

**EFL University Students' Self- regulation and Metacognitive Awareness:
A Correlational Study**

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Iraq.sabeeha.hamza2207m@ircoedu.uobaghdad.edu.iqsalam.hamid@ircoedu.uobaghdad.edu.iq**Abstract**

The objective of the study is to determine whether there is a correlation between the self-regulation and metacognitive awareness (MA) of Iraqi EFL university students and their writing performance in language learning. Additionally, the study aims to assess whether the levels of metacognitive and self-regulation skills among students vary based on specific variables. This study utilized a descriptive survey method, which is a quantitative research strategy. The researchers gathered data using two scales. A sample size of 360 students from various EFL universities in Iraq was chosen to apply the instruments of the study during the academic year 2022-2023. To achieve the aims of this study, two instruments were used: a questionnaire was adopted to find out students' self-regulation and metacognitive awareness. Once we confirmed the psychometric properties, we administered the two instruments to the study participants. The study's findings indicate that pupils possess elevated degrees of self-regulation and metacognitive awareness. Furthermore, the findings also show that the participants' self-regulation is statistically correlated with their metacognitive awareness. In addition, Iraqi EFL university students' self-regulation and metacognitive awareness are correlated positively. An evident and positive correlation was discovered between the self-regulation abilities of English language learners and their writing proficiency.

Keywords: Self-regulation ; metacognitive awareness; writing performance; correlation study.

• Introduction

Metacognition, also known as “metacognitive awareness,” is the knowledge and monitoring of the learning process, and it is a crucial factor in effective language learning (Öz, 2007). A large body of research has now shown that metacognitive awareness, the capacity to govern and regulate one's self-controlled mechanisms and

cognition, can play a substantial role in English acquisition (Mehri Ghahfarokhi & Tavakoli, 2020; Roohani et al., 2017; Wallace, 2022). In other words, metacognitive awareness seems to impact EFL learners' self-regulation while reading passages by improving an individual's analytical approaches (Al-Jarrah et al., 2018). The idea of self-regulated learning is founded on the idea that learners should be responsible for their own education and should participate in it in an active manner (Zimmerman, 2002). Furthermore, the metacognitive awareness-raising of EFL/ESL students might be impacted by the teaching setting (Shyr & Chen, 2018; Abdulelah & Jasim, 2022).

When learners aim to improve their language acquisition, it is important for them to include metacognition and self-regulation as essential factors. According to Ferrari & Sternberg (1998), metacognition is a repetitive process of examining, self-observing, and assessing one's reaction to information in order to acquire a more distinct comprehension of new knowledge while reflecting on one's own thinking. The significance of studies on self-regulation and metacognition has greatly increased. Although metacognitive skills enhance critical thinking and offer advantages to students, most instructors lack knowledge on integrating them into course curricula (Pellegrino, 2007). Self-regulation and metacognition are two essential factors in the advancement of language acquisition among English as a Foreign Language (EFL) students. Consequently, further investigation is necessary to have a more profound comprehension of them. One of the objectives of language learning is for students to cultivate their capacity to write critically by employing self-regulation and metacognitive awareness. In order to carry out this operation, it is crucial to pinpoint certain metacognitive methods that can act as facilitators. The research primarily examines the importance of self-regulation and metacognitive awareness abilities in English as a Foreign Language (EFL) learners. (Al Asadi, & Al-Issa, 2022; Kadhimi, & Al-Bakri, (2023)

Goh (2016) highlights the necessity for further research to examine the influence of metacognitive awareness and self-regulation on writing performance in various circumstances. Hence, the present study anticipates a clear correlation between metacognitive awareness, self-regulation, and writing proficiency. Based on theoretical claims and past studies, the present study investigated the following questions:

- What are Iraqi EFL University students' levels of self-regulation and metacognitive awareness?
- “Is there a significant relationship between students' self-regulation skills and metacognitive awareness skills and their writing performance in learning English”?

• Literature Review

2.1 Metacognition awareness

The term "cognition," as defined by Brown (1975) and Flavell (1976), refers to the learners' comprehension of their own cognitive processes and their capacity to control and manage these processes (Flavell, 1979). This concept involves persons achieving self-awareness of their knowledge, efficiently exerting authority over it while learning, and managing it as necessary. Metacognition encompasses three strategies: “self-regulation, planning, and monitoring and regulation” (Zimmerman and Martinez-Ponsa, 1988). Planning involves a range of activities, including setting goals, analyzing tasks, choosing necessary materials, and starting the planning process from the beginning. The regulation approach, a crucial component of the monitoring strategy for learning regulation (Butler and Winne, 1995), entails pupils aligning themselves with cognitive activities and making decisions about whether to continue with those activities.

Metacognition is a term that has been defined in different ways by various individuals. According to Flavell (1979), metacognition is the understanding that humans have about cognitive processes and how they use this understanding to regulate those processes. According to McLeod (1997), metacognition refers to the capacity to regulate one's cognitive processes while engaging in problem-solving activities. The significance of metacognition lies in its capability to examine, elucidate, and eventually enhance learners' cognitive and learning processes (White, 1988; Al Saadi, & Shaima, 2009 ; Alsalihi, 2020).

Kuhn's definition of metacognition involves increasing one's awareness of their beliefs and knowledge, as well as improving their ability to strategically govern the use of strategies for processing new information. Metacognition, as defined by Taylor (1999), is the ability to recognize one's existing knowledge, accurately understand the requirements of a learning task, and effectively apply strategic knowledge to solve problems in a given situation with efficiency and reliability (Al-Kubaisy, 2018; Mohammed, & Jasim, 2022).

According to Sheorey and Mokhtari (2001), metacognitive strategy awareness refers to the deliberate preparation and execution of appropriate activities in order to accomplish a specific objective. Metacognitive methods are used to effectively regulate the entire learning process. The process involves recognizing one's personal preferences and requirements for learning styles, preparing for a task in a second language, collecting and categorizing materials, setting up a study area and timetable, tracking errors, and assessing the achievement of the work as well as the effectiveness of any learning approach (Ali, et al., 2022). Purpura (1999) discovered that native English speakers who are learning foreign languages benefit greatly from using metacognitive strategies. These strategies have a strong, positive, and direct impact on the use of cognitive strategies, indicating that metacognitive strategy use plays a crucial role in effectively completing tasks (Bairmani, et al.,2021& Hussein, et al., 2019; Alsalihi ,2020).

Flavell (1979) classified metacognition into four discrete models: (1) metacognitive knowledge, (2) metacognitive experiences, (3) goals or tasks, and (4) actions or tactics. According to him, humans regulate their cognitive functioning by employing materials delineated within these four categories. Winne and Hadwin (1998) proposed a metacognitive model consisting of four key stages: task definition, goal setting and planning, execution, and adjustment. The learner utilizes their model to establish a perspective of the task and the resources at hand, formulates a strategy to tackle the challenge, employs study practices, and modifies their cognitive framework in response to feedback on their performance. Assessing metacognition presents inherent difficulties because it is not readily observable. It includes intricate internal cognitive processes that often escape individuals' complete awareness. The citation is from Sandí-Ureña's work published in 2008 (Kadhim & Kamil, 2024).

2.2 Self-Regulation

Self-regulation is the effective incorporation of metacognitive abilities by students into their learning processes (Zimmerman, 2001). This entails establishing objectives and assuming accountability for one's own education in order to attain those objectives (Turingan and Yang, 2009), as well as actively overseeing and managing one's own thoughts and activities (Pintrich, 2004). According to Winne (1996), self-regulation is an educational approach that includes metacognition,

internal motivation, and strategies. Self-regulation refers to the mental and behavioral processes that students use to establish objectives, select appropriate strategies, and adjust their behaviors while they are learning. It involves the act of managing one's motivations, employing metacognitive skills, and evaluating one's performance to guide future learning. Zimmerman, a pioneer in the realm of educational psychology, introduced the concept of self-regulation. Vardar (2011) has established that self-regulation talents are the most dependable markers of students' academic progress, a finding supported by Cheng (2011). Furthermore, Senemoğlu (2004) argues that utilizing this talent enhances the process of obtaining knowledge (Saalh & Esmaeel, 2022;).

As Zimmerman and Schunk (1998) state that “kids with self-regulation abilities perceive learning as an active process in which they participate, rather of something that is passively received”. These kids consistently participate actively in their own learning processes. With a keen understanding of their own capabilities, talents, strengths, and weaknesses, individuals conscientiously observe themselves as they strive to accomplish their objectives. As they progress through the journey, they stay mindful of how they are changing and adjust their actions and thoughts accordingly. This group of teenagers views academic learning as an undertaking that calls for preparation, discipline, motivation, and tactics including both behavior and cognition (Zimmerman and Schunk, 1998).. Students that possess strong self-regulation abilities not only achieve their goals, but also thrive in lifelong learning beyond their formal education. Upon completing their education, these children have exceptional proficiency in generating groundbreaking concepts in various domains, including art, literature, and science (Zimmerman, 2002).

There has been a dramatic increase in the amount of studies looking at people's abilities to self-regulate and engage in metacognition (Ruban and Reis, 2006). A number of studies look at how these ideas have affected English language instruction and other areas. According to studies done by Demirel and Turan (2010), previous research has investigated how much metacognitive awareness children in secondary education have. The effects of different approaches to learning on self-regulation have been the subject of prior research. Güvenç (2010), Arsal (2010), Koç and Gömleksiz (2009), and Baş and Sağrılı (2017) conducted these investigations.

Following a review of the literature on self-regulation, metacognition, and English, new studies have come to light that examine elementary school students' self-regulation abilities in English classes (Çölok, 2010), assess students' metacognitive awareness in English classes (Kızılay, 2011; Feiz, J. P., 2016), and measure students' self-regulation abilities in relation to English classes (Özkasap, 2009). Aktan (2012), Altay (2013), and Batdı (2013) are among the studies that investigate the connection between several elements, such as the ways in which teachers educate, tactics for learning a language, analytical thinking, group work in the classroom, and students' ability to control their own learning.

The relationship between self-regulation strategies, academic performance, strategy implementation, and mentality in fields like biology, chemistry, mathematics, and science has been the subject of previous research. Studies also look at how different teaching and learning strategies, like cooperative learning, affect the adoption of self-regulation strategies. It should be noted, nonetheless, that studies evaluating the effect of students' metacognitive and self-regulation skills on their English class performance are scarce. Furthermore, a thorough evaluation of the English lesson performance is not provided by the small number of referred research (Koehler, 2007; Ghasemi, 2010). The evaluation of writing (Özbay, 2008; Kılıç, 2016) and vocabulary (Özdemir, 2014) is their main area of emphasis. This research looks at how students' metacognitive and self-regulation abilities in English class prep relate to how well they do in class.

• Methods

The current study utilizes a descriptive strategy to offer a comprehensive depiction of the phenomenon under investigation (Gall et al., 2007). A correlational study is classified as descriptive research as it entails collecting data to ascertain the degree to which a correlation between two or more variables may exist (Al Bakri & Salman, 2020; Gay et al., 2009).

3.1 Population and Sampling

The population under investigation comprises Iraqi English as a Foreign Language (EFL) students enrolled in the colleges of education and departments of English, excluding the Kurdistan area, during the academic year 2022-2023. The

overall count is 4060. The study sample consists of 360 Iraqi EFL students chosen at random from three Iraqi universities: Basrah, Babylon, and Mosul. (See Table 1).

Table 1. The Sample of the Study

No. Sample	Name of University	No
191	Basrah	1
97	Babylon	2
72	Mosul	3
360	Total	

3.2 Description of the Study Instruments

Two instruments have been used to achieve the present study's aims. The first one is the Metacognitive Awareness Writing Questionnaire (MAWQ), and the second instrument is the Self-Regulation Questionnaire.

- **Metacognitive Awareness Writing Questionnaire(MAWQ)**

The Schraw and Dennison questionnaire, implemented in 1994, aimed to gather data on students' metacognitive awareness in relation to their writing proficiency. The final configuration consists of a grand total of 30 components, which are classified into three separate facets: declarative knowledge, procedural knowledge, and conditional knowledge. The evaluation of each item is done using a five-point Likert scale. A score of 1 indicates "strongly agree," 2 indicates "agree," 3 indicates "disagree," 4 indicates "strongly disagree," and 5 indicates "neutral." The positive items are rated inversely, with a rating of 5 indicating "strongly agree" and a rating of 1 indicating "neutral."

By adding up the points that the responder gives to each choice, we get the total score for the scale. Accordingly, the respondent can get a maximum score of 150 and a minimum score of 30.

- **Self-Regulation Questionnaire**

The self-regulation questionnaire is derived from the work of Brown, et al. (1999). Its final form consists of 37 elements separated into seven areas: planning and writing, information management strategies, monitoring, modification, and evaluation. The scoring is based on a five-point Likert scale, where each point

corresponds to a specific response: strongly agree, agree, disagree, strongly disagree, and neutral. Positive items are assigned scores of 1, 2, 3, 4, and 5, whereas negative questions are assigned scores in reverse order.

A respondent's final score on the questionnaire is the sum of their scores on each item scale. The respondent can get a maximum score of 185 and a minimum score of 37. The questionnaire consists of 37 items, which are allocated across five areas as follows:

- Planning and drafting :(1- 10)
- Information Management Strategies :(11- 19)
- Monitoring :(20- 25)
- Revision :(26- 32)
- Evaluation:(33- 37)
- **Results**

To evaluate the competency levels of “Iraqi university students learning English as a foreign language”, we computed the arithmetic means and standard deviation. A one-sample t-test was performed to determine the discrepancy between the arithmetic and theoretical means.

a. Result correlated to the first aim of the study:

To achieve the main goal of the study, titled "Iraqi EFL University Students' Level of Metacognitive Awareness," the researcher employed a metacognitive awareness scale to evaluate a group of 360 male and female students. The study results reveal that the mean score of this group is 96,294 degrees, with a standard deviation of 20,263 degrees. The variance is statistically significant at a significance level of 0.05 since the calculated t-value of 5.894 is more than the tabular t-value of 1.96, given a degree of freedom of 359. Table 2 and Figure 1 offer graphic depictions of this data.

Table 2 . “The mean, standard deviation, and t-value of the Metacognitive Awareness Scale.”

Significance (0.05)	t- Value		Theoretical Mean	S.D	M	Sample Size	Variable
	Critical	Computed					
significant	1.96	5.894	90	20.263	96.294	360	acognitive Aw

Figure 1. Arithmetic and Hypothetical Mean of the Metacognitive Awareness Scale

b. Result related to the second aim of the study:

To evaluate the degree of self-regulation in Iraqi university students studying English as a foreign language, the researcher employed a self-regulation scale on a group of 360 students, consisting of both males and females. The study results reveal that the mean score in this group is 117,903 degrees, with a standard deviation of 22,847 degrees. The variance exhibits statistical significance at a significance level of 0.05. The calculated t-value of 5.733 exceeds the tabulated t-value of 1.96, indicating a significant result. The analysis has 359 degrees of freedom. Thus, we might infer that the study sample exhibits robust self-organization. The table (3) and image (1) serve to visually depict this information.

Table 3. Calculations for the mean, standard deviation, and t-value of the Self-regulatory Scale have been conducted.

Significance (0.05)	t- Value		Theoretical Mean	S.D	M	Sample S	Variable
	Tabulated	Computed					
significant	1.96	5.733	111	22.847	111.903	360	Self-regulation

Figure 2 . “The arithmetic and hypothetical mean of the Self-regulation Scale”.

C. Results Related to the Third Aim

The primary objective of the study is to examine the association between metacognitive awareness and self-regulation among university students in Iraq who are acquiring English as a second language. The objective of this study is to ascertain the relationships among the three variables.

Table 4 . The impact of the independent variables on the overall variability of the dependent variable in the study sample.

Significance	T- Value	Partial Correlation	eta Standardized Coeffi	Unstandardized Coefficients	Variables
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0.05				Standardized Error	Beta	
Significant	17.190	-	-	0.662	11.382	Metacognitive Awareness
Significant	9.869	0.414	0.506	0.007	0.069	Self- Regulation

• Discussion of the results

The present study closely aligns with Ban's research, which posits a correlation between self-regulation and language competency.

Furthermore, it aligns with a separate study conducted by Ekhlās and Shangarffamb (2012), which demonstrates a good correlation between behavioral self-regulation strategies and competency in reading, writing, speaking, and total language skills.

Several studies have shown that metacognitive awareness greatly improves students' learning process, including their speech and written skills, as well as other aspects of the learning process. This study supports the conclusions of Arnidah and Syamsiah's study (2022), which shows that having metacognitive awareness is essential for improving students' writing skills.

The existence of a correlation between metacognitive awareness and writing skills indicates that a cognitive talent might have an impact on another skill. The study conducted by Goudarzi and Ghonsooly (2014) has shown that learners can improve their language skills by understanding the importance of metacognitive awareness in their performance and recognizing its potential in aiding the acquisition of a foreign language.

The present study is consistent with Teng's (2019) research, which claims that there is a positive correlation between scores on various aspects of metacognition (such as declarative knowledge, procedural knowledge, conditional knowledge, planning, monitoring, and assessing) and proficiency in writing English as a Foreign Language (EFL).

The aspects of procedural knowledge, planning, monitoring, and assessing revealed a larger link with writing than other components. These findings highlight the importance of enhancing metacognitive regulatory skills in order to improve the

writing performance of university students who are studying English as a foreign language.

• Conclusion

“The results of this study suggest that Iraqi university students who are learning English as a foreign language have a significant level of metacognitive awareness and a moderate level of self-regulation”. Furthermore. The findings also indicate a notable association between participants' metacognitive awareness and self-regulation and their writing proficiency. Self-regulation skills are crucial for students' achievement, making it the most evident conclusion. Utilizing these tools enables individuals to effectively address any challenging problems they encounter throughout their educational journey and beyond, even after completing their studies.

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