts to answer the following research questions to achieve the objectives of the study:

1. Do Kurdish undergraduate EFL learners demonstrate significant improvement in reading strategies performance from pre-test to post-test within the control and experimental groups?
2. Does the use of supplementary reading materials significantly improve Kurdish undergraduate EFL learners' reading strategies performance compared to regular instruction when controlling for initial reading ability?
3. Are there gender-based differences in reading strategies performance among Kurdish undergraduate EFL learners before and after instruction?

1. Review of Literature

1.1. Theoretical Perspectives on Reading Comprehension

Reading comprehension is widely recognized as a complex cognitive and linguistic process that extends beyond word recognition to include meaning construction, interpretation, and evaluation of texts. In second and foreign language contexts, successful reading requires learners to actively engage with texts by integrating linguistic knowledge, background knowledge, and reading purpose (Ahmed & Ariannejad, 2025; Pearson & Cervetti, 2015; Sadoski, 2018). Scholars have emphasized that reading is not merely a receptive skill but a dynamic process involving multiple levels of understanding.

Early conceptualizations of reading comprehension describe it as progressing through different stages. Elleman and Oslund (2019) identifies three major levels of comprehension: literal, referential, and critical. Literal comprehension involves understanding explicitly stated information, whereas referential comprehension requires readers to infer implicit meanings and relationships. At the critical level, readers evaluate the text, assess the author's intentions, and form judgments. These stages highlight the increasing cognitive demands placed on learners as they move from surface-level understanding to deeper interpretation.

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S.Hasib

From a theoretical standpoint, reading models have evolved considerably. Bottom-up models emphasize the decoding of linguistic units, beginning with letters and sounds and progressing toward words and sentences (Diasuti et al., 2024). While this model explains early decoding processes, it has been criticized for underestimating the role of readers' prior knowledge. In contrast, top-down models view reading as a meaning-driven process in which learners actively use background knowledge, expectations, and contextual clues to interpret texts (Kendeou & O'Brien, 2017; Saeid, 2024). However, reliance on either model alone has been shown to be insufficient.

As a response, interactive models of reading propose that comprehension results from the simultaneous interaction of bottom-up and top-down processes (Dambacher, 2010). Readers continuously shift between decoding textual information and activating prior knowledge depending on task demands. Within this framework, reading strategies such as skimming and scanning are essential, as they allow learners to adjust their reading behavior according to purpose—global understanding or selective information retrieval.

Complementing interactive models is the metacognitive perspective, which emphasizes readers' awareness and regulation of their cognitive processes (Mohammed, 2023; Varga, 2017). Metacognitive reading involves planning how to approach a text, monitoring comprehension during reading, and evaluating strategy effectiveness afterward. Skimming and scanning are inherently metacognitive strategies because they require conscious selection of reading approaches based on task objectives. From this perspective, instruction that explicitly supports these strategies can enhance learners' strategic control and reading efficiency (Baker & Beall, 2014; Phimthong et al., 2024).

Together, interactive and metacognitive theories provide a strong conceptual foundation for examining how instructional interventions—such as supplementary materials—can facilitate the development of specific reading strategies.

1.2. Supplementary Materials in EFL Reading Instruction

Effective reading instruction depends not only on theoretical principles but also on the quality and variety of instructional materials. Although textbooks remain central to EFL classrooms, they often provide limited opportunities for explicit strategy training or flexible engagement with diverse text types. Consequently, supplementary materials have been widely advocated as a means of enriching reading instruction and addressing learners' individual needs (Abbasi et al., 2015; Abdalkareem & Ahmed, 2025; Reis et al., 2007).

Supplementary materials may include visual, audio, audiovisual, and authentic resources that complement textbook content (Erfiani et al., 2019). These materials can enhance learner engagement by exposing students to varied genres and real-world language use while supporting different learning styles. Bajrami (2020) emphasizes that effective supplementary materials should be carefully selected according to learners' proficiency level, interests, and instructional goals rather than used arbitrarily.

From a pedagogical perspective, supplementary materials play a critical role in strategy-based reading instruction. Noho et al. (2018) argues that explicit instruction in reading strategies is essential for comprehension development, yet many teachers lack adequate training or resources to implement such instruction effectively. Supplementary materials can address this gap by offering targeted practice activities that focus on specific skills, including skimming and scanning.

Research has also highlighted the value of authentic materials in language learning. Authentic texts such as emails, advertisements, and short informational texts expose learners to natural language use and meaningful contexts, thereby supporting communicative competence (Subich et al., 2016). Although such materials are not originally designed for pedagogical purposes, they can enhance learners' motivation and confidence when integrated systematically into instruction (Gilmore, 2007).

Despite these advantages, the effectiveness of supplementary materials depends on how they are integrated into instruction. Merely adding extra texts without clear strategy-focused tasks may not lead to significant learning gains. This highlights the need for empirical studies that examine not only whether supplementary materials are used, but how they contribute to the development of specific reading strategies.

1.3. Empirical Studies on Reading Strategies and Supplementary Materials

A substantial body of research has investigated reading comprehension and strategy use among EFL learners. Research focusing on reading strategies such as skimming and scanning has consistently demonstrated their positive impact on reading comprehension. Mariam (2016) showed that explicit instruction in skimming and scanning significantly improved EFL students' comprehension performance. Similarly, Azmi et al. (2020) reported that supplementary materials enhanced undergraduate EFL learners' skimming and scanning skills as well as reading speed.

Studies on supplementary reading materials have also reported positive outcomes. Arwuttawin and Porkaew (2018) found that extensive reading materials improved Thai EFL learners' reading comprehension. They explored the use of news articles as supplementary reading materials in EFL contexts and reported generally positive learner attitudes toward their instructional value. The findings of their study indicate that authentic news texts enhance learners' vocabulary development and reading comprehension while providing engaging, up-to-date content and cultural insights. These results

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S. Hasib

suggest that news articles can serve as effective supplementary resources for promoting motivation and meaningful reading experiences in EFL classrooms. However, these studies primarily focused on general reading proficiency, extensive reading, or learner attitudes rather than isolating specific strategies such as skimming and scanning within a controlled experimental framework.

Regarding gender-based differences, several studies report no significant gender differences in overall reading comprehension (Ahmadi & Mansoordehghan, 2012), while others suggest that female learners may outperform males due to cognitive or sociocultural factors (Granocchio et al., 2023; Ngongare et al., 2021). Conversely, Acar-Erdol and Akin-Arikan (2022) found that male students had higher metacognitive reading strategies and achieved higher comprehension scores than female students. These mixed findings suggest that gender effects remain inconclusive and warrant further investigation, particularly in relation to specific reading strategies.

In the Kurdistan Region of Iraq, research has largely explored learners' perceptions and reported strategy use (Mohammed & Hasan, 2023), revealing that students often lack systematic strategy application despite awareness of techniques such as skimming and scanning. Empirical studies that experimentally examine the strategy-specific impact of supplementary materials in this context remain limited.

Although previous studies such as Othman (2017) and Muhammed (2016), have demonstrated the general effectiveness of supplementary materials in improving reading performance, they do not sufficiently explain how such materials contribute to the development of specific reading strategies within a clear theoretical framework. Moreover, limited attention has been given to metacognitive and interactive explanations of strategy development, gender-based effects, and underrepresented EFL contexts such as the Kurdistan Region of Iraq.

2. Methodology

2.1. Design of the study

The present study employed a quantitative experimental pre-test/post-test control group design to examine the impact of supplementary materials on undergraduate Kurdish EFL students' reading strategies—skimming and scanning. This design is widely used in applied linguistics research to determine causal relationships between instructional interventions and learning outcomes (Dörnyei & Csizér, 2012).

2.2. Population

The participants of the study were 155 freshmen undergraduate EFL students at a public university in Sulaymaniyah, Iraq. Two intact classes were selected using targeted sampling, with one class assigned as the experimental group and the other as the control group, forming a quasi-experimental pre-test–post-test control group design. The participants from the control group were 65 students comprising (20 male and 45 female), and the participants from the experimental group were 90 students (35 male and 55 female). The gender distribution among the participants was uneven (55 males and 100 females), reflecting natural enrollment patterns rather than intentional sampling. For this reason, gender-based comparisons were interpreted with caution and treated as exploratory, while the primary focus of the study remained on the instructional effects of supplementary materials.

During the semester, both groups followed the same core reading curriculum taught by the same instructor. In addition to textbook instruction, the experimental group received supplementary CEFR A2–level reading texts (150–200 words) selected from the British Council Learn English and designed to explicitly practice reading strategies. The control group received regular instruction without supplementary materials.

2.3. Data Collection Procedure

Prior to data collection, informed consent was obtained from both the participating undergraduate students and the relevant academic departments. Data was collected using a controlled pretest-posttest experimental design over a 12-week period. To determine the participants' starting reading comprehension skills, a pre-test was given at the start of the study. Two texts from the British Council's official website that were classified as A2-level reading materials by the Common European Framework of Reference for Languages (CEFR) were included in the pre-test. These texts were picked because they were known to be reliable indicators of reading proficiency and because they matched the participants' level of proficiency.

Following the pre-test, the experimental group was given weekly extra reading materials on top of their usual curriculum. These extra documents were also acquired from the British Council and included a variety of text kinds, including emails, pamphlets, advertisements, and short paragraphs. Each text featured tasks aimed at scanning (finding specific information) and skimming (identifying key concepts). The texts were carefully selected to match the participants' level of competency, with word counts ranging from 150 to 200 to guarantee consistency and appropriate complexity.

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S.Hasib

The instructor gave an overview of each text, clarified the assignments, and helped the students do them in the allotted time. Without any extra resources, the control group carried on with their usual lesson.

To assess how the extra materials affected the experimental group's reading abilities, a post-test was administered at the conclusion of the 12-week period. Different A2-level texts, again from the British Council, were utilized for the post-test to prevent familiarity with the pre-test materials while preserving validity and uniformity in difficulty level. The post-test had two texts with two tasks each, and it took 40-45 minutes to complete, much as the pre-test. The post-test texts had a word count of between 150 and 200. Short-answer, matching, and multiple-choice questions were all included in the same format as the pre-test.

A pilot test with a small group of students at a similar proficiency level before the main study was conducted, and the CEFR criteria were consulted to confirm the consistency of the pre-test and post-test in terms of difficulty level.

Prior to the main study, a pilot test was conducted with a small group of EFL students at a similar proficiency level who were not included in the final sample. The purpose of the pilot was to assess the clarity of instructions, appropriateness of text difficulty, feasibility of time limits, and functionality of the skimming and scanning tasks. Findings from the pilot led to minor revisions in task wording, text length, and time allocation. These refinements helped ensure that the instruments and procedures were suitable for the target population and enhanced the internal validity of the experimental design.

Overall, the pre-test/post-test experimental design was selected to allow for systematic measurement of learning gains attributable to the use of supplementary materials while maintaining methodological rigor and instructional consistency across groups.

2.4. Data Analysis Procedure

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 27.0. Descriptive statistics were first computed to summarize participants' performance on the pre-test and post-test. Paired-samples t-tests were conducted to examine within-group changes in reading strategies performance from pre-test to post-test for both the control and experimental groups. Independent-samples t-tests were used to explore gender-based differences in reading performance.

To provide a more robust comparison between the control and experimental groups and to control for potential baseline differences, an analysis of covariance (ANCOVA) was conducted with post-test scores as the dependent variable, group (control vs. experimental) as the fixed factor, and pre-test scores as the covariate. Prior to conducting ANCOVA, assumptions of normality, linearity, homogeneity of variances, and homogeneity of regression slopes were examined and found to be satisfied. Effect sizes were reported using partial eta squared (η^2) to indicate the magnitude of observed effects.

3. Results and Discussion

3.1. Within-Group Pre-test and Post-test Comparisons

To examine within-group changes in reading strategies such as skimming and scanning performance over the instructional period, paired-samples t-tests were conducted for both the control and experimental groups by comparing pre-test and post-test scores.

Table 1. Paired-Samples t-Test Results for Pre- and Post-Test Reading Strategy Scores

Group	Pre-test M	Post-test M	t(df)	p	Cohen's d
Control	70.06	75.22	-2.69 (64)	.009	.33
Experimental	64.37	76.21	-6.25 (89)	<.001	.66

Paired-samples t-tests were conducted to examine within-group changes in reading strategy performance (skimming and scanning) from pre-test to post-test for both the control and experimental groups. These within-group analyses are reported for descriptive purposes and to illustrate patterns of improvement over time.

As shown in Table 1, the control group demonstrated a statistically significant improvement from pre-test (M = 70.06) to post-test (M = 75.22), $t(64) = -2.69$, $p = .009$. The magnitude of this improvement was small to moderate, as indicated by Cohen's $d = .33$, suggesting that regular instruction alone led to modest gains in reading strategy performance.

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S.Hasib

The experimental group showed a more pronounced improvement. The paired-samples t-test revealed a significant increase from pre-test ($M = 64.37$) to post-test ($M = 76.21$), $t(89) = -6.25$, $p < .001$. The effect size for this group was moderate (Cohen's $d = .66$), indicating a substantially stronger improvement in reading strategy performance such as skimming and scanning following exposure to supplementary materials.

Overall, while both groups demonstrated statistically significant gains over time, the experimental group achieved greater improvement with a larger effect size. This pattern suggests that supplementary materials may enhance the development of skimming and scanning strategies beyond what can be achieved through regular instruction alone. These findings are consistent with previous research such as Othman (2017), highlighting the positive role of supplementary reading materials in fostering strategic reading skills among EFL learners.

3.2. Effect of Supplementary Materials on Skimming and Scanning Performance

To examine the effect of supplementary materials on post-test skimming and scanning performance while controlling for pre-test differences, an analysis of covariance (ANCOVA) was conducted.

Table 2. Analysis of Covariance (ANCOVA) for Post-Test Skimming and Scanning Scores

Source	df	F	p	Partial η^2
Pre-test (covariate)	1, 117	86.63	< .001	.43
Group (Control vs. Experimental)	1, 117	3.96	.049	.03

Table 2 presents the results of Covariance (ANCOVA) for post-test to examine the effect of supplementary materials on students' skimming and scanning performance while controlling for initial differences in reading ability with post-test scores as the dependent variable, group (control vs. experimental) as the fixed factor, and pre-test scores as the covariate. Preliminary analyses confirmed that the assumptions of ANCOVA were met.

As shown in Table 2, the ANCOVA revealed a statistically significant main effect of group on post-test skimming and scanning scores after adjusting for pre-test performance, $F(1, 117) = 3.96$, $p = .049$, partial $\eta^2 = .03$. This result indicates that students in the experimental group, who received supplementary materials, outperformed those in the control group even when initial reading ability was taken into account.

The covariate, pre-test score, was also a significant predictor of post-test performance, $F(1, 117) = 86.63$, $p < .001$, partial $\eta^2 = .43$, suggesting that baseline reading ability strongly influenced post-intervention outcomes. Nevertheless, the significant group effect demonstrates that the observed improvement cannot be attributed solely to initial proficiency and provides empirical support for the instructional value of supplementary materials in enhancing skimming and scanning skills.

Gender was not included as a factor in the ANCOVA due to the unequal gender distribution across groups; therefore, gender-related findings were examined separately and treated as exploratory, as reported in Section 4.1.

The ANCOVA results provide further evidence that supplementary materials contribute positively to the development of skimming and scanning skills, even after controlling for learners' initial reading ability. This finding is consistent with earlier research demonstrating the effectiveness of additional reading resources in enhancing strategy-based reading comprehension among EFL learners. For example, Muhammed (2016) found that exposure to supplementary and extensive reading materials significantly improved Iranian undergraduate students' skimming and scanning performance. Similarly, Othman (2017) reported that students who received additional reading materials outperformed their peers in both reading speed and strategy use. The present study extends these findings by confirming the instructional value of supplementary materials within a controlled experimental framework and by statistically accounting for baseline proficiency through ANCOVA.

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S.Hasib

3.3. Gender-Based Differences in the Control and Experimental Groups

Gender-based differences in skimming and scanning performance were examined as a secondary and exploratory analysis. Given the unequal gender distribution across groups—particularly the small number of male participants in the control group—these findings should be interpreted with caution.

Independent samples t-tests indicated that no statistically significant gender differences were observed in the control group on either the pre-test or the post-test. Similarly, in the experimental group, male and female students did not differ significantly in their pre-test or post-test performance. Although female students obtained slightly higher mean scores in both groups, these differences were not statistically significant.

Importantly, both male and female students in the experimental group demonstrated improvement from pre-test to post-test following exposure to the supplementary materials, suggesting that the instructional intervention benefited learners regardless of gender. These findings indicate that gender did not play a determining role in the development of reading strategies such as skimming and scanning skills in the present study.

This pattern is consistent with previous research reporting no significant gender differences in reading strategy development among EFL learners (Acar-Erdol & Akin-Arikan, 2022; Ahmadi & Mansoordehghan, 2012). Consequently, gender-related results are treated as exploratory, and the primary conclusions of the study are based on the group-level intervention effects confirmed by the pre-test and post-test comparison.

Conclusions

This study investigated the role of supplementary materials in enhancing reading strategy—skimming and scanning—among Kurdish undergraduate EFL learners using a pre-test/post-test quasi-experimental design. The findings showed that both the control and experimental groups demonstrated significant improvement over time; however, learners who received supplementary materials achieved greater gains. The ANCOVA results further confirmed that the experimental group outperformed the control group on post-test performance even after controlling for initial reading ability, indicating that the observed improvement was not attributable solely to baseline proficiency. Gender-related analyses were treated as exploratory and did not reveal statistically significant differences.

From a pedagogical perspective, these findings suggest that supplementing regular reading instruction with targeted materials can enhance learners' strategic reading skills, particularly skimming and scanning. While conventional instruction may support gradual improvement, the addition of strategy-focused texts appears to facilitate more efficient development of these skills, which are essential for academic reading tasks in EFL contexts.

Based on the evidence, it is recommended that EFL instructors integrate supplementary reading materials that explicitly target reading strategies such as skimming and scanning into their reading courses. Such materials should be aligned with learners' proficiency levels and accompanied by clear task instructions to maximize their effectiveness. Curriculum designers and educators may consider incorporating short, authentic texts as complementary resources to support strategy-based reading instruction.

Despite these contributions, the study was limited by its relatively short intervention period and the use of intact classes, as well as an uneven gender distribution. Future research may employ longer instructional durations, more balanced samples, and alternative analytical approaches to further explore the impact of supplementary materials on reading strategy development.

References

- Abbasi, Z., Azizifar, A., Gowhary, H., & Heidari, M. (2015). The effect of supplementary materials on reading comprehension improvement of Iranian female high school EFL learners based on Gaj and Khate Sefid text books. *Advances in Language and Literary Studies*, 6(4), 179-184.
- Abdalkareem, S. K., & Ahmed, A. A. (2025). Enhancing primary school students' spelling proficiency through orthographic activities. *GADING (Online) Journal for the Social Sciences*, 28(1), 123-131.
- Acar-Erdol, T., & Akin-Arikan, Ç. (2022). Gender gap in reading achievement: The mediating role of metacognitive strategies and reading-related attitudes. *Social Psychology of Education*, 25(2), 537-566.
- Ahmadi, A., & Mansoordehghan, S. (2012). Comprehending a non-text: A study of gender-based differences in EFL reading comprehension. *Journal of Language Teaching & Research*, 3(4).
- Ahmed, A., & Ariannejad, A. (2025). An empirical study of digital literacy among Iraqi Kurdish EFL teachers. *Applied Research on English Language*, 14(1), 81-106.
- Ari, G. (2017). Basic concepts of reading instruction. *International Journal of Languages' Education and Teaching*, 5(4), 484-503.

The effects of supplementary reading materials on the strategic reading skills of EFL students: an experimental study

A. Ahmed, D. J. Hama Saeed & S.Hasib

- Arwuttawin, P., & Porkaew, K. (2018). *The attitudes of Thai undergraduate students towards the use of news articles as supplementary English reading materials*. An independent study of Master of Arts in Career English for International communication, Language Institute, Thammasat University.
- Azmi, A., Yusra, K., & Arifuddin, A. (2020). *The effect of skimming and scanning strategies on students' reading comprehension at computer-based text*. In Proceedings of the 1st Annual Conference on Education and Social Sciences (ACCESS 2019) (Advances in Social Science, Education and Humanities Research). Atlantis Press. <https://doi.org/10.2991/assehr.k.200827.019>
- Bajrami, M. (2020). The use of supplementary materials for teaching high school students in EFL. *ANGLISTICUM. Journal of the Association-Institute for English Language and American Studies*, 9(11), 10-16.
- Baker, L., & Beall, L. C. (2014). *Metacognitive processes and reading comprehension*. In *Handbook of research on reading comprehension* (pp. 397-412). Routledge.
- Dambacher, M. (2010). *Bottom-up and top-down processes in reading: Influences of frequency and predictability on event-related potentials and eye movements* (Vol. 1). Universitätsverlag Potsdam.
- Dechant, E. (2013). *Understanding and teaching reading: An interactive model*. Routledge.
- Diastuti, K., Diani, R., Saregar, A., Anugrah, A., & Fitri, M. R. (2024). Blended project-based learning model on 21st century skills: A qualitative content analysis. *Journal of Philology and Educational Sciences*, 3(1), 58-71.
- Dörnyei, Z., & Csizér, K. (2012). How to design and analyze surveys in second language acquisition research. *Research methods in second language acquisition: A practical guide*, 1, 74-94.
- Edele, A., & Stanat, P. (2016). The role of first-language listening comprehension in second-language reading comprehension. *Journal of Educational Psychology*, 108(2), 163.
- Elleman, A. M., & Oslund, E. L. (2019). Reading comprehension research: Implications for practice and policy. *Policy insights from the behavioral and brain sciences*, 6(1), 3-11.
- Erfiani, N. N., Ngadiso, N., & Suparno, S. (2019). Developing supplementary reading materials for grade 11 students at a multimedia study program. *Studies in English Language and Education*, 6(1), 13-25.
- Gilmore, A. (2007). Authentic materials and authenticity in foreign language learning. *Language teaching*, 40(2), 97-118.
- Graesser, A. C. (2007). An introduction to strategic reading comprehension. *Reading comprehension strategies: Theories, interventions, and technologies*, 2579, 3-26.
- Granocchio, E., De Salvatore, M., Bonanomi, E., & Sarti, D. (2023). Sex-related differences in reading achievement. *Journal of neuroscience research*, 101(5), 668-678.
- Haas, C., & Flower, L. (1988). Rhetorical reading strategies and the construction of meaning. *College Composition & Communication*, 39(2), 167-183.
- Kendeou, P., & O'Brien, E. J. (2017). *Reading comprehension theories: A view from the top down*. In *The Routledge handbook of discourse processes* (pp. 7-21). Routledge.
- Mariam, S. (2016). Improving Students'sâ€™ Skimming and Scanning in Reading Skill by Applying Metacognitive Strategy. Indonesian EFL Journal: *Journal of ELT, Linguistics, and Literature*, 2(1), 70-80.
- Mohammed, B. J. (2023). An exploration of the key differences between written and spoken language through the linguistic evaluation. *Journal of Philology and Educational Sciences*, 2(2), 46-54.
- Mohammed, S., & Hasan, F. (2023). Investigating Kurdish EFL students' speed reading and reading comprehension levels at the university of duhok. *Humanities Journal of University of Zakho*, 11(3), 643-652.
- Muhammed, S. J. (2016). Developing vocabulary strategies among Kurdish EFL students of English as a foreign language. *Book of Proceeding*, 520.
- Ngongare, G., Samalo, N., & Rettob, A. (2021). The influence of gender on reading comprehension. *Journal of English Language and Literature Teaching*, 5(2).
- Noho, H., Fatsah, H., & Talib, R. (2018). Developing supplementary English reading materials for vocational high school. *International Journal of Humanities and Innovation (IJHI)*, 1(2), 39-45.
- Othman, H. G. (2017). Examining language learning strategies used by Kurdish monolingual (Kurdish) and bilingual (Kurdish-Arabic) speakers as EFL learners. *Humanities Journal of University of Zakho*, 5(3), 873-881.
- Pearson, P. D., & Cervetti, G. N. (2015). Fifty years of reading comprehension theory and practice. *Research-based Practices for Teaching Common Core Literacy*, 22, 1-24.
- Phimthong, T., Nuangchalem, P., Thumsiriwat, J., Dostál, J., & Wongtiantkul, W. (2024). Experimental science skills of 9th-Grade students through Inquiry-Based Learning. *Journal of Philology and Educational Sciences*, 3(2), 14-22.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher*, 58(6), 510-519.
- Reis, S. M., McCoach, D. B., Coyne, M., Schreiber, F. J., Eckert, R. D., & Gubbins, E. J. (2007). Using planned enrichment strategies with direct instruction to improve reading fluency, comprehension, and attitude toward reading: An evidence-based study. *The Elementary School Journal*, 108(1), 3-23.
- Sadoski, M. (2018). Reading comprehension is embodied: Theoretical and practical considerations. *Educational Psychology Review*, 30(2), 331-349.
- Saeid, S. F. (2024). Using peer interaction to improve listening and speaking skills in secondary EFL context. *Journal of Philology and Educational Sciences*, 3(2), 23-37.

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A. Ahmed, D. J. Hama Saeed & S.Hasib

- Subich, V. G., Shangaraeva, L. F., & Zakirova, L. R. (2016). Improvement of the English language communicative competencies by means of authentic texts. *Journal of Language and Literature*, 7(2), 257-261.
- Varga, A. (2017). Metacognitive perspectives on the development of reading comprehension: a classroom study of literary text-talks. *Literacy*, 51(1), 19-25.
- Wang, Y.-H. (2016). Reading strategy use and comprehension performance of more successful and less successful readers: A think-aloud study. *Educational Sciences: Theory and Practice*, 16(5), 1789-1813.