

Teaching English Language Journal

ISSN: 2538-5488 – E-ISSN: 2538-547X – <http://teljournal.org>

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Please cite this paper as follows:

Aryanjam, L., Rashtchi, M., & Maftoon, P. (2023). The contribution of strategy-based instruction in reading achievement: An autonomy perspective. *Teaching English Language*, 17(1), 171-199. <https://doi.org/10.22132/TEL.2022.164496>

Research Paper

The Contribution of Strategy-Based Instruction in Reading Achievement: An Autonomy Perspective

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Abstract

Instruction of essential skills and strategies is critical in increasing reading comprehension. Amongst them, independent reading is a necessary skill for learners at any stage of learning. This research examined the efficacy of strategy training in enhancing reading achievement in autonomy-supportive environments. To this end, an explanatory mixed-methods research was designed. Fifty sophomores in two groups majoring in TEFL participated in the study after taking a Preliminary English Test. They were randomly assigned to two treatment conditions. The learners' performance on the reading section of PET was scored separately as a pretest, indicating that the two groups had the same reading ability level at the onset. The study examined two different methods, practicing strategies through the Intensive-

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Extensive Reading Method (I-ERM, n=26) and the CALL-based Reciprocal Collaborative Reading Method (RCRM, n=24), followed by a post-test. Participants also filled in a questionnaire about cognitive and metacognitive strategies before and after the semester. Eight learners from each group participated in semi-structured interviews about different aspects of their instruction. Independent samples t-tests and content analysis were used to analyze the quantitative and qualitative data. The results indicated significant reading achievement after the intervention in both groups. Interviews also verified that the participants were positive regarding the efficacy of instructions which resulted in promoting reading and other language skills. They perceived the instructions as significant, compelling, and convincing.

Keywords: Learner Autonomy, Reading Strategy, Strategy-based Instruction, Reading Achievement

Received: November 3, 2022

Accepted: January 6, 2023



1. Introduction

Reading is an intricate intellectual activity for acquiring data, which also acts as an indispensable source of input for other skills and plays a vital role in educational growth (Hermida, 2009; Mardiana & Hidayat, 2019). Through reading, learners encounter unique linguistic and cultural elements. Rich lexical and structural context leads learners to active meaning construction. It enhances language and cultural awareness and constructs a sound basis for oral interaction and writing (Izquierdo Castillo, & Jiménez Bonilla, 2014; Mohseni et al., 2020).

Comprehension is at the heart of every reading process. It is the product of the interaction between written information, readers' previous knowledge, and the strategies they employ to bring them together (Kendeou et al., 2014; Zafarian & Nemati, 2016). Reading strategies are the most significant elements that facilitate reading comprehension (Ahmadi et al., 2021). They are purposeful, conscious actions and procedures taken by readers for meaning construction and solving problems when comprehension fails. Good

readers have proper knowledge about the strategies they use and apply them appropriately and effectively (Par, 2020). Systematic teaching of reading strategies (cognitive and metacognitive) can raise comprehension and meaning construction. Knowledge and application of reading strategies change learners' reading behavior and help them repair their insufficiencies in understanding a text—such kind of training results in adequate self-monitoring and regulation (Raju, & Dasai, 2020).

Diverse methods can contribute to learners' language learning. Abedelqader and Salameh (2017) note that a vital way to expand abilities and strategies for reading is to establish reading autonomy by raising proficiency and interest and efficiently using the available instructional materials. The intensive-extensive reading method, which affects learners' habits and attitudes toward reading, increases their autonomy, and motivates them to involve actively in an incredible amount of reading, is an approach to reading pedagogy that has been progressively attaining credit and recognition in the field (Wang & Ho, 2019). Computer-Assisted Language Learning (CALL) is another instructional option that increases the accessibility of resources, provides more opportunities for collaboration, more time spent on tasks, and more student engagement compared to traditional teaching methods (Hajimaghsoodi & Maftoon, 2018).

While Extensive Reading (ER) and CALL are among the most popular and advantageous approaches in ELT, they are mostly absent in the EFL curricula in Iran. Reading is crucial for academic success, and modern trends constantly emerge in how they should be taught. However, in the Iranian educational context, the traditional teacher-centered method focusing on grammar, translation, and memorization is still dominant (Chalak, 2015). Besides, instructors mostly lack concrete groundwork for applying new methods, and learners barely obtain desirable instruction on strategies that

enable autonomous text interpretation. In such context, according to Grabe (2014), reading is generally considered a solitary activity and the least teachable skill, which develops naturally within instruction. Such an assumption has led learners to become competent at a certain superficial level but not at any more profound level. Learners also consider reading a boring skill due to fruitless learning strategies, unsupportive learning activities, and unsuitable instructional methods or materials in content and difficulty level (Saghaieh-Bolghari, 2017). Learners, not aware of the central role of strategies, regard reading as the most uncomplicated language skill. For learners, mastery over oral/aural skills signifies a complete representation of language proficiency; as a result, they downgrade the essential role of reading in language proficiency (Aryanjam et al., 2021).

Furthermore, to promote the efficacy of foreign language education, designing programs for teaching language and crucial strategies to the learners is necessary. Research findings indicate that instruction of autonomous reading under the framework of modern methods presents a practical way of developing learners' language abilities and skills (e.g., Aryanjam et al., 2021; Khansir & Bafandeh, 2014; Saghaieh Bolghari et al., 2017). Thus, the present study's central question was to what extent practicing strategies could affect Iranian EFL learners' reading achievement in autonomy-supportive environments and how the participants perceived using strategies.

1. Literature Review

Education should enable learners to use the prospective learning materials around them successfully and find motivating resources which can be applied outside the classroom (Kuluşaklı & Yumru, 2020). ER, or reading lengthy texts for leisure, is an educational alternative and possibly the easiest way to create an input-rich learning context that motivates learners to take part in a

large number of texts paralleled with Intensive Reading (IR) or reading with complete attention and concentration for education, which contains the unhurried reading of minor texts (Abedelqader & Salameh, 2017). Several benefits have been recognized for ER, for example, reading speed and motivation growth, development of personal reading strategies and good reading habits, construction of vocabulary and structure knowledge, increasing autonomy, and engagement with the text (Dzulfikri, & Saukah, 2017). ER supports practicing reading skills in the classroom. Therefore, integrating IR and ER *programs can result in incredible gains in reading comprehension.*

Rashtchi and Pourmand (2014) examined the efficacy of IR and ER on learning English words, indicating the priority of ER in enhancing vocabulary knowledge and autonomy. Maipoka and Soontornwipast's (2021) study also indicated the effectiveness of teaching helpful reading strategies through an integrated IR-ER program on Thai learners' English reading comprehension. The study showed that student engagement in blended IR-ER tasks positively affects their L2 reading habits and significantly helps them become autonomous life-long learners. They maintained that the IR-ER program allows for varied, flexible, and more attractive materials, tasks, and activities that better match the learners' different needs, interests, abilities, and learning styles. Furthermore, the qualitative outcomes revealed the students' positive perceptions of the program. Learners found the intervention enjoyable, engaging, and motivating; they reported improvement in their English proficiency level after receiving the course of instruction.

Unlike individual learning methods such as ER, which counts intensely on the cognitive dimension ignoring the social and cultural aspects of the learning context, some more recent trends, such as the sociocultural theory, consider reading as an interactive practice and the reader as a member of a

community (Dehqan & Mohammadi Amiri, 2017). From a sociocultural perspective, collaborative Strategic Reading (CSR) considers teachers as models and invests in peers' mediation. It combines reciprocal teaching and cooperative learning with strategy training to enhance reading comprehension and maximize learners' engagement (Zagoto, 2016). It is a mixture of whole-class training in CSR through which the instructor teaches students to use comprehension strategies with the help of modeling, role play, and think-aloud protocol; and small groups in which learners use strategies before, during, and after reading, working cooperatively (Cavendish & Hodnett, 2017). Saenz et al. (2005) point to the supportive role of CSR and emphasize that peer-mediated cooperative learning is a scaffolding approach that cultivates learners' knowledge in different areas. In CSR, specific responsibility for each member, constructive interdependence, appropriate use of collaborative abilities, face-to-face interaction, and routine self and peer evaluation are remarkably taken into account (Schissel et al., 2019).

Kabir and Kiasii (2018) examined CSR on learners' reading and vocabulary acquisition. In a collaborative atmosphere, the participants interactively worked on shared tasks in small reading teams of four members. Each member had specific labor, such as leader, reader, writer, checker, or speaker, to maintain individual responsibility. Group members collaboratively searched for comprehension, information, or answers. As the results illustrated, CSR increased learners' motivation, engagement, and participation and provided more opportunities for language use. In addition, through CSR, learners were more capable of thinking critically.

In a similar investigation, Niknahad and Mohamadi (2021) compared the impact of teacher-centered and CSR on participants' listening and reading skills. They concluded that the quality of the learning context and the pedagogic approaches used significantly affect the learners' academic

success. Their findings showed that CSR is a response-based approach requiring all members' active participation. It arises interaction among learners, generates a supportive and communicative atmosphere, and allows learners to improve their teamwork abilities.

In addition to collaborative learning, computer technology is one of the most significant ways to make instruction more effective and nurture the learners' potential to become active autonomous readers (Liu, 2015). CALL boosts interaction and collaboration, facilitates the language learning process, and enhances motivation and learning performance (Attanathavorn, 2014). According to Harasim (2012), a combination of collaborative learning with CALL *provides a learning method that encourages learners to participate in their learning process and encourages and supports them to work together to generate knowledge and search for the knowledge needed to solve problems*. Kim et al. (2006), who combined the CALL program with CSR to investigate their effects on middle school learners and their perceptions of the intervention, reported that the participants mainly evaluated the CSR program positively. The partaking instructors perceived the program as an efficient instructional tool as well. Hajimaghsoodi and Maftoon (2018) studied EFL students' insight into the efficiency of applying CALL within the activity-theory-based CSR program to enhance their writing skills. Their study suggested the participants' positive perception of the instructional intervention. Learners reported many affordances and few restrictions in the instruction and perceived it as very productive, enjoyable, and novel.

According to Jahedizadeh et al. (2016), the educational process of receiving and interpreting knowledge and data from the learning environment and learners' perception of that process influence their language learning achievement. Instructional materials and curricula are other factors that substantially impact students' reactions to the learning experience and what is

learned (Gardner & Macintyre, 1993). Therefore, considering the prominence of strategies in L2 learning, the researchers' primary purpose was to inspect the participants' reading achievement after receiving two types of strategy training in autonomy-supportive learning environments. The researchers also investigated how participants evaluated the role of instruction on their academic success and use of strategies. Thus, the researchers designed an explanatory mixed methods study in two phases (a quantitative followed by qualitative) and proposed three research questions:

1. Does the type of instruction have different impacts on Iranian female EFL learners' reading achievement?
2. Does the type of instruction have different impacts on Iranian female EFL learners' strategy use?
3. How do Iranian female EFL learners perceive the role of strategy training in their reading comprehension?

3. Method

3.1 Participants

Fifty Iranian female intermediate-level sophomores from two intact university classes were selected based on convenience sampling. They studied TEFL at Farhangian University, Mashhad, at the BA level. They had enrolled in a Reading II course typically offered in the second semester of their education. They were Persian native speakers, and their age range was between 19 and 25. They were homogeneous regarding their reading and writing abilities based on their Preliminary English Test (PET) performances. The groups were randomly assigned to two treatment conditions: one group practiced the individual Intensive-Extensive Reading Method (I-ERM, n=26), and the other group experienced the CALL-based Reciprocal Collaborative Reading Method (RCRM, n=24). To regulate learning tools and instructor variables, the teacher and content of learning were similar.

3.2 Materials and Instruments

The following materials and instruments helped the researchers to collect data.

Fourteen authentic reading texts were selected randomly from different websites based on their subjects, text types (expository), publication dates (2017 to 2020), number of words (900-1300), and readability index (11-13). The researchers selected 100 topics from the websites. They asked learners of the same age and characteristics to discover whether they aligned with their interests.

The reading (in five parts and 32 questions) and writing parts (in three parts and seven questions) of a Preliminary English Test (PET, 2015) were run before the treatment to ensure the participants' homogeneity. The respondents had to do a short grammar exercise, write a short message, and write a story or informal letter. Acceptable internal consistency was designated through Cronbach's alpha formula (0.79). The reading sections were also scored separately as pretests to examine whether the groups were at the same reading level before the instructions. Administering one test with two purposes (homogeneity and reading level) enabled the researchers to control the interaction effect of pretesting and increase the study's external validity (Best & Kahn, 2006). The test took about one and a half hours.

Reading Strategy Questionnaire (RSQ, Appendix A), including 40 expressions proclaiming strategies (cognitive and metacognitive) on a five-point Likert scale, was run at the onset and end of the course to scrutinize the learners' application of strategies. The instrument was a combination of the Comprehension Strategy Questionnaire (Taraban et al., 2000) and the Metacognitive Reading Strategies Questionnaire (Taraban, Kerr, & Rynearson, 2004). Cronbach's alpha showed that the items had sufficient discriminating power ($\alpha=0.96$).

The researchers used semi-structured interviews as another data-gathering tool. Sixteen participants (eight individuals from each experimental class) were randomly selected to participate individually in the interviews via phone for about 20-30 minutes (Appendix B). The interviews were in English; however, the interviewees could answer in Persian if preferred. The interviews were transcribed, coded, and analyzed.

Besides, the reading part of an original TOEFL iBT (2015) was employed to inspect the learners' proficiency level after the treatment. It took about sixty minutes and consisted of three passages and comprehension questions. Cronbach's alpha showed that the test enjoyed an acceptable reliability index ($\alpha = 0.77$). The pretest and post-test were dissimilar. The pretest was developed for the intermediate level; however, the post-test was adjusted for upper-intermediate testees. Following Heywood and Lidz (2007), the purpose was to measure reading progress after the interventional program.

3.3 Procedure

In this study, the researchers explicitly taught the participants various learning strategies. They were 'Super Six' comprehension Strategies based on the New South Wales Department of Education (2010), including making connections, predicting, questioning, clarifying, visualizing, and summarizing. Three overall classifications of metacognitive strategies, including planning, monitoring, and regulating (Schraw, 1998), were also taught. Learners received reading instructions during 16-weekly sessions. Sessions 1 and 16 were allotted to the pre-and post-tests. The outbreak of the Pandemic forced the researchers to hold the classes virtually through the Adobe Connect application twice a week for 90 minutes.

3.3.1 Individual Intensive-Extensive Reading Method (I-ERM) Group

The teacher, who was one of the researchers, introduced the IR-ER program, classroom, procedure, and course requirements to learners. In the

first four sessions, explicit, clear, and detailed instruction in a range of predetermined strategies were taught in the following manner: the purpose, importance, advantages, and prominence of each strategy were clarified. The teacher practically showed the target strategies while reading to encourage the participants to use them while reading. The think-aloud technique was also modeled and employed while reading to enhance learners' on-task reading behavior. The purpose was to help them conceptualize reading skills and become actively engaged in the learning process. Subsequently, students practiced the learned strategies while reading each passage under teacher guidance and support until they could employ them autonomously.

In the subsequent sessions, the class routine was as follows: Whole class reading, including reading aloud and asking questions conjoining with a range of reading strategies that the learners had already practiced in lessons, was used while refining their grammar and lexical knowledge, speed, and comprehension. In every session, the teacher presented new material. Lessons began with a brief review of prior learning and a small goals report (why they are reading). Then, to activate prior knowledge and boost comprehension, the learners were involved in predicting the text's issues. The participants were invited to concentrate on the title, headlines, subheads, pictures, and captions. Then they talked about the theme and proposed their personal views. They previewed the reading passage to discover the authors' purpose. They skimmed the text and underlined, highlighted, took notes on its main points, and put question marks or comments in the margins. They were encouraged to ask themselves different types of questions before, during, and after reading.

Additionally, the learners were expected to find the main ideas, eradicate redundant information, make inferences, draw conclusions from evidence in the passage, visualize as they read, and summarize information. A range of

fixed strategies (re-reading, reading a little ahead, using context clues, looking up the unknown word, reading more slowly, using text features, self-questioning, thinking about, and reflecting on the information in the text) was used by learners to practice self-monitoring. The teacher provided the students with a learning log to record their reflections on their learning. When learners worked individually, they were free to choose their preferred strategy. The teacher asked many questions and monitored students' comprehension. She provided feedback, direction, and corrections that progressively faded as learners moved toward autonomous efforts. A homework choice board was planned, with 14 diverse exercises to give learners the strength to select how to learn a specific issue or notion and develop learner autonomy. They were also encouraged to find additional texts they like for ER out of class as their course project and provide written and verbal representations of those texts.

3.3.2 CALL-based Reciprocal Collaborative Reading Method (RCRM) Group

An e-course apt for EFL reading classes was designed on the Edmodo platform, -a free social network (<https://new.edmodo.com>) to generate virtual courses. It allows for communication, sending messages, sharing class materials, observing class activities and grades, getting class updates, staying in touch with others, and connecting with people and resources. In the first session, learners became familiar with Edmodo, the class procedure, and course requirements. The teacher provided modeling and explained strategies and steps of reciprocal teaching sessions. The teacher divided them into mixed-ability small groups of four with strategic roles (summarizer, clarifier, questioner, and predictor) to prepare them for cooperative learning. They had enough time to practice the strategies in groups.

The teacher gave learners a new reading piece from the website in each session. The students brainstormed with classmates regarding what they already knew about the topic by looking at the title, headings, subheads, pictures, and captions. Then they discussed the issues and proposed their particular vision. The learners in groups read a few paragraphs of the assigned text and tried to predict the author's intended meaning. At the same time, the predictor recorded their efforts and monitored the accuracy of their predictions. The questioner formed relevant questions in three levels: literal, inferential, and evaluative, before reading and as they listened and read. She also strived for logical answers to those questions. The clarifier identified necessary materials and addressed unclear parts, unfamiliar vocabulary, challenging structure, and idiomatic expressions. Then, she made a list of them along with the strategies to restore the meanings. The summarizer identified the main and supporting ideas, wrote the summary, and read it aloud to the group. Finally, group members completed a learning log during the post-reading conversation to appraise their learning. A mind map of major points had been created by all members as well. The members verbalized their thought processes in their groups, shared their works, received comments, and reflected upon groupmates and their own work. The instructor's role was to provide motivation, feedback, help, and develop the learners' skills to apply the strategies effectively, which diminished as learners could gradually master their emerging abilities. The group members used WhatsApp voice or video calls to connect during the sessions. After each session, the pupils uploaded their coursework on Edmodo, presented them using the options on the platform, and sent them to the tutor for estimation. The instructor also observed the learners' engagement and effort quality through the website.

3.4 Data Analysis

Independent samples t-test was applied beforehand and after interventions to inspect which treatment was more operative in the growth of reading ability and strategy usage. Semi-structured interviews were thematically analyzed to give a profound picture of the participants' views.

4. Results and Discussion

4.1 Results

The results are presented in two sections. In each section, the related data are analyzed, and then the obtained results of the quantitative and qualitative phases are discussed.

4.1.1 Quantitative Results

The Shapiro-Wilk test results (Table 1) show the normality of the distributions ($p > 0.05$), enabling the researchers to run parametric tests.

Table 1

The Shapiro-Wilk Test

Variables	RCRM p-value	I-ERM p-value
Reading	0.3	0.6
Writing	0.6	0.4
Total	0.6	0.4
RC Test	0.3	0.4
Pre-RSQ	0.03	0.2
Post-RSQ	0.4	0.2

Table 2 shows the descriptive statistics of I-ERM (M=41.84, SD=11.74) and RCRM (M=46.08, SD=10.15) groups.

Table 2

PET, Descriptive Statistics

Group	M	SD	Min	Max
RCRM	46.08	10.15	20	70
I-ERM	41.84	11.74	13	64

Levene's test $F(24)=.19$, $p=.66$ shows the homogeneity of variances (Table 3). The t-test $t(48)=1.35$, $p=.18$ indicates no significant difference between the two groups on the PET.

Table 3
PET, Independent Samples T-Test Result

		Levene's Test				t-test				
		F	Sig.	t	df	Sig.	Mean Diff.	Std. Error Diff.	95% CI of the Diff.	
								Lower	Upper	
GPT	Equal variances assumed	.19	.66	1.35	48	.18	4.23	3.11	-2.02	10.5

The descriptive statistics of the reading tests in I-ERM ($M=20.34$, $SD=6.06$) and RCRM ($M=21.62$, $SD=4.95$) are shown in Table 4.

Table 4
Reading Scores Descriptive Statistics

Group	M	SD	Min	Max
RCRM	21.62	4.95	9	34
I-ERM	20.34	6.06	8	34

Table 5 shows the homogeneity of variances, Levene's test $F(24)=.946$, $p=.33$. The independent samples t-test $t(48)=.81$, $p=.42$ also indicates no significant difference between the groups.

Table 5
Reading Scores Independent Samples T-Test

		Levene's Test				t-test				
		F	Sig.	t	df	Sig.	Mean Diff.	Std. Error Diff.	95% CI of the Diff.	
								Lower	Upper	
reading	Equal variances assumed	.946	.33	.81	48	.42	1.278	1.574	-1.88	4.44

Table 6 shows the descriptive statistics of RSQ scores in I-ERM group (M=110.80, SD=20.17) and RCRM group (M=98.87, SD=17.29) before the intervention.

Table 6
Descriptive Statistics, RSQ Pretest

Group	M	SD	Min	Max
RCRM	98.87	17.29	72	142
I-ERM	110.80	20.17	85	160

As Table 7 indicates, a significant difference between the RSQ, $t(48)=-2.2$, $p=.03$ existed in the pretest. Since the mean of the I-ERM was higher, it could be concluded that I-ERM had a better performance on RSQ than RCRM group on RSQ before the treatment.

Table 7
Independent Samples T-Test, RSQ Pretest

		Levene's Test		t-test						
		F	Sig.	t	df	Sig.	Mean Diff.	Std. Error Diff.	95% CI of the Diff.	
									Lower	Upper
Pre- RSQ	Equal variances assumed	1.21	.27	-2.2	48	.030	-11.93	5.335	-22.66	-1.20

After the treatment, an independent samples t-test compared the mean scores on the post-test. Table 8 illustrates the descriptive statistics: I-ERM group (M=32.84, SD=6.98) and RCRM group (M=34.41, SD=5.22).

Table 8
RCT Descriptive Statistics

Group	M	SD	Min	Max
RCRM	34.41	5.22	20	44
I-ERM	32.84	6.98	17	44

The t-test indicated no significant mean differences on the post-test, $t(48)=0.89$, $p=.37$ (Table 9).

Table 9
RCT Independent Samples T-Test

		Levene's Test		t-test						
		F	Sig.	t	df	Sig.	Mean Diff.	Std. Error Diff.	95% CI of the Diff.	
									Lower	Upper
RCT	Equal variances assumed	2.7	.1	.89	48	.37	1.56	1.75	-1.96	5.09

The groups' RSQ scores after the treatment were compared to answer the second question. Table 10 shows the descriptive statistics: I-ERM (M=168.04, SD=20.94) and RCRM (M=156.29, SD=23.21).

Table 10
Descriptive Statistics, RSQ Post-test

Group	M	SD
RCRM	156.29	23.21
I-ERM	168.04	20.94

The effect of instructions on groups' strategy use was compared using an independent samples t-test. The absence of significant difference between the instructional models on strategy use, $t(48)=1.88$, $p=0.06$ (Table 11), showed that RCRM had benefitted more from the strategy instruction than I-ERM. In the pretest, the group's mean was lower, and the t-test showed a statistically significant difference; however, the difference in the post-test was eliminated due to an increase in the mean of RCRM.

Table 11
Independent Samples T-Test, RSQ Post-test

		Levene's Test		t-test						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% CI of the Diff.	
									Lower	Upper
Post-RSQ	Equal variances assumed	.271	.605	-1.8	48	.066	-11.74	6.24	-24.3	.81

4.1.2 Qualitative Results

The participants' overall evaluation of the efficiency of strategy training on their achievement in reading was collected via semi-structured interviews. The researchers read the data carefully. Then, they transcribed them verbatim, translated them into English where necessary, and analyzed them. The participants were asked about their improvement in reading. The results showed that both groups believed in improving their reading skills. Many also reported reading strategies' crucial role in improving other language skills, such as enriching vocabulary knowledge, critical thinking, and strengthening grammar and writing skills. Some of their comments are as follows:

Great and essential strategies were taught to us in this course. Extensive work and practical exercises on the strategies greatly influenced my learning. Now I can feel my progress compared to the beginning of the course. I have more understanding of the text and can extract more meaning from the text. (S15)

It used to be very difficult for me to understand IELTS texts, but now I am much easier because we learned very necessary strategies and worked out a lot. I even see the effect of the training on my other skills. My writing and speaking have improved. My vocabulary has increased a lot. I'm now quite better at making sentences and grammar. (S9)

We worked on reading professionally. I learned how to make the best use of reading strategies, to have successful comprehension. The strategies have had a great impact on my reading for me, and it has become easier for me now. With the help of these strategies, my speed, accuracy, and comprehension have increased. (S6)

In this class, I just learned what reading is. I realized that reading is a skill, much more than finding the meaning of words in a dictionary. It should be looked at professionally and dealt with skillfully, professionally, and accurately. I learned how to work with an English

text when I read it and how to manage time. What, where, when, and how strategies should be used. Overall, this course helped me understand the usefulness of reading. (S4)

In addition, the most satisfying part of the intervention, perceived by most learners in the RCRM group, was the assigned strategic roles for each group member. One student commented:

The most valuable point of this semester was working on strategies, as well as determining the strategic roles for each member of the group and evaluating each person's work by the other members of the group. I think it was a very smart job. While we all worked collectively, everyone worked individually on strategies and had a strategic task that had to be done in the best way because she was under the strict surveillance of the teacher, and in the group, everyone checked her work and asked her for quality work. (S1)

Alternatively, most I-ERM group learners pointed to the ER program as the most satisfying part of the intervention. One student commented:

The most important point of this semester was the extensive reading program which helped me to speed up and strengthen both my general language and my reading. It made me realize that reading English books is much more interesting and fascinating for me, and it made me a better reader. These exercises, along with the homework board, not only gave more independent practices on classroom techniques but also were very motivating and interesting because we searched and read a lot to choose interesting topics and then worked on them independently. (S14)

The participants were also inquired about the most effective reading strategy for improving their reading comprehension. In their opinion, the most effective strategies were evaluation and visualization. Since evaluation helped them cultivate independence, made them think deeply about their performance, and made them interested in discovering their reading problems. The participants reported that visualization was new and exciting and gave a detailed and robust understanding of the text.

A number of interviewees suggested the teacher add more strategies, such as socio-affective, and divide strategies into more specific categories, such as

strategies for increasing the reading speed and those requiring more precision to work more precisely and professionally in each category. This point was mentioned as a recommendation by a number of participants to improve the class procedure.

4.2 Discussion

This study explored the efficacy of implementing strategies \on reading comprehension and strategy application of learners. The findings verified the effectiveness of strategy training programs in university reading courses. The methods showed great potential in encouraging strategy use by learners. Evidence collected from the RCRM group aligns with other studies (e.g., Aryanjam et al., 2021; Hajimaghsoodi & Maftoon, 2018) and indicates that both CALL and CSR are beneficial ways in distance education to foster reading abilities and usage of strategies and create a sense of companionship amongst learners and make them more engaged motivated in learning. Consistent with previous studies concerning CALL (e.g., Attanathavorn, 2014; Liu, 2015), the present study confirmed that using an e-learning platform was a proper solution for class administration and supervision and could promote class efficacy and strategy use among learners and enhance students' achievement. Consequently, the instructional program is worth being used for future courses and extended at universities for each faculty and department; however, more effort on the part of the teachers is necessary for group supervision and training. Furthermore, learners need to receive intensive preparation on how to contribute to teamwork.

In this regard, this study is in agreement with Saghiaeh Bolghari (2017), who found that CSR instruction significantly affected the learners' reading achievement. Likewise, Hajimaghsoodi (2018) showed the positive effects of CSR instruction through the CALL program on 67 university students'

writing success. In a similar vein, Vavasseur, Crochet, and Dempster (2016) investigated the effect of digitally improved reading instructions on struggling readers. Their study indicated that the intervention positively impacted learners' reading achievement. CALL reading intervention permitted differentiated instruction and rehearsal that escalated learners' motivation in reading. It allowed for a planned and systematized lesson pacing, resulting in a higher sense of control. Apps and e-books also provided availability to lots of in-class and out-class materials for learners.

Similarly, the results gained from the I-ERM group align with other studies (e.g., Maipoka & Soontornwipast, 2021; Rashidi & Piran, 2011), suggesting that the IR-ER method, accompanied by multi-strategy instruction, offers a practicable methodology for reading instructions. The same finding was captured in some previous studies (e.g., Aharony & Bar-Ilan, 2016; O'Flynn, 2016) reporting the positive impact of giving a free choice to learners in selecting their learning content and way of learning, setting personal goals, self-monitoring, and self-assessing learning outcomes. Similar findings were found in Swatevacharkul's (2017) study investigating the effect of learner autonomy training strategy in an ER program on the learners' reading achievement. The result portrayed a significant impact of self-directed learning on participants' ability to comprehend English reading texts. Suk (2017) also examined the impact of ER on learners' speed of reading, understanding, and vocabulary acquisition of 171 Korean university learners of English over a 15-week program. Analysis of the results displayed the development of participants' L2 reading abilities after the ER program.

Regarding the relationship between autonomous learning and reading strategies, the findings accord with the results of Kuluşaklı and Yumru's (2020) study that showed strategy-based instruction assisted students in improving their ability for autonomous learning in some aspects. Their study

revealed that learners developed positive attitudes toward the teaching program as it catered chances for them to use strategies more successfully, solve related learning issues better, increase independent out-class activities, improve language learning abilities and examine their learning by nurturing their awareness of employing appropriate strategies. Besides, strategy-based instruction catered to opportunities for the learners to reflect on their learning procedures and in-class performances.

The qualitative data analysis indicated EFL learners' positive perception of engagement in the study groups. Interviews with participants revealed fundamental issues regarding different methods of teaching strategies in autonomy-supportive environments. The interviewees in both groups perceived the instruction as significant, compelling, and convincing. They reported improvement in their reading and language skills, such as vocabulary knowledge, grammar, writing, and critical thinking, at the end of this course due to strategy training. This positive perception was due to the comprehensiveness of the methods and combination of strategy training with different techniques such as ER and having free choice and various learning tools such as educational platforms in a learner-centered environment.

The researchers assume that a restricted number of studies have scrutinized learners' perceptions regarding the role of strategy training in reading skills. The present study's findings match Himoud's (2017) study, which investigated students' perceptions of the effects of reading strategies on comprehension. The results showed that the students demonstrated a significant awareness of the critical impacts of reading strategies on increasing their text comprehension skills and other language abilities. Learners mainly believed that reading strategies improved their reading comprehension ability. They claimed some reasons for their improvement as follows: reading strategies help overcome reading problems and become

better readers; enrich readers' vocabulary, enhance their style and improve their critical reading and thinking; help readers infer and have more accessible and faster reading comprehension; facilitate the reading process, help encode the ambiguities in texts and understand text's overall message; save time and automate the reading process.

Along the same lines, Arpacioğlu (2007) examined learners' perceptions of reading strategy training in reading classes. Responses to the questionnaire and interviews showed that learners believed that practices of employing strategies were beneficial. They generally viewed their learning environment as supportive and thought they had adequate occasions to rehearse strategies during the instruction. They were also satisfied with the feedback they received for their strategy use. The students mostly expressed that applying strategies resulted in better performances on exams. In line with the present study is Tampubolon's (2013), which surveyed learners' beliefs about the impact of discovery reading strategy training on comprehension. The study also examined learners' preference for employing such strategies in reading comprehension. The data collected via questionnaires and interviews indicated that most learners agreed that strategy training could improve their reading comprehension. They found such training in their reading class to be effective and helpful.

5. Conclusion and Implications

The study investigated whether two strategy-based instructional learner autonomy programs impacted intermediate learners' reading comprehension and strategy usage. Teaching beneficial strategies that help learners understand the texts and create their peculiar sense was of prime importance in this study. The study showed that training learners to use strategies within an autonomy-supportive framework could increase students' reading comprehension. The present study may have substantial practical

implications for instructors and other teaching specialists who struggle to support learners' progress in their reading abilities. Teachers' duty is to provide a variety of materials to meet learners' needs and desires. Such considerations can fulfill students' needs and boost learners' motivation. In-class activities can accompany well-designed homework.

Despite limitations and shortcomings, attempts were made to add to a growing body of literature on strategy training. The researchers hope that using methods opens up a new path, inspiring new investigations in this area through which further dimensions for instruction and examination can be distinguished. This study does not finish emphasizing the supremacy of employing strategy-based methods on learners' reading achievement. The qualitative data analysis also specified that participants were satisfied with the improvement in reading abilities. Hereafter, there is a requirement for further investigation to put forward a theoretical framework on the relationship between these methods and learners' motivation for reading. Besides these two instructional methods, other applicable methods and models can be practiced as a medium for course instruction to raise learning achievements. This investigation has brought forth some relevant conclusions, but still, there are a few limitations to mention. This research was performed only at a particular place and on a specific and limited number of participants; thus, generalizability is the first limitation.

Additionally, the data were collected only from female participants. Although this study found some relations between reading strategy instruction, reading success, and strategy use, it still requires additional information on other factors, such as personality traits or motivation that may affect these relationships. Focusing on such gaps in further studies will be illuminating.

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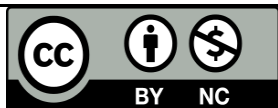
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