

The Impact of Self-Regulated Strategy Development on Enhancing Saudi Female English majors' Reading Comprehension Skills and Self-Efficacy

Ashwaq A. Alreshoud

College of Languages and translation,
Al-Imam Mohammed Ibn Saud Islamic University, Riyadh, Saudi Arabia
Corresponding Author: aaalrehoud@imamu.edu.sa

Safaa M. Abdelhalim

College of Languages and translation
Al-Imam Mohammed Ibn Saud Islamic University, Riyadh, Saudi Arabia

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Abstract

The present study investigated the impact of self-regulated strategy development reading intervention on improving Saudi female English majors' reading skills and reading self-efficacy. The study is significant with respect to its implication for the pedagogy of English as a foreign/second language that hopefully may broaden insights into the self-regulated reading process and reading self-efficacy among Saudi female university students. The study addressed three main research questions: (1) What is the effect of self-regulated strategy development on enhancing first-year Saudi female English majors' reading comprehension skills? (2) What is the impact of self-regulated strategy development on enhancing first-year Saudi female English majors' reading self-efficacy? (3) What is the relationship between enhancing students' reading comprehension skills and reading self-efficacy? Based on the quasi-experimental design, two intact classes of first-year EFL English majors at the college of languages and Translation, Imam University, were randomly assigned into two groups (control and experimental). The experimental group students (N=40) were taught using the self-regulated strategy development, while the control group (N=40) students were taught using the traditional teaching method. The research data were collected from two equivalent reading comprehension tests (pre-and post-tests) and a reading self-efficacy scale. The results revealed statistically significant differences between the two groups' mean scores on the post-tests in favor of the experimental group. Results also indicated an enhancement in the experimental group students' reading comprehension skills and subskills, and reading self-efficacy. Pedagogical implications for reading instruction and recommendations for future studies are discussed.

Keywords: Metacognitive strategies, reading comprehension skills, reading self-efficacy, Saudi English majors, self-regulated learning, self-regulated strategy development

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Introduction

Reading comprehension is a primary academic skill for university students. In most academic subject areas, success is conditioned by students' ability to read, understand what has been read, and then apply the content to future learning (Bastug, 2014). Similarly, in English as a second/foreign language (ESL/EFL) learning contexts, reading is viewed as a superior and complementary skill (Hermida, 2009). Second Language (L2) undergraduate students, throughout their academic study, are exposed to a myriad of reading texts which are sometimes beyond their proficiency level. However, L2 and subject matter teachers, more often than not, work with the false assumption that students possess the necessary cognitive and meta-cognitive strategies to cope with the comprehension difficulties they face. Hence, students hardly ever receive the assistance they desperately need (Levine, Ferenz & Reves, 2000). Inevitably, such a view has resulted in students experiencing reading comprehension gaps, as represented in their inability to adequately answer questions testing their deep assimilation of the text content; Thus, unequipped with the necessary reading strategies, L2 learners tend to nurture negative perspectives toward reading comprehension activities (Ehlers-Zavala, 2005).

In this vein, Self-Regulated Learning (SRL) strategies have been proposed to be among the significant factors in enhancing reading ability, especially when figuring out the intended meaning of expository content (Kumi-Yeboah, 2012). According to Davis and Gray (2007), the ability to comprehend a text thoroughly is conditioned by using adequate SRL strategies, including setting goals before reading, monitoring, and adjusting the reading performance to meet these goals. Moreover, one's awareness and monitoring of his/her comprehension process have been classified as two crucial aspects of a successful reading process (Do & Phan, 2021). These two aspects are pertained to metacognition, which can be conceptualized "as the knowledge of the reader's cognition about reading and the self-control mechanisms they exercise when monitoring and regulating text comprehension" (Mokhtari & Reichard, 2002, p. 250). Even though, the reality of L2 classroom instruction has revealed a noticeable gap in reading performance between those who are achieving as expected and those who seem uninvolved in the reading act, despite being exposed to meta-cognitive monitoring instruction (Ruddell & Unrau, 2004). This raises questions about whether other factors relevant to the reader himself might be at play (Vaughn, Klingner & Bryant, 2001). In this vein, self-efficacy has been highlighted as a significant factor in mastering the reading comprehension skill (Ghonsooly & Ghanizadeh, 2013; Waleff, 2010).

In the Saudi EFL context, research has identified many reading challenges and difficulties Saudi students encounter. These difficulties have been attributed to dominant teaching practices such as unsupportive learning environments, a lack of explicit strategy-based instruction, and the adoption of a teacher-centered approach (Al-Qahtani, 2016; Alenezi, 2021). Other contributing factors relate to students' characteristics, such as lack of knowledge and practice of adequate strategies necessary for managing their reading comprehension process and lack of enthusiasm and motivation for reading (Alsamadani, 2009; Awad, 2002). Accordingly, the present study sought to investigate the impact of SRSD on developing reading comprehension skills and reading self-efficacy of Saudi female students majoring in English.

The present study is significant for its contribution to the Saudi 2030 vision that focuses on preparing female university graduates who possess learning strategies that help them to be

autonomous and life-long learners, which is the essence of utilizing SRSD. This study is also significant with respect to its implication for EFL/ESL pedagogy. Hopefully, it may broaden insights into the self-regulated reading process and reading self-efficacy among female university students. Additionally, the findings of the present study can contribute to L2 reading strategy research by exploring the cognitive-based nature of self-regulated reading processes. It can also provide reading instructors with evidence-based metacognitive self-regulated reading strategies correlated with skilled reading comprehension. Thus, instructors can plan for and employ adequate teaching and learning tasks to support their students' reading comprehension and reading self-efficacy. The study addressed three main research questions:

1. What is the effect of SRSD on enhancing first-year Saudi female English majors', at Imam Mohammed bin Saud Islamic University, reading comprehension skills?
2. What is the effect of SRSD on enhancing first-year Saudi female English majors', at Imam Mohammed bin Saud Islamic University, reading self-efficacy?
3. What is the relationship between enhancing Saudi female English majors' reading comprehension skills and reading self-efficacy?

Accordingly, the research objectives comprised:

- measuring the impact of SRSD on developing first-year Saudi female English majors' reading comprehension skills.
- measuring the impact of SRSD on developing first-year Saudi female English majors' reading self-efficacy.
- measuring the relationship between the development of students' reading comprehension skills and reading self-efficacy.

Literature Review

Interactive Cognitive Processes in Reading Comprehension

Reading is a dynamic process, through which the reader interacts with the text by connecting and interpreting ideas. This process requires the execution and integration of numerous cognitive processes (Kendeou, Broek, Helder & Karlsson, 2014). Throughout the reading process, whenever the reader encounters a new piece of information, a unique combination of cognitive strategies is put into effect. Employing the proper strategy at the right time is an indispensable part of skilled reading. Accordingly, it is essential to comprehend where cognitive strategies might be unsuccessful for struggling readers and how these strategies can be positively influenced (Rapp, Van den Broek, McMaster, Kendeou & Espin, 2007).

Theoretical models capture the complications of the reading process through describing its various linguistic and cognitive processes. Reading comprehension cognitive processes are almost presented in two main categories: lower-level processes, which focus on transforming the written codes into comprehensible language units, and higher-level processes, which center around connecting these linguistic units into a comprehensible and coherent mental depiction (Fuchs, Fuchs, Hosp & Jenkins, 2001). Though reading comprehension processes at both higher-level and lower-level can independently predict student's reading comprehension level (Kendeou, Van den Broek, White & Lynch, 2009), automatization of lower-level processes help in providing the higher-level reading process with increasing mental resources (Luna, Garver, Urban, Lazar &

Sweeney, 2004). Learners' awareness of and metacognitive knowledge about their own cognitive processes and their ability to regulate them, are considered the basis for the efficient reading comprehension process (Edossa, Neuenhaus, Artelt, Lingel & Schneider, 2019, Schneider 2015).

Self-regulated Learning and Reading Comprehension

Several studies place self-regulation, as the cornerstone of academic endeavors and consider it a determinant of learning and development (Zimmerman & Schunk, 2011). This research line emphasizes the role of teachers as critical social models and the role of learners as proactive and self-directed seekers in all learning endeavors. SRL concept has been designated by many researchers in various ways; however, the core idea underlying it is close, which is about using a combination of metacognitive, cognitive, motivational, and behavioral strategies to achieve certain learning goals, assuming reciprocal causation among these processes. (Zimmerman, 2008). Self-regulation strategies play a vital role in guiding learners' comprehension. Thus, to effectively comprehend a reading text, students must monitor and manage their reading practices at metacognitive level (Thiede & De Bruin, 2018).

The present study focused on the metacognitive strategies due to their promising influence on reading comprehension, which in turn is considered to be a complex cognitive skill that requires metacognitive awareness from the reader. Students are said to be metacognitive to the degree they are engaged in thinking about themselves, the nature of learning tasks, and the social contexts (Cleary & Zimmerman, 2012). In this vein, effective readers who practice metacognitive strategies are aware of their strengths and limitations and find ways to remedy the latter. Metacognitive strategies are used in different phases of the learning process and are classified into goal setting and planning, self-monitoring, organizing and self-evaluation (Zimmerman, 2000).

Self-Regulated Strategy Development and Reading Comprehension

Self-Regulated Strategy Development (SRSD) is an instructional approach designed to help students learn, use, and adopt the strategies employed by skilled learners (TEAL Center Fact Sheet, 2019). It is an approach that adds the element of self-regulation to strategy instruction for reading by encouraging students to monitor, evaluate, and revise their reading. There are six stages within the SRSD instructional method that can be used to develop students' metacognitive self-regulated reading strategies (Teng, 2020):

Stage 1. "Develop and activate students' background knowledge" (Graham & Harris, 2009, 125). During this stage, teachers begin by developing and activating any prior knowledge necessary to use the strategy effectively.

Stage 2. Discuss it: the mnemonic for remembering the strategy is introduced in this stage.

Stage 3. Model it: in this stage, self-instruction and self-regulation behaviors are modeled.

Stage 4. Memorize It: in this stage, students practice memorizing the mnemonic of each strategy and their personal self-statements.

Stage 5. Support it: This stage involves support and scaffolding from the teacher to assure that the students meet the criteria of mastering the strategy; prompting fades as the students achieve mastery.

Stage 6. Independent performance: The student uses the strategy correctly and independently in this final stage. Students should be able to use self-instruction without support.

Empirical Research on SRL Strategies and Reading Comprehension

Skibbe, Montroy, Boeles and Morrison (2019) examined how different self-regulation development trajectories (early, intermediate, late) prophesy how the language and literacy skills develop from kindergarten through second grade. The research sample (351 students) was tested two times per year across four years on exponents of decoding, phonological awareness, vocabulary, and reading comprehension. The findings of the study indicated that earlier exponents of self-regulation correlated with earlier development and higher levels of decoding and reading comprehension. These findings highlight the long-lasting and interrelated nature of self-regulation and language and literacy development.

In her quasi-experimental research study, Lipari (2014) investigated the potential impact of explicit, scaffolded instruction on sixth-grade students' engagement in utilizing metacognitive reading strategies and reading comprehension outcomes. Findings revealed a positive treatment effect on the measure of metacognitive knowledge with an effect size of .27. Students were able to regulate their cognitive-based reading activities better in light of the received direct metacognitive strategy instruction and modelling relevant strategies, which in turn allowed for various practice opportunities, and included evaluation practices of individual progress.

In addition, a study by Nash-Ditzel (2010) revealed that using metacognitive-based teaching methods and techniques could significantly result in enhanced reading comprehension skills among college students. Through various data collection tools (informal observations, think-aloud protocols, document analysis, and interview), Nash-Ditzel found that the awareness of and the capability to use reading comprehension strategies supported students' practice of self-regulation while reading.

A recent study by Do and Phan (2021) examined Vietnamese undergraduate EFL students' metacognitive awareness of reading strategies and the predictive role of gender and reading proficiency level of students' awareness of these strategies. Results revealed that students' frequent use of the three identified reading strategies (problem-solving, support, and global reading) was at a medium level. Results also showed that female students used support strategies more frequently than males. Students with high reading proficiency employed the reading strategies more frequently than their counterparts with low reading proficiency. The study recommended integrating direct reading strategies instruction among 12 learners.

Self-efficacy and Reading Comprehension

According to Nes Ferrara (2005), "Self-efficacy for reading refers to individuals' assessments of how well they think they can accomplish a particular reading task and is reading influenced by how well they have performed on similar tasks, including any accompanying feedback and encouragement received" (p. 216). Within the reading domain, efficacy beliefs can fluctuate based on the difficulty of the given task. Though some students may feel confident in their ability to understand single words within a text, they may at the same time have difficulty with comprehension of the same passage (Piercey, 2013).

Empirical Research on Self-efficacy and Reading Comprehension

Solheim (2011) examined the role of EFL learners' self-efficacy in the reading process. He hypothesized that those students possessing low self-efficacy have a problem coping with the more difficult reading tasks, especially in test situations. Findings revealed that reading self-efficacy strongly predicted participants' reading comprehension scores. Further findings showed that with low-self-efficacy students, self-efficacy positively predicted comprehension scores only with multiple-choice questions, not written-response questions.

A study by Habibian and Roslan (2014) investigated the relationship between self-efficacy in reading and language proficiency as well as reading comprehension. The study sample included 64 Malaysian postgraduate students from two public universities. The results pinpointed a significant correlation between the reader's self-efficacy and reading comprehension.

From the previous literature review, it can be assumed that L2 students suffer from noticeable weaknesses concerning their reading comprehension skills and self-efficacy, which can be partly attributed to the traditional teaching reading methods adopted. Moreover, explicit self-regulation strategy teaching proved to be more conducive to learning than indirect instructional methods, which rely on learning by chance or extensive exposure to comprehensible input. On the other hand, most previous studies, noticeably, did not pay enough attention to the weakness of students' reading comprehension skills, mainly at inferential and critical levels, which is the current study's main focus. Moreover, no research has investigated the correlation between university students' use of self-regulated reading strategies, mainly metacognitive strategies, and their reading self-efficacy. Aiming to bridge these gaps, the current study sought to examine the impact of SRSD reading intervention on improving Saudi female English majors' reading skills and reading self-efficacy, as well as investigate if there is any possible correlation between students' reading comprehension skills and their reading self-efficacy.

Methods

Design of the Study

This quasi-experimental study used a non-equivalent group design. This design is also known as pretest-posttest control group design, in which two equivalent versions of the reading test and a reading self-efficacy scale were used as pre-and-post-tests. The researcher, based on the purposive convenience sampling method, selected two intact classes from the first year EFL students at the College of Languages and Translation, Imam University, and then assigned them into a control group and an experimental group. The control group received the standard teaching method, while the experimental group received training on SRD strategy to help them integrate metacognitive self-regulation strategies into their reading process. One of the researchers taught both groups to reduce the possibility of interaction between the treatment and instructor resulting from having different teachers. The study lasted for three months and a half (14 weeks) during the second semester of the academic year 2020/2021.

Participants

The sample comprised 80 Saudi female students (Two intact study groups, 40 students each) at the College of Languages and Translation, Imam University in Riyadh, Saudi Arabia. All

participants were first-year students, enrolled at level two, and all joined the researcher's assigned reading classes. Their age ranged from 19 to 21.

Research Instruments

The Reading Comprehension Pre-and Post-tests

Two equivalent versions of the reading comprehension test were used as a pre-posttest. These tests were designed and developed by the researcher. Each version of the test consisted of one reading text (425-500 words in length) that has the same readability level as the students' textbook, followed by 20 questions distributed in three sections (multiple choices, true/false, and short answer questions). The questions measured the specified comprehension skills (10 skills) two times at least for each skill.

The researchers assured the content validity of the reading tests by submitting them to a jury of three specialists in applied linguistics to decide the relevance and appropriateness of the test to the study purpose and students' language proficiency level. The two test versions were piloted on a sample of 30 students at the same study level. Results revealed that all coefficients of ease and difficulty varied between 0.30 and 0.70, and all discrimination coefficients varied between 0.22 and 0.71. This means that all coefficients are acceptable. Coefficients Cronbach's alpha calculation was performed to check the reliability of the test. The overall tested skills had Cronbach's alpha value (0.90), and individual skills had values greater than 0.77, making all of them acceptable.

The Reading Self-Efficacy Scale

The reading self-efficacy scale consisted of 30-items assessed on a five-point Likert scale. It was adapted from Tobing's (2013) English Reading Self-Efficacy Measure, Demirel and Epçagan's (2011) Scale of Belief Self-Efficacy Reading Comprehension (SSERC), and the revised version of the "Motivation for Reading Questionnaire (MRQ)" (Wigfield & Guthrie, 1997).

To assure the content validity of the self-efficacy scale, the first version was submitted to a jury of four applied linguistics specialists. Based on their feedback, some items were modified. Also, based on a pilot study with ten students other than the research sample, the self-efficacy scale reliability coefficient turned out to be 0.94, following Cronbach's alpha.

Research Procedures

The present study data was gathered over three months (12 weeks) in three main phases (see Figure 2). In Phase One, all students of both control and experimental groups filled in the reading self-efficacy scale and sat for a reading comprehension pre-test two weeks before the SRSD training sessions. In Phase Two, the experimental group students received training on SRSD, focusing on integrating metacognitive self-regulated strategies in the reading process. In Phase Three, students of both groups (control & experimental) sat for the reading post-test and filled in the reading self-efficacy scale for a second time.

The Intervention – Self-Regulated Strategy Development (SRSD) Stages and Activities

The intervention took place over twelve weeks following the procedures identified by Harris et al. (2008). The intervention was organized in four phases: Introduction, Explicit Strategy

Instruction, Guided Practice, and Independent Usage. See Figure one for the instructional timeline. Throughout the intervention, students were encouraged to learn through practice and then share their ideas through discussion and reflection.

Instructional Timeline		Weeks											
		1	2	3	4	5	6	7	8	9	10	11	12
Phase 1	Introduction	■											
Phase 2	Explicit Strategy Instruction		■	■	■								
Phase 3	Guided practice					■	■	■	■				
Phase 4	Independent usage									■	■	■	■

Figure 1. Instructional timeline

In phase one, students received two orientation sessions (50 minutes each) about reading comprehension skills, the role of self-regulation (SR) and reading self-efficacy in enhancing reading performance, and the self-regulated metacognitive strategies used by successful readers.

Phase two- over a block schedule of two lectures (100-minute each week) for three weeks, students were provided with explicit instruction of the four metacognitive self-regulated reading strategies (goal setting and strategic planning, organizing, self-monitoring, self-evaluation) following the six iterative stages of the SRSD strategy, counting “develop and activate background knowledge, discuss it, model it, memorize it, support it, and independent Performance” (Harris & Graham, 1996, 125). Cognitive modeling (talking out the thought of the strategy implementation process) and collaborative learning were encouraged in this phase by engaging students in peer and small group activities to assist each other memorize and practice the strategy mnemonic.

In phase three, students were given opportunities to engage in meaningful, supportive practices of the four metacognitive self-regulated reading strategies following the SRSD with three selected reading texts from their reading textbook, Reading Explorer 3rd ed (Douglas & Bohlke, 2019). During this phase, students were encouraged to graph their performance on the reading text and fill in the Goal Tracking worksheet in three steps (see Appendix A).

The role of the instructor was to answer students’ questions about the self-regulation strategies, prompt them to discuss and share textual evidence in pairs or small groups and accentuate the necessity for adjusting their employment of the SR strategies to align appropriately with diverse text structures (narrative, expository, descriptive, ... etc.).

In phase four (Independent Usage), students were encouraged to apply the reading SR strategies to diverse reading texts. During each class, the instructor assigned an independent reading task to the entire class and informed them to use the goal-tracking worksheet as she walked around to monitor their performance, mainly how they integrated the SR strategies in their reading process. Supplemental instruction and guided practice were included in this phase only for students who needed support.

Results

Pre-implementation of the Study Instruments

To control variables before implementing the intervention, the T-test for independent samples was administered to investigate if there were significant differences between the control group and the experimental one on the reading self-efficacy scale and the pre-reading comprehension test and. The results disclosed that the differences between the means of the two groups on the self-efficacy scale ($p= 0.93$) and on the pre-reading test ($P=0.46$) were not statistically significant.

Results Related to the First Research Question

To answer the first research question, first, the researcher applied the Independent Samples T-test to check if there were significant differences between the control and the experimental groups' mean scores on the post-reading test. Results showed that there were statistically significance differences between the mean score of the two groups (experimental and control) on the post-test concerning the overall reading test scores as well as all reading comprehension sub-skills in favor of the means of the experimental group; all values were less than the level of significance (0.05). Second, to examine the impact of SRSD significantly on the experimental group students' reading comprehension from pre-test to post-test, the Paired Sample T-test was run. See Table one.

Table 1. *T-test results comparing the experimental group's pre- and post-test mean scores*

Skills	Group	N	M	SM	SD	T-	D	P-	Effect size
	p						F		
Skimming	Pre	40	2.70	0.22	1.42	-7.16	39	0.00	1.74
	Post	40	5.95	0.35	2.22				
Infer writer's attitudes	Pre	40	2.35	0.22	1.41	-2.92	39	0.01	0.70
	Post	40	3.23	0.17	1.07				
Infer specific details	Pre	40	1.73	0.16	0.99	-3.02	39	0.00	0.64
	Post	40	2.33	0.14	0.89				
Scanning	Pre	40	3.58	0.31	1.96	-5.84	39	0.00	1.30
	Post	40	6.10	0.30	1.92				
Guess the meaning	Pre	40	1.93	0.24	1.51	-4.11	39	0.00	0.75
	Post	40	3.03	0.23	1.44				
Distinguish main ideas & details	Pre	40	0.15	0.06	0.36	-7.46	39	0.00	1.84
	Post	40	0.83	0.06	0.38				
Drawing conclusions	Pre	40	0.38	0.08	0.49	-4.94	39	0.00	1.20
	Post	40	0.88	0.05	0.33				
Distinguish facts & opinions	Pre	40	3.58	0.27	1.71	-4.26	39	0.00	1.00
	Post	40	5.33	0.32	2.02				
Identify explicit relationships	Pre	40	0.23	0.07	0.42	-6.30	39	0.00	1.31
	Post	40	0.78	0.07	0.42				
Infer implicit relationships	Pre	40	0.90	0.13	0.84	-5.30	39	0.00	1.17
	Post	40	1.73	0.09	0.55				
Overall test	Pre	40	17.90	1.06	6.73	-7.55	39	0.00	1.56
	Post	40	30.93	1.53	9.67				

Table one shows that the mean scores of the experimental group significantly improved in the post-test. As the difference between the pre-test and post-test overall means score is (-7.55). All statistically significance values were less than the significance level of (0.05). Moreover, the effect size values shown reveal that the SRSD intervention had a large effect on the experimental group students' overall reading comprehension performance as the effect-size value (1.56) was greater than (0.80); thus, indicating a high impact of the SRSD intervention on developing students' overall reading comprehension skills. As for the reading subskills, the effect-size values ranged from high to medium. The largest effect size was for "Distinguish main ideas and details," followed by "Skimming", yet the effect size values for 'Guess the meaning' (0.75), Infer writer's attitudes' (0.70), and "Inferring specific details' (0.64) were less than 0.80, which indicates that the size of the impact is medium. These results answer the first question posed by the present study.

Results Related to the Second Research Question

To answer the second research question, the researcher ran the Independent Samples T-test to determine if the control and the experimental groups differed in their replies on the post-application of the reading self-efficacy scale. Results revealed that the mean scores of the experimental group ($m=3.91$) was significantly higher than the control group's mean scores ($m=3.36$) ($p= 4.78$). Second, the Paired Sample T-test was used to compare the pre-and post- mean scores of the experimental group students' responses to the reading self-efficacy scale. See Table two.

Table 2. *T-test results comparing mean scores of the pre vs. post application of the reading self-efficacy scale for the experimental group*

	Group	N	M	SM	SD	T-	DF	P-	Effect size
Self-efficacy scale	Pre	40	3.12	0.18	1.12	-4.22	39	0.00	0.96
	Post	40	3.91	0.05	0.31				

(**) significant at 0.01

Results in Table two display that the difference between the experimental group's pre-and post-mean scores on the self-efficacy scale was highly significant, in favor of the post-application, as the t value was less than the level of significance (0.05). Moreover, the value of the effect size turned out to be greater than (0.08), which indicates that the effect of the SRSD intervention on the experimental group students' reading self-efficacy was large. These results answer the second research question of the present study.

Results Related to the Third Research Question

To address this question, the researcher calculated the Pearson correlation coefficients for the experimental group students' reading self-efficacy and reading comprehension skills (see Table three).

Table 3. *Pearson correlation between the reading comprehension and reading self-efficacy of the experimental group students*

Reading comprehension skills	Reading self-efficacy	
	Correlation	P-value
Skimming	0.758**	0.000
Infer the writer's attitudes or intentions	0.789**	0.000
Infer specific details	0.784**	0.000
Scanning	0.835**	0.000
Guess the meaning of unknown words or phrases	0.410**	0.004
Distinguish between main idea & details	0.780**	0.000
Drawing conclusions	0.708**	0.000
Distinguish between facts & opinions	0.234	0.073
Identify explicit cause & effect relationship	0.760**	0.000
Infer implicit cause & effect relationship	0.924**	0.000
Overall test	0.869**	0.000

The results showed that the P-values of the relationship between reading comprehension and self-efficacy are less than the level of significance (0.05). Consequently, it can be assumed that the relationship between the experimental group students' reading comprehension skills and reading self-efficacy level is solid and positive at the level of significance (0.05) or less between. Thus, the third research question of the present study is answered.

Since the overall correlation between reading self-efficacy and reading comprehension was significant, the researchers tried to determine where this significant difference resides by examining the correlation coefficient between the ten reading skills and the reading self-efficacy. Table three indicates that the p-values were 0.00 for all reading skills except for the skills of 'Guessing the meaning of unknown words/phrases' ($p= 0.004$), and 'Distinguish between facts and opinions' ($p = 0.073$).

Discussion

Results of the present study revealed that the experimental group students performed better than the control group students on the post-reading test, in terms of the overall reading comprehension skills and in each reading sub-skill, and on the post-application of the reading self-efficacy scale. These findings show that the SRSD intervention provided a means for the experimental group students to self-regulate their reading comprehension and boost their reading self-efficacy; explicit instruction of the SRL strategies and student-centered activities seems to impact students' reading performance positively. Throughout the four phases of the intervention, the researcher intended to encourage the students to practice self-regulation, using controlled, guided, and free exercises through setting a reading goal, planning for reading, pausing to think, asking questions, restating specific confusing ideas in their own words, and reflecting on their performance.

Additionally, utilizing the goal tracking worksheet may have offered students significant insights into the sequence of integrating SRL strategies in reading smoothly and their ability to develop their reading skills through questioning themselves in each reading stage. These practices helped the students to master the integration of self-regulation strategies into their reading process in a natural way that enhanced their reading comprehension skills and reading self-efficacy. These results align with the findings of other research studies (e.g., Li & Kaur, 2014; Teng, 2020), which assured that strategy training could assist language learners in becoming strategic readers and improving their reading comprehension. Jafarigohar and Khanjani (2014) highlighted that being a strategic learner can help students in planning, organizing, and assessing their language learning, as well as in being more autonomous. In terms of reading ability, Li and Kaur (2014) added that reading strategy training can help students become more aware of the numerous reading methods available to them in diverse reading settings.

Moreover, findings of the study showed that though there was a statistically significant difference in the reading performance skills of the experimental group on the pre-and-post reading tests in favor of the post-test scores, the development of some reading skills exceeded the development in others as the effect size ranged from large to medium. The skills that had the minor effect size were 'Guess the meaning' (0.75), 'Infer writer's attitudes' (0.70), and "Inferring specific details' (0.64). This result can be credited to the students' learning background concerning reading; they were not used to working out the meaning of new words and deducing from a reading text based on their intuitiveness (Al-Qahtani, 2016; Alenezi, 2021).

In addition, the experimental group's superior performance on the reading self-efficacy scale after the intervention indicated that students' mastery of integrating self-regulation strategies in their reading gave them a sense of self-confidence and autonomy; in other words, they started to trust their ability to read and apply strategies that are systematically used by good readers. Based on classroom observation, the researcher noticed, mainly in the independent practice phase, that students, through their practice of self-monitoring and self-evaluation strategies, tended to reflect on their own reading strengths and weaknesses in a trial to support the improvement of their reading comprehension. This may have helped their self-efficacy in becoming more aware of what is needed and how to read successfully as good readers. In this vein, Abdrahim (2020) argued that L2 learners who are aware of their strengths and weaknesses and possess self-awareness could "adjust their learning strategies to be adaptive in order to advance their learning" because they are aware of their metacognitive knowledge and are capable of transferring it to various contexts. For example, when students of the control group faced a confusing reading text or part of a text, they got disappointed quickly and directly started to ask for the teacher's help. On the other hand, the experimental group students were better capable of utilizing appropriate self-regulation strategies to tackle such perplexity or difficulties.

Finally, the results of the current study disclosed a robust positive relationship between developing reading comprehension skills and reading self-efficacy among the experimental group students. This finding corresponds to the findings of other previous studies (e.g., Salehi & Khalaji, 2014; Tobing, 2013), which indicated that self-efficacy and reading comprehension are related and that gains in self-efficacy can positively improve reading comprehension.

Conclusion

The present study focused on investigating the impact of self-regulated strategy development on improving English majors' reading comprehension skills and reading self-efficacy. The findings revealed that explicit instruction of SRL strategies enhanced students' cognitive awareness of the mental processes that good readers practice as they engage in reading and provide them with specific personal (metacognitive) strategies they can utilize to reinforce and repair their understanding while reading various texts. Therefore, it is noteworthy to point out some pedagogical implications for reading comprehension: first, reading instructors need to be aware of SRL strategies and how they can integrate these strategies into students' reading process by incorporating strategy-based instruction in their teaching and providing various supplemental activities to support students' mastery of these strategies. Second, reading instructors also need to create a safe and encouraging learning context where students have no concerns about thinking aloud, inquiring, posing critical questions, and interacting in the reading class. Although this study has reached noteworthy findings, one limitation remains that researchers should address in future research investigations. This study was confined to investigating the impact of explicit strategy-based instruction of only metacognitive SRL strategies on enhancing Saudi female students' reading comprehension skills and reading self-efficacy. Therefore, future research could investigate the usage of other SRL strategies in both male and female English majors.

About the authors

Safaa M. Abdelhalim- Professor of applied linguistics/ TESOL, College of Languages and Translation, Imam Mohammed Bin Saud Islamic University, and an international certified teacher trainer. Her areas of expertise include TESOL, EAL, CLIL, second language acquisition and assessment, computer-assisted language learning, teaching effectiveness and teacher education. She is an author of 18 research articles and three books in the field of applied linguistics. Her research interests lie in the areas of, L2 writing and reading, language assessment, use of corpus linguistics in language learning & teaching, and teacher cognition.

ORCID: <https://orcid.org/0000-0002-6995-4553>

Ashwaq A. Alreshoud is a lecturer at College of Languages and Translation, Imam Mohammed Bin Saud Islamic University. She graduated with a bachelor's degree in English language and its literature and a master's degree in Applied Linguistics from Al-Imam Mohammad Ibin Saud Islamic University, Kingdom of Saudi Arabia, Riyadh. Her research interest includes L2 learning strategies. ORCID: <https://orcid.org/0000-0002-6266-0288>

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Appendices

Appendix A

Goal Tracking Worksheet

Think about and describe the SR strategies you use and write your self-statement...		
Before reading	During reading	After reading
# Set a goal for your reading?	# Self-monitor your comprehension actively.	# Summarize what you read
# Put a plan for reading the text.	# Organize the ideas (main, supporting)	# Discuss what you have understood