



## **Eleventh-grade Students' Use of Metacognitive Reading Strategies in Arabic (L1) and English (L3)**

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The current study investigated eleventh-grade students' metacognitive awareness of reading strategy use in Arabic (L1) and English (L3). In particular, (i) it examined whether there is any association between the use of MCRS in a reading comprehension task in English and Arabic among trilingual learners, and (ii) whether the application of MCRS when doing reading comprehension tasks in these languages predicted the reading comprehension scores in both languages. This study included 42 eleventh-grade students from a public high school in Morocco. The Metacognitive Reading Strategies Questionnaire (MRSQ), (Abu-Rabia, 2018), was utilized along with two reading comprehension tests, one in Arabic and one in English. The Pearson correlation coefficient was used to see whether there is any connection between the use of MCRS in English and those used in Arabic. Multiple linear regression analyses were employed to predict the reading comprehension scores in Arabic and English based on MCRS use. Results revealed a significant correlation between the use of MCRS in both languages. MCRS were found to be underused among lower-achievers. Furthermore, the application of MCRS predicted higher reading comprehension scores in both study languages. Based on the findings, the study discusses some practical implications of MCRS use.

**Keywords:** eleventh-grade students, multilingual learners, reading comprehension, academic texts, metacognitive strategies, transferrable skills

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## INTRODUCTION

Reading is a skill that is not only essential for learning new languages and knowledge but also necessary for a successful academic career. It is one of the four core language skills that language learners must master to acquire new information (Par, 2020), consolidate and expand their language skills (Rivers, 1981) and successfully learn the target language (Anderson, 2003). It is a cognitive process through which the reader has to interact actively with a written text to process and construct meaning from it (Par, 2020) through activating their prior knowledge and experiences (Niri, 2019). Reading is defined by Urquhart & Weir (1998) in two ways: first, as a process of decoding syntactic, semantic, and pragmatic information, and second, as a holistic process that includes multiple metacognitive activities during the reading process. For novice readers, reading is the ability to decode letters by converting graphemes into phonemes, while it is regarded at advanced levels as a complex process that incorporates numerous metacognitive reading strategies (MCRS) to comprehend sentences or texts (Razkane & Diouny, 2021; Wagner et al., 2009).

Successful reading comprehension entails the application of different metalinguistic skills and MCRS. According to Khamkhong (2018), to be academically successful, students have to learn to read extensively and efficiently to acquire new knowledge from the reading material. Due to its paramount importance, reading comprehension is considered a fundamental skill examined by schools all over the globe to assess learners' language proficiency or content subjects. Following the rest of the world, Moroccan students have to sit for many reading-comprehension exams in languages such as Arabic, French, and English in secondary school and even at tertiary education for academic or professional purposes.

However, a significant proportion of Moroccan students from elementary to university education continue to struggle with reading comprehension. Many language teachers raise some concerns about their students' ability to complete reading comprehension tasks efficiently and comprehend the contents of texts appropriately. In this regard, Par (2020, p.223) asserts that “[t]raining students to read effectively is the main concern of the teachers and researchers in the field of EFL to ensure success in learning.” Other researchers indicate that most language learners usually find it difficult to decode the meaning of the target text (Ahmadi et al., 2013). However, it is recommended that MCRS may help struggling readers improve their ability to comprehend and learn from their reading materials (Ahmadi et al., 2013; Salataci & Akyel, 2002). One way to increase struggling students' understanding of texts and boost their productivity is by enhancing their metacognitive reading strategy awareness (Jafari & Ketabi, 2012). To this respect, Karbalaie (2011, p.5) recommends that “less competent learners may improve their skills through training in strategies evidenced by most successful learners.”

Although the link between MCRS and reading comprehension has been well documented, there is a paucity of research into the extent to which Moroccan learners use MCRS when dealing with reading comprehension tasks. In addition, not many studies have examined the extent to which MCRS in English (L3) and Arabic (L1)

correlate with reading comprehension scores in both languages among trilingual learners of English, and whether there is an association between the scores in each study language. Finally, studies on language skills transfer reported that readers can positively transfer reading skills from L1 to L2. However, very little research has investigated whether there is any connection between the application of MCRS in an L3 and an L1 when the participants do reading comprehension tasks in these languages.

The purpose of the present study is two-fold. First, it investigated whether there is a statistically significant correlation between the use of MCRS in English (L3) and Arabic (L1) among Moroccan eleventh-grade students. Investigating this area may contribute to the knowledge base of metacognitive strategies used by Moroccan high-school students when reading texts in English and Arabic, and answering the question of whether there is any transfer of these strategies from one language to another. Second, this study examined the extent to which the use of MCRS predicts reading comprehension scores in each study language. Examining whether there is a link between MCRS in English and Arabic reading tasks to the reading achievements in both languages can contribute theoretically to our understanding of reading in English and Arabic and practicality in designing appropriate curricula for teaching. To that end, the following research questions are addressed:

- 1- To what extent does the use of MCRS in a reading comprehension task in English (L3) correlate with the use of similar strategies in a reading comprehension task in Arabic (L1) among eleventh-grade students?
- 2- To what extent does the application of MCRS in academic texts in Arabic and English predict eleventh-grade students' reading comprehension scores?

## **Literature Review and Theoretical Framework**

### **Linguistic Interdependent Hypothesis**

Cross-language transfer research pointed to a strong connection between L1 and L2. Cummins' (1979, 1981, 2000, 2007) *Linguistic Interdependent Hypothesis* (LIH) suggests that the learner's L1 and L2 are strongly interconnected to the extent that a deficiency in one language might impair proficiency in the other. Consequently, fully developed metalinguistic skills in L1 could positively transfer to L2 when sufficient exposure to the L2 is provided. The LIH posits that the two languages bilingual learners use become integrated through what is termed *Common Underlying Proficiency* (CUP). According to Cummins, this CUP accelerates the learning process of both L1 and L2 as learners with a threshold level of proficiency in L2 would benefit from the linguistic repertoire stored in their CUP during the acquisition of L1. Thus, thanks to the CUP, which is common to all languages, acquired skills in L1 become transferrable to another language, regardless of the orthographic difference between the languages. The LIH also claims that an individual's ability to read fluently in their L1 has a significant effect on their ability to read in L2. The main assumption of the LIH is that a learner's CUP makes the transfer of well-developed (meta)linguistic knowledge transferrable across different languages: from L1 to L2 (Abu-Rabia, 2001), or from L2 to L1 (Abu-Rabia et

al., 2013; Kim & Piper, 2019) or from L3 back to L2 and L1 (Abu-Rabia & Shakkour, 2014; Razkane & Diouny, 2021, Razkane et al. 2022).

### **Metacognitive strategy awareness**

Metacognition refers to an individual's awareness of their cognitive development, mental processes, learning styles, and the capacity to organize, manage and solve problems. Flavell (1979) regards reading as a *cognitive enterprise* that involves an awareness of a variety of MCRS and skills. Brown et al. (1986) maintain that metacognition is crucial to reading comprehension. In the same vein, Karbala (2011) argues that the context of reading comprises two types of cognition: A reader's knowledge of reading strategies to learn from the text, and the ability an individual has to monitor their actions during the reading process reading. MCRS are described as tools that assist students to understand their abilities and figure out how to learn different skills in the learning environment while dealing with a reading task (Sutiyatno & Sukarno, 2019). MCRS are regarded as conscious, deliberate, and goal-oriented activities or plans that readers employ to decode, understand and construct meanings from written texts (Afflerbach et al., 2008; Manoli & Papadopoulou, 2012). While reading skills are defined as unconscious, automatic, effortless activities (Manoli & Papadopoulou, 2012) used to decode and comprehend texts quickly, efficiently, and fluently, "usually without the reader's awareness of the components or controls involved" (Afflerbach et al., 2008, p.15), MCRS are "in fact problem-solving strategies employed by readers to cope with reading texts" (Al-Mekhlafi, 2018, p. 299).

According to Abu-Rabia (2018), metacognitive reading processes include three key stages: planning, monitoring, and evaluating. Each reading phase comprises a number of MCRS that could be employed at a specific point during the global reading comprehension process. These strategies comprise setting an objective to reading, activating background knowledge, making predictions, skimming, scanning, repairing, guessing meaning, visualizing, checking, revising, altering reading speed, deconstructing the structure of the text, summarizing, evaluating, and self-questioning in the post-reading phase to check whether the purpose behind reading is achieved (Carrell et al., 1998). Iwai (2011) maintains that metacognition plays a key role in reading comprehension as it is linked to linguistic, cognitive, and social skills development, and that metacognitive strategy awareness can sharpen students' mental processes and make them *strategic thinkers* who can deal with difficult tasks in a scientific way. Similarly, Auerbach & Paxton (1997) assert that metacognitive strategies can be effectively activated only when learners read a certain text with a particular purpose in mind. According to Karbalaie (2011, p.7), to do a reading comprehension task successfully, readers must use their metacognitive knowledge to trigger "conscious and deliberate strategies." MCRS show readers how to deal with a given reading task, what textual prompts to exploit, how to decode the reading material, and what procedures to follow when failing to get the meaning of the target text (Block,1986).

### **Metacognitive strategies and reading comprehension**

Research suggests that MCRS can be useful to comprehend reading tasks. For example, Gebhard (2000) reported a statistically significant correlation between the participants' use of MCRS and their reading comprehension scores and that skilled readers who employed MCRS effectively scored higher in reading comprehension tests than the struggling ones. Research also demonstrated that learning MCRS facilitates L2 acquisition (Ahmadi et al., 2013), and improves reading comprehension scores (Irfan et al., 2019; Par, 2020; Sutiayatno & Sukarno, 2019; Thongwichit & Buripakdi, 2021; Villanueva, 2022; Wu et al., 2021). Sutiayatno and Sukarno (2019), for instance, found an association between undergraduate students' reading performance and their use of metacognitive strategies. The researchers also reported that such strategies helped students acquire new skills in a different learning environment. Equally, researchers like Par (2020), Villanueva (2022) and Mohammed (2022) revealed a significant correlation between the application of reading strategies and the participants' reading comprehension performance and that the problem-solving strategies predicted reading outcomes. The researcher concluded that the more problem-solving strategies are used during the reading process, the better understanding of the texts the students show. Also, Irfan et al. (2019) found that students' understanding of MCRS is a robust predictor of their academic progress. Other studies indicated a significant improvement in students' outcomes after being trained in MCRS (Thongwichit & Buripakdi, 2021; Wu et al., 2021).

Good readers are reported to make use of MCRS more frequently and efficiently than struggling ones. Skilled readers are found to be able to decipher the content contained in written words (Sutiayatno & Sukarno, 2019) and use various strategies before, while, and after doing a reading comprehension task (Niri, 2019). Similar claims were made by Manoli & Papadopoulou (2012), who concluded that good readers possess a metacognitive awareness that enables them to select the appropriate strategy, know when to employ it and how to use it to grasp the meaning of the text. Consistent findings were reported by Ozek & Civelek (2006), who examined reading processes, namely planning, monitoring, and evaluating strategies among different levels of students, and found that high proficient learners performed better in all the reading strategies than poor and low-proficient readers. Correspondingly, Jeevaratnam & Stapa (2022) discovered that proficient Malaysian students tend to use MCRS more frequently than less proficient ones. In a similar vein, Louiza and Fadhila (2022) found that metacognitive reading strategy use is not common among Algerian EFL university students, and that the participants used reading strategies only occasionally. In short, research revealed that good readers can use MCRS to reach their goals (Pressley & Afflerbach, 1995), comprehend the content of the reading materials efficiently (Par, 2020), and monitor their understanding of the text while reading (Hedin 2010).

On the other hand, Hedin (2010) maintained that poor readers only decode words but do not extract information from the target text to enhance their knowledge. They are also found to be unaware of MCRS, unable to monitor their activities, and fail to generate the meanings from the reading material (Niri, 2019). The researcher also proposed that poor readers can become proficient ones and successful learners if they are trained to use

MCRS effectively and instructed to monitor and check their understanding of the text during the reading process. However, Rochmawati et al. (2022) concluded that the use of MCRS necessitates intricate knowledge and self-regulatory skills in their implementation. While Dardjito (2019) found that MCRS used by first-year Indonesian university students have no discernible effect on their academic reading comprehension in English, Al-Mekhlafi (2018) claimed that there were no significant differences in the use of various types of reading strategies among learners of various levels.

### **Metacognitive reading strategies transfer across languages**

Some researchers considered the relationship between first and second language readers' use of MCRS. For instance, Salataci et al. (2002) found that training in metacognition had a favorable effect on both Turkish and English reading strategies and English reading comprehension among Turkish students. Kong (2006) indicated that Chinese adult readers with a moderate to high L2 proficiency level showed stronger forward transfer of reading strategies from Chinese to English than those with a low L2 proficiency level. Moreover, Razkane & Diouny (2021) discovered that metacognitive reading strategy awareness improved significantly in English, French, and Arabic for the experimental group after the cohorts received a twelve-week training in these strategies. Similarly, Rabadi et al. (2020) reported a moderate use of MCRS among both learners of English and French in Jordan. Evidence from the aforementioned studies suggests a transfer of MCRS from one language to another. Additionally, Abu-Rabia (2018) found that participants' level of metacognitive reading awareness increased when they were more proficient in both languages and that improved metacognitive reading awareness was associated with balanced bilingualism. A recent study by Tse et al. (2022) looked into the relationship between self-regulated learning strategies and bilingual students' reading test achievements in Chinese and English, and discovered that planning and monitoring strategies used in Chinese had a direct and positive impact on reading test performance in both Chinese and English. Al-Mekhlafi (2018, p. 299) assumes that "learners can and will improve their reading comprehension in a second or foreign language by using appropriate strategies acquired as first language readers."

It can be noted from the literature that many research studies indicated a significant correlation between MCRS and reading comprehension performance of a given language. However, not many studies have examined the extent to which the MCRS in English (L3) and Arabic (L1) correlate with reading comprehension scores in both languages among trilingual learners of English, and whether the scores in each study language are associated. Further, studies on language skills transfer reported that readers can positively transfer their L1 reading skills to their L2. However, very little research has investigated if there is any link between the application of MCRS in an L3 and an L1 when the participants do reading comprehension tasks in these languages.

## **METHOD**

### **Participants**

Fort-two eleventh-grade students (male = 20; female = 22) were conveniently selected for the current study. All the participants were studying experimental sciences in a

public high school in El Jadida province, Morocco. Their ages varied from 16 to 20 years old ( $M=17.05$ ,  $SD=1.103$ ). The socioeconomic status of the participants ranged from low to medium. They began studying Arabic as their first language in the first grade and English as their third language in the ninth grade.

#### **Data collection instruments and Procedure**

The participants completed the Metacognitive Reading Strategies Questionnaire (MRSQ) (Abu Rabia, 2018). It is based on Mokhtari & Sheorey's (2002) *Survey of Reading Strategies* (SORS) and is intended to assess ESL students' metacognitive awareness and perceived use of reading comprehension strategies while completing a reading comprehension assignment. The MRSQ is divided into three sections: (a) *planning*, which occurs before reading, (b) *monitoring*, which occurs whilst reading, and (c) *evaluation*, which occurs after reading. Each part offers a variety of metacognitive reading strategies, with each item graded on a five-point Likert scale ranging from 1 to 5, with 1 indicating I never do this and 5 indicating I always do this (English MRSQ,  $\alpha=.817$ ; Arabic MRSQ,  $\alpha=.738$ ).

Each participant was given a reading comprehension task in each target language (English and Arabic) to evaluate their usage of metacognitive reading strategies. Each test comprised twenty questions that were developed by the researchers in collaboration with highly experienced lecturers and scholars in the area. The materials correspond to the Ministry of Education's Arabic and English language curriculum for eleventh-grade students. Each reading activity included a title, reading instructions, and an accompanying image. The participants were instructed to quietly read an academic text in English and then respond to questions based on the target material. After completing the reading comprehension task, participants were given the MRSQ in Arabic and asked to report on their reading strategies for the target texts. The same procedure was followed in the reading comprehension task in Arabic after one week.

#### **Data analysis**

The obtained data were analyzed in the *Statistical Package for Social Sciences (SPSS)* version 25. Descriptive statistics were employed to give details about the participants' demographic data and their use of MCRS. Means, standard deviation, and frequency of the participants' age, gender, scores in the reading test, and use of MCRS were calculated.

Also, the current study aimed to investigate whether there is a connection between the use of MCRS in Arabic and English while doing a reading comprehension task, and the extent to which the use of these strategies predicts the participants' performance in reading comprehension tasks. Hence, to compare the use of MCRS in English and Arabic among the cohorts, correlation tests were used, while multiple linear regression techniques were employed to predict reading comprehension scores in each language, accounting for the usage of metacognitive strategies when doing the reading tasks.

## FINDINGS

The results obtained from the MRSQ indicated that the grand means of the MCRS the participants used when completing the reading comprehension task is 39.64 (SD=17.62) in English and 41.7 (SD=18.27) in Arabic out of a possible range from 19 to 95. This reveals that the participants' use of MCRS is rather low. Table 1. illustrates the findings:

Table 1  
Descriptive statistics of the participants' MCRS use

	English		Arabic	
	Mean	S.D	Mean	S.D
Q1 Planning [I activate my background knowledge on the topic before reading the text.]	2.14	1.09	2.33	1.07
Q2 Planning [I pre-read questions before reading the text]	1.52	.917	1.71	.97
Q3 Planning [I try to predict the content of the text from the title or reading instructions.]	1.71	.774	1.90	.79
Q4 Planning [I define the main points to pay attention to, such as headings, dates and names.]	1.88	.91	1.93	1.04
Q5 Planning [I pay attention to the text structure and topic sentences.]	1.88	1.01	2.19	1.15
Q6 Planning [I pay attention to the picture attached and try to predict the topic of the text.]	2.05	1.20	2.26	1.08
Q7 Monitoring [I first scan the text for getting a general idea]	1.26	.544	1.43	.59
Q8 Monitoring [While I am reading, I activate my background knowledge about the things mentioned in the text]	2.05	.88	1.95	.96
Q9 Monitoring [I know how to deal with difficult vocabulary in the text]	2.36	1.05	2.57	.99
Q10 Monitoring [I try to guess the meaning of unknown words from the sentence or text content.]	2.19	1.15	2.36	1.18
Q11 Monitoring [When the text is difficult, I pay closer attention to what I am reading or re-read it]	3.36	.95	3.43	.99
Q12 Monitoring [I take notes while reading to help me understand what I read and remember the information]	2.00	.96	1.98	.97
Q13 Monitoring [I underline the important details in the text to help me remember them and find them more easily later on.]	2.17	1.26	2.24	1.28
Q14 Monitoring [When I answer the questions, I underline the answers or supporting words in the text]	2.02	1.07	2.02	1.11
Q15 Evaluating [I assess myself whether I succeeded or not on this reading task]	2.19	1.11	2.14	1.09
Q16 Evaluating [I revise my process of reading and think about the ways, which can improve my reading comprehension]	1.24	.43	1.40	.54
Q17 Evaluating [I discuss the difficult points in the text with my classmates and exchange reading experience in order to share more effective reading strategies.]	1.48	.59	1.48	.67
Q18 Evaluating [When I receive the checked test, I attempt to find correct answers to the tasks which were done wrong.]	3.71	.83	3.86	.95
Q19 Evaluating [When I receive the checked test, I attempt to analyze my mistakes and understand what caused me to give a wrong answer.]	2.43	.83	2.52	.80
Sum	39.64	17.62	41.7	18.27

The correlation tests revealed a strong positive correlation between the participants' scores in Arabic and English ( $r=.859$ ,  $p<.001$ ). Additionally, findings showed a substantial connection between the respondents' use of planning and monitoring strategies in Arabic and English ( $r=.881$ ,  $p<.001$ ;  $r=.856$ ,  $p<.001$  respectively) and a moderate one in the evaluating phase ( $r=.552$ ,  $p<.001$ ). This means that the

participants' use of MCRS to cope with academic texts in English was highly linked to the strategies they employed when doing reading tasks in Arabic. The data obtained from the questionnaire also disclosed that the vast majority of participants used approximately the same MCRS in both languages. There was no discernible difference between the two groups.

To predict English and Arabic test scores based on their MCRS use in English and Arabic, multiple linear regression tests were calculated. Results indicated that 45.7% of the variance in the English test scores can be accounted for by the three predictors (planning, monitoring, and evaluating strategies in English) collectively, ( $F(3, 38) = 12.480, p < .001$ ). Looking at individual contributors, the results showed that only the planning strategies in English ( $\beta = .491, t = 2.721, p = .01$ ) positively predict the English test scores (see Table 2 & 3).

Table 2

Analysis of variance: English scores on MCRS

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	308.932	3	102.977	12.480	.000 <sup>b</sup>
	Residual	313.544	38	8.251		
	Total	622.476	41			

a. Dependent Variable: score in English

b. Predictors: (Constant), EngEvaluating, EngPlanning, EngMonitoring

Table 3

Regression analysis of the independent variables planning, monitoring, and evaluating on English scores

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.738	2.999		-.246	.807
	Eng Planning	2.623	.964	.491	2.721	.010
	Eng Monitoring	1.697	1.312	.238	1.293	.204
	Eng Evaluating	.738	1.263	.069	.584	.562

a. Dependent Variable: score in English

Similar results were obtained for the Arabic test scores. Results showed that 43.9% of the variance in the Arabic test scores can be accounted for by the three predictors (planning, monitoring, and evaluating strategies in Arabic) collectively ( $F(3, 38) = 11.681, p < .001$ ). Similarly, only planning techniques in Arabic ( $\beta = .529, t = 3.480, p = .001$ ) positively predict Arabic test scores (see Table 4 & 5).

Table 4

Analysis of variance: Arabic scores on metacognitive reading strategies

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.204	3	47.401	11.681	.000 <sup>b</sup>
	Residual	154.201	38	4.058		
	Total	296.405	41			

a. Dependent Variable: Score in Arabic

b. Predictors: (Constant), Ar Evaluating, Ar Planning, Ar Monitoring

Table 5  
Regression analysis of the independent variables planning, monitoring, and evaluating on Arabic scores

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.332	2.221		1.050	.300
Ar Planning	2.308	.663	.529	3.480	.001
Ar Monitoring	1.028	.763	.208	1.348	.185
Ar Evaluating	.467	.873	.064	.535	.596

a. Dependent Variable: Score in Arabic

Our findings suggest that students' pre-planning strategies in Arabic and English positively predicted their scores in both languages. This indicates that students use pre-planning strategies when coping with reading comprehension texts in both English and Arabic and that these strategies are significant determinants of students' performance in both languages.

## DISCUSSION

The current research investigated eleventh-grade students' metacognitive awareness of Arabic and English reading strategy usage, as well as their reading comprehension outcomes in both languages. Results disclosed that the participants have low awareness of MCRS in both languages. This implies that they lack an appropriate mastery of MCRS while doing reading comprehension tasks in English and Arabic. This lack of strategy awareness could be due to the absence of explicit strategy training programs in MCRS during language acquisition at school. This result lends support to the finding reported by Niri (2019), who found that poor readers are unaware of MCRS and fail to construct the meanings from the reading material, and those of Dansereau (1978), who observed that many students lack an appropriate understanding of MCRS, which hampers their reading achievements. Our finding is also consistent with that of Louiza and Fadhila (2022), who found that the Algerian EFL university students occasionally used metacognitive reading strategies. Manoli & Papadopoulou (2012), however, contended that good readers possess a metacognitive awareness that enables them to select the appropriate strategy, know when to employ it and how to use it to grasp the meaning of the text. Although can play a crucial role in reading comprehension, learning MCRS necessitates intricate knowledge and self-regulatory skills in their implementation (Rochmawati et al., 2022). Hence, based on practice and training, explicit teaching of MCRS, especially to poor readers, may boost productivity in reading comprehension tasks.

Our study also revealed a significant association between the participants' reading comprehension scores in English and Arabic and a positive substantial link between the usage of MCRS in both languages. This indicates that the participant used similar MCRS regardless of whether they were doing reading comprehension tasks in English or Arabic, which suggests that the cohorts' MCRS in English (L3) and Arabic (L1) are interdependent, irrespective of the differences in the orthographic scripts between the two languages. This lays further support to Cummins' (1979, 1981, 2000, 2007) CUP

theory, which postulates that the existence of a shared underlying language proficiency allows learners to transfer developed language skills across languages. Our findings are also consistent with those of previous studies which found that English language learners used the same MCRS in reading comprehension tasks in both their native language and English (Pinninti, 2016; Rabadi et. al. 2020; Salataci et. al. 2002, Tse et al., 2022)). Tse et al. (2022) learning strategies acquired in Chinese (L1) improved reading test performance in both Chinese and English. This entails that training language learners to use MCRS in one language may lead to the application of similar strategies in another language. Our result also supports Al-Mekhlafi's (2018) claim that language learners use appropriate strategies acquired in their L1 skills to improve their reading comprehension performance in L2. According to LIH, once literacy abilities such as reading skills are completely mastered in one language, they may be transferred to another language with sufficient exposure. All these findings suggest a possible transfer of MCRS from one language to another.

Based on the multiple linear regression analyses, our study revealed that the planning process is a strong predictor of reading comprehension scores. That is, the participants who reported a moderate usage of MCRS in the pre-reading stage of English and Arabic had higher results in both languages when compared to cohorts who rarely used these MCRS. Planning the reading process seems to be critical for the learners' reading comprehension performance. This means that the more participants use the planning strategies, the higher reading comprehension outcomes they can obtain. This result is in line with Par (2020), who also found a significant correlation between the participants' use of MCRS and their reading comprehension achievements. Our finding is consistent with previous research demonstrating that MCRS can help students improve their reading comprehension performance (Aydinbek, 2021; Habibian, 2015; Jeevaratnam & Stapa, 2022; Seedanont & Pookcharoen, 2019; Teng, 2020; Thongwichit & Buripakdi, 2021; Wu et al., 2021). Together with the aforementioned research, our results demonstrate the efficacy of using MCRS throughout the reading process and that learning these strategies is essential to learners' language acquisition development.

## CONCLUSION AND IMPLICATIONS

The MRSQ and reading tests revealed a high correlation between individuals' use of MCRS in English and Arabic and a low application of these strategies while reading academic texts in English and Arabic. The results also indicated that while doing a reading comprehension assignment in English or Arabic, the use of MCRS predicted reading comprehension scores in these languages. That is, students who used MCRS outperformed their peers on reading tasks. These skills seem to have the potential to not only improve and enhance students' comprehension of texts but also assist them to develop into active and self-directed readers capable of dealing with academic materials efficiently.

Additionally, our study has major implications for language teaching and learning theory. The results pointed to the significance of the use of MCRS during the reading process. Thus, we argue that explicit teaching of MCRS cannot only facilitate the acquisition process of languages, whether they are native or foreign, but can also make

language learners independent and strategic learners, provided that these strategies are used properly. As a result, we recommend that students should be explicitly trained to use MCRS appropriately in order to improve their ability to comprehend academic texts efficiently. Students, especially those who struggle with reading, might benefit from explicit strategy training on these strategies. This may assist language learners to enhance their metacognitive strategy awareness, which can help them improve their reading comprehension performance in particular and language acquisition in general.

Another implication of the study is that there is a desperate need for a multilingual approach where a connection among the different languages taught at school is made along with coordination among language teachers to facilitate the transfer of MCRS and (meta-)linguistic skills across languages. For instance, in Morocco, languages are taught independently and there is no coordination among teachers of different languages. In this regard, Sayeh and Razkane (2022) argue that “school programs should take into consideration the learners’ multilingual repertoires and strive to achieve a transfer of skills across languages since all the languages multilinguals use are integrated through a common underlying proficiency.” One may argue that if teachers of various languages teach similar skills and strategies concurrently, learners would develop their proficiency in different languages given that once language skills are developed in L1, they may be transferred to a second language with appropriate exposure to the target language (Cummins, 1979, 1981, 2000, 2007). Also, textbook designers are urged to include MCRS into reading comprehension tasks across all languages taught in Moroccan schools. Thus, teaching students to use MCRS while reading academic texts in a particular language may accelerate not only the acquisition of that language but also of other languages.

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