

# The Impact of Self-Regulated Instruction on Reading Comprehension and Willingness to Admit Wrongness in Face-to-Face vs. Online Classes

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## Abstract

The emerging technologies and their applications in education necessitate attempts to establish and test theories that can affect the optimal benefit of student learning and teacher training. Self-regulated learning theory is one of the most influential theories that recognize the interconnections of different factors for optimal learning as an ongoing process. Therefore, this study attempted to probe the efficiency of self-regulated learning to develop learners' reading comprehension and willingness to admit wrongness in an online learning context in addition to the face-to-face learning environment. To address this issue, a quasi-experimental design was utilized. The experimental groups were instructed to be self-regulated through receiving self-regulated learning strategies, while the control group received no self-regulated instructions. The statistical analysis of the paired sample t-test indicated that just the experimental groups exhibited significant improvement in being empowered with higher levels of reading comprehension and willingness to admit wrongness. Additionally, as the ANCOVA analysis showed, the online group had a better performance

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compared with the control and face-to-face group regarding reading comprehension skills. The findings tend to direct the attention of researchers, teachers, and course designers toward the importance of using self-regulation models as a possible way to move away from traditional teaching.

**Keywords:** face-to-face classrooms, online classrooms, reading comprehension, self-regulation, willingness to admit wrongness

## **Introduction**

A cyclical and dynamic process in which learners take control of their feelings, thoughts, and behaviors to reach their learning goals is defined as self-regulated learning (Schunk & Zimmerman, 2010). Self-regulated learning (SRL) involves effective management, setting goals, planning, and reflecting on the learning process (Wong et al., 2020; Zimmerman, 2011). In conventional learning environments, the most effective learners are those who can effectively self-regulate (Boekaerts, 1999). Thus, self-regulation has been identified by many researchers as a sign of academic success. In other words, self-regulation has always been one of the key issues in academic settings. Meta-analyses have advocated that, across different educational levels, the relationships between self-regulation and learners' attainment in academic contexts and self-regulation and course outcomes are significantly positive (Boer et al., 2012; Broadbent & Poon, 2015; Dignath & Büttner, 2008; Sitzmann & Ely, 2011). In educational contexts, self-regulated learners prove themselves as agents who can control their learning processes (Bandura, 2001). They are eager when it comes to learning, and they believe that, by employing effective strategies, they will succeed in reaching their educational objectives. Furthermore, self-regulated learners can define their learning goals and can pursue actions of knowledge construction on their own (Seker, 2016). In contrast, learners who are not equipped with SR become blind receivers and imitators of the presented content. As Paul and Binker (1990) pointed out, such learners, are narrow-minded whose thinking is often ambiguous, insignificant, incorrect, irrelevant, and biased.

In the same manner, SRL comes across as a vital capacity in online learning environments that demands learners to have a higher level of autonomy and low levels of direction and facilitation from the teacher (Lehmann et al., 2014).

Unfortunately, most learners have difficulties employing SRL skills, when confronted with challenging and compound tasks in online learning settings (Azevedo, 2005; Wolters & Hussain, 2015). Cho and Heron (2015) mentioned that, in online environments, students are unmotivated and lack sufficient thinking skills, cognitive strategies, and self-monitoring ability. Learners with SRL deficiency may misinterpret the autonomy of the online environment and, thereby, may fail in learning skills that are expected in online contexts (Barnard et al., 2009). SRL strategies are effective in online courses giving an upper level of autonomy to students due to the teacher's physical absence. Different studies have shown the fruitfulness of SRL processes in enabling students to be prosperous learners in online environments (Winters et al., 2008). This is also supported by a meta-analysis done by Broadbent and Poon (2015) suggesting the existence of a significantly desirable link between SRL strategies and academic success in online settings. Accordingly, when students are exposed to complex topics that are not accompanied by SRL support, they do not acquire sufficient understanding because they are not adept at regulating their learning (Azevedo & Hadwin, 2005).

Reading is one of the most influential skills in education, and presumably, the most salient one for second language (L2) learners because it can not only boost language learning but also improve other related learning subjects (Nunan, 2003). It is suggested that, if learners are not well-equipped with adequate competency to grasp the tasks, they will probably fail in completing complex tasks (Gerla, 2009; Taraban & Rynearson, 2004; Voge, 2011; Willingham & Price, 2014). Many of them do not own the adequate reading skills that are necessary for them when they are confronted with the rigors of content-area teaching (Beaufort, 2009; Collins et al., 2008; Simsek & Balaban, 2010; Voge, 2011). In this domain, there have been some studies considering the impact of self-regulation on reading attainment in L2 contexts. For instance, Maftoon and Tasnimi (2014) researched this issue, and they found that the execution of self-regulation strategies improved EFL learners' reading comprehension. Other studies also indicated that training learners to be self-regulated on academic content can empower them to succeed in learning (e.g., Kang, 2010; Orhan, 2007).

Additionally, current neo-Vygotskian sociocultural theories on teaching and learning (e.g., Mercer, 2000) suggest that learners' active interaction in the

classroom, both between teachers and students and among students working in pairs, is vital for learning (e.g., Van Lier, 2008). Thus, knowing the structure and functions of this interaction can provide us with a better understanding of how to implement the processes of teaching, and learning in classroom contexts (e.g., Nikula et al., 2013). In this regard, willingness to admit wrongness as a public acceptance that one has been wrong about a belief or attitude was studied in this research. willingness to admit wrongness follows two main features: a changed attitude and public expression (Schumann, 2018).

Overall, assuming reading to be one of the most important aspects of learning (Nunan, 2003), and knowing that self-regulation appears to be critical for academic success (Boekaerts, 1999), the following research questions guide the present study:

1. What is the effect of SRL-based instruction on learners' reading comprehension?
2. What is the effect of SRL-based instruction on learners' willingness to admit wrongness?

### **Literature Review**

Zimmerman's (2000) model contains three cyclic phases; forethought, performance, and self-reflection. The first phase, forethought, refers to processes, such as task analysis and self-motivation beliefs. Task analysis covers goal setting and strategic planning. The former involves assigning specific proximal goals. The latter contains self-efficacy, which refers to learners' beliefs about their learning ability and their outcome expectations of learning. Zimmerman (2000) mentioned two more important terms for this phase to be intrinsic interest, which requires students to value the task skill for its own merits, and learning goal orientation referring to students' belief about the purposes of their learning.

The performance phase is characterized by two procedures of self-control and self-observation that happen during the behavioral implementation. Self-control covers the utilization of the strategic planning of the forethought phase. Other sub-processes of self-control are the use of imagery, self-instruction, attention focusing, and task strategies. As Panadero and Alonso Tapia (2014) referred, the second performance process contains two sub-processes, namely metacognitive monitoring, and self-recording. Meta-cognitive monitoring involves comparing one's

functioning against criteria to evaluate its effectiveness. And self-recording is keeping a record of personal behavior. The third phase, which is called self-reflection, refers to processes that follow each learning effort. It entails two major sub-processes of self-judgment and self-reaction. One form of self-judgment, self-evaluation, refers to the processes in which learners compare their self-observed performances against some criteria, such as their prior performance, another learner's performance, or an absolute standard of performance. Causal attribution is another form of self-judgment that refers to the time when a learner tries to explain one's failure or success. The second process of the self-reflection phase is called self-reaction. Self-reaction embodies the feelings of learners when they reach self-satisfaction or dissatisfaction in connection with their performance. Self-reactions also take the form of adaptive or defensive inferences, which entail decisions about learners' willingness to keep using the same strategies (i.e., adaptive inferences) or avoid performing them (i.e., defensive inferences). This view of self-regulation is cyclical since self-reflection from prior efforts can set the stage for the beginning of a new cycle (Zimmerman, 2000).

Moreover, one of the essential issues in language teaching and learning in today's world is functional mastery of language skills. Many scholars believe reading is the most critical skill in learning English (Bakhshizadeh Gashti, 2018; Janfeshan & Pourarian, 2017; Kharaghani et al., 2016; Mehrpour et al., 2012; Namaziandost et al., 2020). Goldenberg (2011) claims that the primary goal of reading is comprehension, and everything else is a means to this end. Comprehension is the ability to go beyond the words, to understand the ideas in a text and the relationships that exist between those ideas (McNamara, 2007). In this context, reading comprehension is considered one of the essential skills in higher education and the most crucial skill in education (Bedle, 2017; Ghahari & Basanjideh, 2017). Overall, current research suggests that self-regulation correlates with reading comprehension (e.g., Collins et al., 2008). Nevertheless, only a few researchers have provided empirical evidence on the ways self-regulation training can contribute to second/foreign language development and acquisition in general (e.g., Ellis & Zimmerman, 2001; Magno, 2009; Rose & Harbon, 2013) and second/foreign language reading ability in particular (e.g., Finkbeine et al., 2012).

Another important perceptive capacity is Willingness to Admit Wrongness

(WAW). WAW is a public acceptance of a wrong belief or attitude which has changed (Fetterman et al., 2018). In other words, wrongness admission is the act of a person publicly acknowledging that they held an inaccurate belief or attitude. Some people seem more willing to engage in wrongness admission than others. These individual differences may be important in understanding the barriers of wrongness admission. WAW is based on two main features: a changed attitude and the public expression of that attitude (Schumann, 2018). Several studies have reported apologies issues (e.g., Howell et al., 2012; Schumann, 2018), changing attitudes (e.g., see Petty & Briñol, 2015), and being wrong (e.g., see Tavris & Aronson, 2008), but wrongness admission has received little attention among experts and researchers, especially in education-related fields.

Nevertheless, only a few researchers have provided empirical evidence on the ways self-regulation training can contribute to second/foreign language development and also few studies have focused on the role of willingness to admit wrongness. Therefore, understanding the dynamic interaction between these factors, and measuring the enhancing effects of self-regulatory instructions on students' reading comprehension and willingness to admit wrongness demands further studies.

## Method

### *Research Design*

This quantitative study followed a quasi-experimental design. The study employed a pre-test and post-test design with two experimental groups and one control group and tried to investigate the effect of experimental treatment, which was self-regulation instructions in face-to-face and online settings. The dependent variables were learners' reading comprehension, and their willingness to admit wrongness. The participants, as shown in Table 1, were assigned to three groups: control, face-to-face, and online groups.

**Table 1**

*Frequency of Sample Distribution*

Groups	Frequency	Percent
Control	13	33.3%
Face-to-Face	13	33.3%
Online	13	33.3%
Total	39	100%

### ***Materials and Instruments***

Initial approval was obtained from the institute principals based on the institute's assigned ethical guidelines. Then, a consent form was given to each participant in which the agreement between the researcher and the research participants was outlined, including the roles and responsibilities they were taking towards one another throughout the whole research process. A convenience sampling procedure was used to recruit 39 male and female Iranian EFL learners who ranged in age from 14 to 16 and were homogeneous (Elementary level) based on the results of Longman Placement Test. They were all studying English at the Iran Language Institute of Kerman, Iran. The reading materials were selected from *Select Reading* (Second edition), and participants were exposed to some selected reading texts and related questions. In other words, they were not exposed to or practiced any extra reading texts, tasks, or tests either during the pre-reading or post-reading phases except for the SLR ones. Two reading comprehension tests from *Select Reading* (Second edition) were excluded from the procedural phase and were used as pretests and posttest measures to assess the participants' reading comprehension skills. The reading passages were followed by 8 multiple-choice tests. And 20 minutes were given to the participants to complete the reading questions.

For the other variable which was Willingness to Admit Wrongness, MacCann and Roberts (2008) test was used in this study. The questionnaire items of this test covered different situations (e.g., classroom and home), partners (e.g., stranger, friend, and parent), and contents (e.g., class performance, homework, and discussions). Participants answered if they would admit that they were wrong in each case on a Likert scale. For example, *you are arguing with a classmate (e.g., in a classroom discussion). You are both convinced of your correctness. However, you realize that your opinion is against the facts, and your classmate is probably right. Would you publicly admit your wrongness?*

Before the treatment, all participants of the experimental groups and control group were invited to complete the reading comprehension, and willingness to admit wrongness questionnaires within two separate sessions before the actualization of the research project. Then, in the treatment phase, the control group was exposed to the face-to-face instructions of the ILI institute:

- Answering pre-reading questions
- Learning the passage while the teacher paraphrases the text for them
- Assignment (reading out the passage or a part of it)
- Answering the comprehension questions of the text

Moreover, the learners of the face-to-face group and the online group dealt with the following procedures:

- Answering pre-reading questions
- Completing their forethought checklist.
- Exposing them to the reading content.
- Learning the passage by themselves while completing their performance checklist.
- Answering the comprehension questions of the text
- Completing their reflection checklist

The checklist used in this self-regulatory course was provided based on Morshedian et al.'s (2016) implication of SRL procedures. The following table demonstrates the checklist of the strategies taught and given to the learners in the forethought phase.

**Table 2**  
*Checklist of Forethought Phase*

Forethought Phase		
Strategy	Forethought Question Prompts	Answer
1. Goal-setting	What is my reading purpose?	
2. Strategic planning	Which strategies should I use during a reading text?	
3. Self-efficacy	How sure am I to get 85 on my next reading test and that I can answer 70% of these reading questions?	
4. Outcome expectations	Do I believe I will cope with the reading task without help?	
5. Task interest/value	How interesting is reading for me?	
6. Goal-orientation	Do I know what the reading goals are?	



The following table demonstrates the checklist of the strategies taught and given to the learners in the performance phase.

**Table 3**  
*Checklist of Performance Phase*

Performance Phase		
Strategy	Performance Question Prompts	Answer
1. Modeling	Which reading comprehension strategies am I using?	Scanning Skimming Both
2. Self-instruction	Am I saying out loud the strategy/strategies that I am using?	
3. Imagery	Am I using concept mapping?	
4. Time management	Am I following my schedule?	
5. Environmental structuring	Am I in a non-disturbing environment?	
6. Help-seeking	Am I getting help from a capable peer?	
7. Self-consequences	Am I rewarding myself for a better completion	
8. Meta-cognitive monitoring	Are my listed learning features different from the ones mentioned by others (the teachers and classmates)?	
9. Self-recoding	Am I recording the time of the performance?	

And, the following table demonstrates the checklist of the strategies taught and given to the learners in the reflection phase.

**Table 4**  
*Checklist of Reflection Phase*

Reflection Phase		
Strategy	Performance Question Prompts	Answer
1. Self-evaluation	How well did I understand the reading questions?	
2. Causal attributions	What did cause my poor performance?	
3. Self-reaction	How satisfied am I with my accomplishment on my last reading test/task?	
4. Adaptive/defensive inferences	What do I need to do to boost my performance on my next reading task?	

Therefore, in every reading session, the checklists mentioned above were practiced by learners in the experimental group of the face-to-face and the online group. Moreover, in the experimental group of online, self-regulation instructions were applied with the Adobe Connect program to establish the online teaching context. In the online context, the teacher and learners used microphones and webcam sharing instead of face-to-face communication. Also, these checklists were printed and given to the learners before the intervention program. Table 5 provides a brief description of the self-regulation training sessions in the face-to-face and online contexts.

**Table 5**

*Brief Description of Self-Regulation Training Sessions*

Session	Intervention
First to Fifth	Teaching and practicing the forethought phase along with the relevant self-regulatory instructions
Sixth to Tenth	Modeling and practicing the performance phase along with the relevant self-regulatory instructions
Eleventh to Fifteenth	Training and practicing the self-reflection phase along with the relevant self-regulation instructions
Sixteenth to Twentieth	Review and practice all three stages of forethought, execution, and self-reflection

After the treatment, they completed reading comprehension, and willingness to admit wrongness questionnaires. The instructor ensured adherence to the intervention protocol using the following strategies: structured training, supervisory monitoring, and feedback.

## Results

The first question of this study aimed at studying whether applying SRL strategies would make a significant difference in learners' reading comprehension or not. To this end, descriptive and inferential statistics such as paired sample t-tests and one-way analysis of covariance were used; Excel 2010 and SPSS 16 software were used, respectively. Table 6 provided descriptive statistics regarding the reading comprehension variable.

**Table 6**

*Descriptive Statistics of the Reading Comprehension Variable in the Pretest and Posttest Phases*

Groups	Variable	Time	N	Mean	Std. Deviation
Control	Comprehension	Pre	13	12.12	2
		Post	13	11.69	3.04
Face-to-Face	Comprehension	Pre	13	10.96	2.61
		Post	13	11.38	2.75
Online	Comprehension	Pre	13	10.38	2.67
		Post	13	14.46	3.07

As the descriptive statistics (Table 6) revealed, some differences existed among the means of the pretests and posttests. Therefore, paired sample t-test was used to have a better understanding of these differences (Table 7). As the results of the paired-sample t-test indicated, the control group’s reading comprehension scores in the pretest and the posttest did not positively change from the pretest to the posttest. However, the means of reading comprehension scores in the face-to-face and online groups were different in the pretests and the posttests (Table 7).

**Table 7**

*Paired Sample T-Test of Reading Comprehension*

Groups	Time	N	Mean	Std. Deviation	T-Test	Df	P-Value
Control	Pre	13	12.12	2	0.67	12	0.5
	Post	13	11.69	3.04			
Face-to-Face	Pre	13	10.96	2.61	-0.86	12	0.4
	Post	13	11.38	2.75			
Online	Pre	13	10.38	2.67	-4.25	12	0.001
	Post	13	14.46	3.07			

Then the test of between-subject effects was applied and, as the results displayed in Table 8 show, there were no statistically meaningful differences among the three groups on the pre-test reading comprehension scores.

**Table 8***Test of Between-Subjects Effects*

Source	Sum of Squares	df	Mean Square	F	P-Value
Group	41.61	2	20.81	3.41	0.05
Pretest	104.31	1	104.31	17.11	0.000
Pretest× Group	17.81	2	8.90	1.46	0.2
Error	201.20	33	6.1	-	-

ANCOVA test was used to check the influence of the treatment on the learners' reading comprehension while removing the effect of their pretest scores. Accordingly, levene's test for equality of variances was used (Table 9), and equal variance was assumed.

**Table 9***Levene Test of Equality of Error Variances*

Variable	F	df1	df2	P-Value
Reading comprehension	1.29	2	36	0.3

The ANCOVA test results showed that the online group performed significantly better than the control and face-to-face group on reading comprehension (Table 10). In addition, the Bonferroni Post Hoc Test was done to uncover specific differences between these three group means. The Bonferroni Post Hoc Test suggested a very large magnitude of instructional effect for the online group as compared to the control and face-to-face group (Table 11).

**Table 10***ANCOVA Analysis of Reading Comprehension*

Source	Sum of Squares	df	Mean Square	F	P-Value
Pretest	96.07	1	96.07	15.35	0.000
Group	112.70	2	56.35	9.01	0.001
Error	219.01	35	6.26	-	-
Corrected Total	389.74	38	-	-	-

**Table 11**

*Bonferroni Post Hoc Test of Reading Comprehension*

Groups	Estimated Marginal Mean	Mean Difference	P-Value
Control	11.05		
Face-to-Face	11.51	-0.46	1
Control	11.05		
Online	14.98	-3.93	0.002
Face-to-Face	11.51		
Online	14.98	-3.46	0.004

The second question of this study implied studying the influence of SRL strategies on learners' willingness to admit wrongness. To investigate it, the following procedures were applied. Table 12 provides descriptive statistics to compare the differences between the means of the control group and experimental groups regarding the willingness to admit wrongness variable.

**Table 12**

*Descriptive Statistics of WAW Variable*

Groups	Variable	Time	N	Mean	Std. Deviation
Control	WAW	Pre	13	31.38	4.89
		Post	13	31.77	3.85
Face-to-Face	WAW	Pre	13	29.23	5.51
		Post	13	31.54	5.33
Online	WAW	Pre	13	29.00	4.95
		Post	13	32.38	5.25

As the descriptive statistics (Table 12) revealed, some differences existed among the means of the pretests and posttests. Therefore, paired sample t-test was used to have a better understanding of these differences (Table 13). The result of the control group's willingness to admit wrongness in the pretest and the posttest indicated that willingness to admit wrongness means in the control group did not change from the pretest to the posttest (Table 13). However, the means of willingness to admit wrongness in the face-to-face and online groups were different in the pretests and the posttests (Table 13).

**Table 13***Paired Sample T-Test to Compare Pretest and Posttest of WAW*

Groups	Time	N	Mean	Std. Deviation	T-Test	df	P-Value
Control	Pre	13	31.38	4.89	-0.79	12	0.4
	Post	13	31.77	3.85			
Face-to-Face	Pre	13	29.23	5.51	-2.30	12	0.04
	Post	13	31.54	5.33			
Online	Pre	13	29.00	4.95	-3.33	12	0.006
	Post	13	32.38	5.25			

The results displayed in Table 14 provided that there were no statistically significant differences among the three groups on the pretest of the willingness to admit wrongness.

**Table 14***Test of Between-Subjects Effects*

Source	Sum of Squares	df	Mean Square	F	P-Value
Group	0.28	2	0.14	0.02	0.9
Pretest	543.75	1	543.75	59.59	0.00
Pretest × Group	0.32	2	0.16	0.02	0.9
Error	301.13	33	9.13	-	-

To assess the equality of variances for the willingness to admit wrongness, levene's test was used, and equal variance was assumed.

**Table 15***Levene Test of Equality of Error Variances*

Variable	F	df1	df2	P-Value
WAW	3.27	2	36	0.05

Therefore, ANCOVA was used to check the influence of the treatment on the learners' willingness to admit wrongness while removing the effect of their pretest scores. The ANCOVA test results showed that there were no statistically

significant differences among the three groups on the posttest of the willingness to admit wrongness (Table 16).

**Table 16**

*ANCOVA Analysis of WAW*

Source	Sum of Squares	df	Mean Square	F	P-Value
Pretest	549.17	1	549.17	63.76	0.000
Group	37.24	2	18.62	2.16	0.1
Error	301.45	35	8.61	-	-
Corrected Total	855.59	38	-	-	-

## Discussion

This research investigated the influence of SRL instruction on learners' reading comprehension and willingness to admit wrongness in two contexts: face-to-face and online. Self-regulation has always been the elemental conceptualization of how to foster learners' progress and is linked to providing environments that push learners' performance toward learning. There is also a line of research that studies the importance of creating a classroom context to pursue educational goals (Alonso-Tapia & Fernandez, 2008; Meece et al., 2006). Following the same objectives, this study tried to assess the effectiveness of the teachability of the latest version of the SRL model (Zimmerman & Moylan, 2009) and its effects on learners' reading comprehension and willingness to admit wrongness in face-to-face and online environments. Drawing on the statistical analysis of the paired sample t-test, the results indicated that reading comprehension and willingness to admit wrongness of face-to-face and online groups changed significantly from the pretest to the posttest. Additionally, as the statistical analysis of the ANCOVA and Bonferroni test showed, the online group had a better performance compared with the control and face-to-face group regarding reading comprehension attainment. However, the ANCOVA test results showed that there were no statistically significant differences among the three groups on the posttest of the willingness to admit wrongness.

The result of this study supports the theoretical dimensions of Zimmerman and Moylan's (2009) model of SRL and supports the applicability of this model to L2 reading classrooms. Moreover, the study provides evidence in favor of the

practicality of effective training of SRL-based reading instruction, which has not been given sufficient consideration in self-regulation studies, especially in online environments. Our findings show the effective instruction of the SRL-based strategies on reading performance as has been mentioned by different researchers (Oxford, 2017; Teng & Zhang, 2020). In the current study, self-regulation strategies also gave the learners the tendency to acknowledge in front of others that they held an inaccurate attitude or belief.

Some other studies have confirmed our findings that using SRL strategies causes cognitive and personal development in different learning contexts (Zhang et al., 2016; Zhang et al., 2019). The findings also advocate that self-regulatory skills help learners control their thoughts, plan their goals, face potential problems, and complete the assigned tasks (McClelland & Cameron, 2019), which in turn equips them to adapt to the academic challenges, needs, and goals. Concerning the significance of SRL strategies in online environments, some studies (Azevedo, 2005; Barnard et al., 2009; Lehmann et al., 2014) have confirmed our findings that effective SRL strategies are critical in online situations. The results are also in line with Broadbent and Poon's (2015) meta-analysis suggesting the existence of a strong interrelationship between self-regulatory strategies and achievements in online settings. Azevedo and Hadwin (2005) have also reported a positive relationship between successful performance in online environments and the effective implantation of self-regulation strategies. In line with our findings, empirical evidence is provided by different researchers in favor of the practical implementation of self-regulation strategies (e.g., Ferreira & Veiga-Simão, 2012; Kang, 2010; Koehler, 2007; Orhan, 2007).

## **Conclusion**

Nowadays, virtual education is becoming increasingly important in both working and learning contexts (Muñoz Cristóbal et al., 2018), and technological development has constantly expanded its prominent role in educational contexts by providing the possibilities for distance education and contributing to the growth of online/virtual education. Among the issues related to online instructional environments, this research compared self-regulation learning in face-to-face learning and online learning. Online learning is nowadays one of the main interests



of educators, teachers, and language learners because it provides a safe and healthy context to access countless information. Therefore, the quasi-experimental design to study the importance of self-regulation instruction was applied, and the following issues were investigated: (a) the teachability of self-regulation strategies, (b) improvement in learners' reading comprehension, and (c) the potential of online context as a more efficient context for learners to be self-regulated readers.

It can be concluded that the findings of this research advocate the previous findings supporting the positive effect of self-regulated instruction on students' academic performance (Boer et al., 2012; Broadbent & Poon, 2015; Büttner, 2008; Dignath et al., 2008; Sitzmann & Ely, 2011), especially in online environments. Furthermore, the results contribute to the literature on e-learning regarding the quality of instructional teaching tasks and learning processes, not the technology itself. In conclusion, the study opens a new window for teachers, educational policymakers, teacher training centers, and those who care about the quality of education and students' academic achievements.

It is noteworthy to consider the present study's limitations. Firstly, limitations of participants' accessibility (elementary language learners) call for further studies demanding students at other institutes and other proficiency levels. Secondly, future studies can consider investigating the interrelationship between some other variables like SRL constructs, language skills, psychological factors, and performing self-regulation in different contexts or sample sizes.

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