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| RESEARCH ARTICLE

Self-regulated Learning and Academic Achievement in the EFL Classroom

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| ABSTRACT
This study explores the role self-regulated learning (SRL) plays in academic achievement in the EFL classroom by comparing self-regulated learning strategies use and motivational beliefs among Tunisian EFL learners coming from different achievement groups. The participants (n=59) were 8th form pupils enrolled at a preparatory school in the region of Sfax. Data was collected using the Motivated Strategies for Learning Questionnaire. Data analysis included descriptive, statistical and analytical procedures. Findings revealed that there is a positive relationship between self-regulated learning and academic achievement in the EFL context. Consequently, self-regulated learning is a predictor of academic achievement. High achievers were also found to use more frequently and consistently SRL strategies. The findings of the present study are relevant to both the field of SRL and to the advancement of EFL teaching especially in the Tunisian context.

| KEYWORDS
Self-regulated learning, academic achievement**,** high-achievers, low-achievers, EFL.

| ARTICLE INFORMATION
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1. Introduction

There is a general agreement among researchers that self-regulated learning (SRL) plays a role in academic achievement and that all students use SRL strategies but to different extents (Zimmerman, 2000a). This assumption sets the ground for this study especially in the Tunisian context where as far as the researcher can tell, SRL research is not investigated neither qualitatively nor quantitatively in the EFL context. Therefore, there is an urgent need for descriptive and comparative research projects to explore areas of weaknesses and areas of strengths related to academic achievement and SRL among EFL learners coming from opposite achievement groups. Similarly, given the degree of success that self-regulated learners enjoy (Zimmerman & Pons, 1986, 1990), understanding the behaviors and processes that underlie SRL and designing instruction in ways likely to facilitate its processes represent important goals for researchers and designers especially in EFL teaching.

2. Literature review

2.1 Self-regulated Learning and Academic Achievement

Interest in SRL, as a research area, has increasingly emerged during the last two decades (Steffens, 2006). This increase in interest is due to the need to study SRL and academic performance. Since learning is characterized by its complexity, it has been stated that if learners use SRL strategies adequately, learning can be enhanced (Zimmerman & Martinez-Pons, 1990). In this respect, the role of the learner in the learning process is considered as a measurement of the learning process and a factor of academic achievement. Therefore, understanding the internal processes involved in the SRL process is a fundamental goal in educational research, which aims at improving the outcomes of teaching and learning. This goal comes in line with the assumption that academic performance is directly linked to the degree of SRL the learner is capable of mastering (Zimmerman & Martinez-Pons, 1986, 1990).

The literature on SRL has so far established a positive relationship between SRL strategies use and successful academic experience. In a study undertaken by Lindner and Harris (2002) investigating the relationship between SRL and academic achievement of 160

university students. Findings showed that SRL is an important component of academic success. This conclusion is in line with previous studies conducted by Zimmerman and Martinez-Pons (1986, 1988, 1990). Additionally, Duncan, Dowsett, Claessens, et al. (2007) and McClelland, Morrison, and Holmes (2000) explain that youngsters, especially children, are more likely to achieve better when they are equipped with more SRL strategies. Similarly, Yen, Bakar, Roslan, et al. (2005) believe that individual elements of SRL like attitude towards learning, attention are linked to academic achievement.

Furthermore, exploring the link between students' engagement in SRL and their mastery and knowledge of academic skills within content areas such as mathematics, reading, English, sport, and science was empirically investigated across many studies starting from the 90s. In fact, it is thanks to Zimmerman and Martinez-Pons who initiated this wave of studies in 1986. Their work paved the way to subsequent research targeting or testing the same hypotheses especially that a positive relationship was repeatedly shown to exist between the SRL and academic achievement. Similarly, Pintrich and De Groot (1990) confirmed the predictive power of SRL in determining the level of achievement of the participants on homework, class work, quizzes, and grades among 7th formers.

The consistency of the finding of studies comparing high-achievers and low-achievers in different aspects of learning is also present in more recent research projects. Cleary, Platten, & Nelson (2008) gave evidence to the fact self-regulated high school students scored higher on a standardized test of biology than the less self-regulated ones. Kitsantas (2002) and Sundre and Kitsantas (2004) reported similar findings by comparing SRL strategy use between high-achievers and low-achievers.

2.2 Self-regulated Learning in the EFL Context

The EFL literature has so far linked achievement in learning to the use of cognitive strategies over metacognitive and affective strategies; the learner is thus seen as a cognition 'machine' (McDonough, 2001). Indeed, in foreign language learning, Chamot and El-Dinary (1999) showed that SRL strategies' use is more frequent among high achievers especially the strategies related to metacognition. Research should thus address the broader picture of learning by considering the role metacognitive and affective strategies could play. In this respect, Zimmerman (2008) explains that self-regulated learning comprises 3 general components of academic learning. Self-regulation of behavior where learners actively take control of the various resources available for them: time, study environments, seeking help from peers and teachers, self-regulation of motivation and affect where learners control and change of motivational beliefs such as self-efficacy, goal orientation or debilitating feelings such as anxiety and self-regulation of cognition which implies the control and implementation of a set of cognitive and metacognitive strategies for learning. This study will thus explore the different areas related to self-regulation in the context of EFL among Tunisian students.

2.3 Self-regulated Learning in the Tunisian Educational System

The Tunisian educational system has longed for the installation of an appropriate ground for the enhancement of SRL among Tunisian pupils. In fact, the shift of focus and responsibility from the teacher to the learner has indeed been reflected in the principles and assumptions of the Tunisian Educational Program. In the Executive Plan for the School of Tomorrow in 2002, it has been made clear that learners must be trained to become self-regulated, and that lifelong learning is vital for active citizens. This goal is reflected throughout both the official programs and English textbooks. Setting such goals is a needed and an urgent step the educational system should take. In an era characterized by a fierce competition between nations to reach high ranked positions in technology, industry and services, every citizen in Tunisia can make the difference. Consequently, the preparation of such a citizen should start right from the beginning at school where he/she will have the first glimpse of living in a community in which he should participate in an effective and efficient way in the welfare of the community.

2.4 Objectives of the study

The investigation of SRL among 8th form Tunisian learners of EFL aims at achieving the following objectives. The identification of a significant relationship between SRL and achievement in language learning will be investigated to establish correlational relationships between SRL and academic achievement since differences in achievement have been related to differences in SRL strategies' use (Zimmerman, 2008). In this respect, this study will test the following hypotheses. First, there is a positive relationship between SRL, and academic achievement and second high-achievers and low-achievers do not have the same SRL strategies. To test these hypotheses, this study will attempt to answer the following questions: what is the relationship between SRL and academic achievement? What are the differences in the use of SRL strategies between high-achievers and low-achievers use?

3. Methodology

3.1 Participants

The participants informing in this study were pupils at the 8th form enrolled at a public school in the region of Sfax in Tunisia. Their selection was based on convenience, as the subjects were the pupils the researcher taught. The researcher then categorized them as high-achiever (HA) or low-achiever (LA) according to their official scores on achievement exams, participation in classroom activities and projects. Consequently, pupils with more than 15/20 as English average were considered as HAs and those with an average below 10/20 were considered as LAs. The final number of participants was 59 including 11 HAs and 48 LAs.

3.2 Instrument

The Motivated Strategies Learning Questionnaire (MSLQ) was used to collect the data used to answer the two research questions. The MSLQ is a self-report questionnaire. It provides insights about the use of SRL strategies and motivational beliefs of learners. It was developed by Pintrich 2003. It establishes relationships between academic achievement and SRL processes. The design of the MSLQ was made based on the assumption that the knowledge of metacognitive strategies is not sufficient to facilitate students' achievement (Pintrich, Wolters, & Baxter, 2000). Accordingly, it is necessary to understand learner's motivation to use cognitive and metacognitive strategies to regulate his/her learning. Indeed, the learner's behavior and cognition are deeply influenced by their perceptions of the learning and their motivational beliefs (Pintrich, 2003; Wigfield & Eccles, 2000). The MSLQ was originally adapted from different instruments which assess cognition, metacognition, and motivation. It was used by different researchers with the aim of determining a relationship between SRL strategies, motivation, and academic achievement of learners. These studies contributed in the establishment of an acceptable reliability and validity of the instrument. Another objective behind the design of the MSLQ is to assess the motivational and self-efficacy beliefs of learners and their use of cognitive and metacognitive strategies while learning (Pintrich, 2003; Wigfield & Eccles, 2000).

The administration of the MSLQ is simple. It consists of 50 items representing two scales. They are mixed and repeated to test for the consistency of the students' answers. On a 5-point Likert scale ranging from 1, which stands for *not at all true of me*, to 5, which stands for *very true of me*, participants responded to the MSLQ items according to their personal experiences.

The MSLQ consists of two components. The following section illustrates the components, scales, and subscales of the MSLQ and their respective items. The numbers next to the items reflect the item's actual position on the questionnaire.

3.2.1 The Self-regulated Learning Scale

The Self-regulated Learning Scale consists of 21 items. It is split into two subscales. The first one is Cognitive *and Metacognitive Strategies* including strategies such as elaboration, critical thinking, rehearsal, organization, and metacognitive self-regulation. The second subscale is the *Resource management Strategies*. It consists of time and study time management, peer learning, effort regulation and seeking help strategies.

3.2.2 The Motivational Scale

The Motivational Scale includes 31 items, they are divided into 3 subscales which represent the motivational beliefs involved in SRL. The *Expectancy* component (self-efficacy) which covers control of beliefs and self-efficacy for learning and performance. In other words, it assesses learner's beliefs about his ability to perform a task. The second subscale is the *Affective* component which covers anxiety with regards to test taking. Finally, the third subscale is the *Value* component which includes intrinsic motivation, goal orientation and task value. This component tries to depict the student's goals and beliefs about the importance of the task and their interest in fulfilling it.

In the following table (see table 1), the different scales and subscales and respective items of the MSLQ are presented.

Table 1 *The MSLQ Scales and Subscales*

Component	Scales	Subscales	Items
Motivation	Expectancy Value	Control beliefs Self-efficacy Intrinsic goals Extrinsic goals	2,6,9,11,13,16 and 19
	Value components	Task value	3, 12, 14, 2 and 22
	Affective components	Test anxiety	1, 4, 5, 15 and 21
SRL Strategies	Cognitive and metacognitive strategies	Rehearsal Elaboration Organization Critical thinking Metacognition	10,24, 25, 28, 29, 32, 35, 36, 37, 38, 39, 40, 41, 42, 43 and 44
	Resource management strategies	Time and place of study Effort regulation Peer learning Help-seeking	45, 46, 47, 48, 49 and 50

In this study too, the MSLQ was translated into Standard Arabic to guarantee students' understanding of the contents of the statements. The researcher followed the recommendation of (Brislin, 1970) on translation in cross cultural resources by carrying out a repeated independent translation and blind-back translation. The researcher asked a fellow English teacher to help her. Each one of them translated the MSLQ into standard Arabic as a first step, and then translated the Arabic version back into English. Special attention was directed to the presence of any discrepancies by first comparing the two versions of the Arabic MSLQ together and second comparing the English versions with the original MSLQ. Both 'translators' agreed on most of the wording and meaning of the MSLQ items. However, some discrepancies were adjusted especially in verb use. The Arabic version of the MSLQ is, thus, believed to convey the original meaning of the English version of the MSLQ in the most accurate way. Based on the percentage of agreement, inter-rater reliability was calculated.

The MSLQ was also extensively used in hundreds of research studies (Duncan & McKeachie, 2005). It was administered with different samples of learners including high school students, university students and to a limited extent middle and primary school pupils. This study thus focuses on the void in the research and use the MSLQ with middle school pupils.

3.3 Procedure of the MSLQ Administration

A total of 59 participants answered the MSLQ including 11 HAs and 48 LAs. Mid-achievers, whose averages were between 10/20 and 15/20 were eliminated because they were considered beyond the scope of this study. The MSLQ was administered during class time. The researcher provided on the first page of the questionnaire, a personal information section where participants provided their gender and their respective number on the list of names of the class. This way, the researcher was able to assign the academic achievement of every participant as a HA or a LA according to their academic average in the English class as calculated according to the official instructions of the Tunisian ministry of education.

4. Results and discussion

4.1 The relationship between SRL and academic achievement

To investigate the significance of the relationship between SRL and academic achievement, an Independent Sample t-test was run at the significance level of $p<.001$. The t-test value is 18.409. Consequently, we can state that the difference between the scores of HAs and LAs on the MSLQ is statistically significant (see table 2).

Table 2 *T-test analysis of academic achievement and MSLQ score*

	HA (N = 11)	LA (N = 48)	t-test	*p* value
MSLQ score	40.82±2.44	22.23±3.13	18.409	p<.001

To elaborate on this finding, we compared the means of scores of both achievement groups on the MSLQ. The mean of the scores of MSLQ of HAs is 40.82 with a standard deviation value of 2.44. However, the mean of the scores of LAs of MSLQ 22.23 with a standard deviation of 3.13. The mean of scores of HAs on the MSLQ is, thus, higher than this of LAs. The following graph shows the difference in the means of HA and LA on the MSLQ (see figure 1). Accordingly, scores of LAs on the MSLQ ranged between 15 and 26. Scores of HAs ranged between 38 and 45. Based on this difference, it is possible to conclude that SRL as measured by the MSLQ is significant in determining academic achievement.

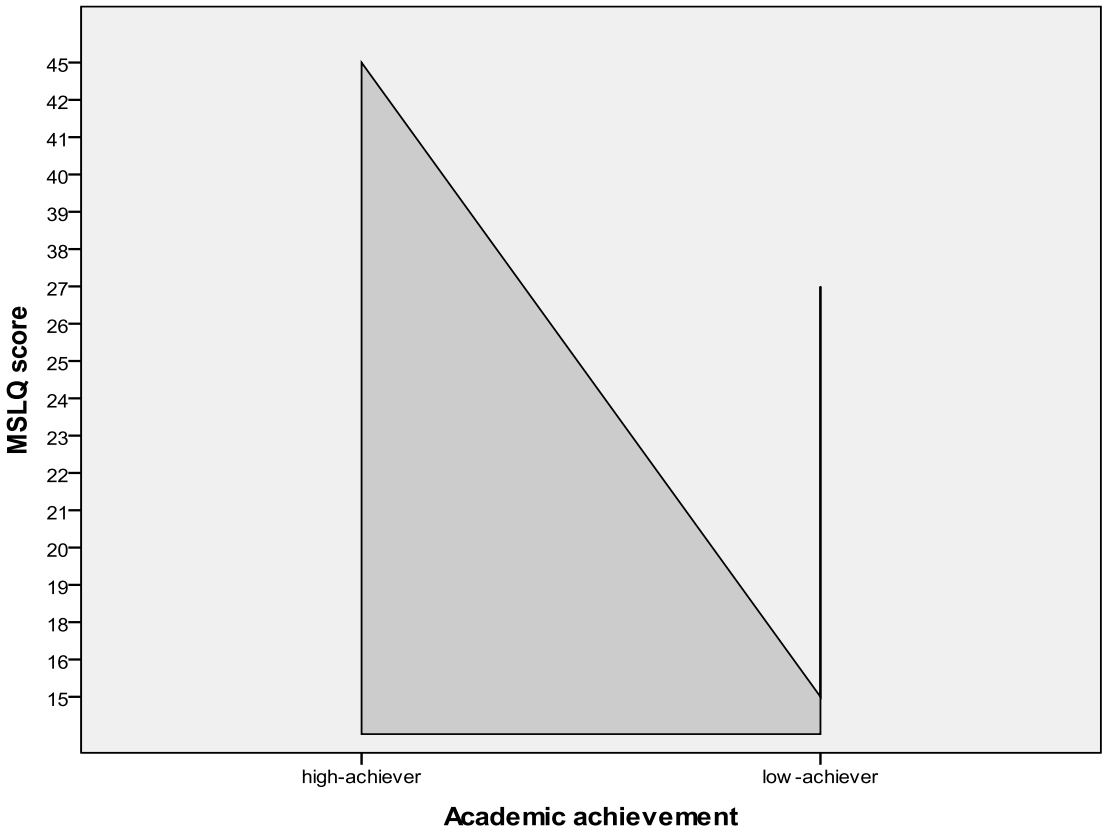

Figure 1. Means of HAs and LAs on the MSLQ

To further investigative the significance of the relationship between SRL and academic achievement, a zero-order correlation was run between the scores of both groups on the MSLQ and their respective averages in English (see table 3). A positive correlation of 0.88 at the level of $p < 0.001$ was found. This result leads to the conclusion that SRL as measured by the MSLQ is positively correlated with academic achievement as measured by the respective English averages.

Table 3 *Zero order correlation between averages of English and MSLQ scores.*

Variables	Mean	MSLQ score
Mean	1	0.88***
MSLQ score	0.88***	1

Note. *** : $p < 0.001$

To visualize this positive correlation between the variable of averages of English and the MSLQ scores, scores on the two variables were plotted (see figure 2). Figure 2 confirms the positive correlation because as noted scores of the participants of both groups collapsed with their respective average in English.

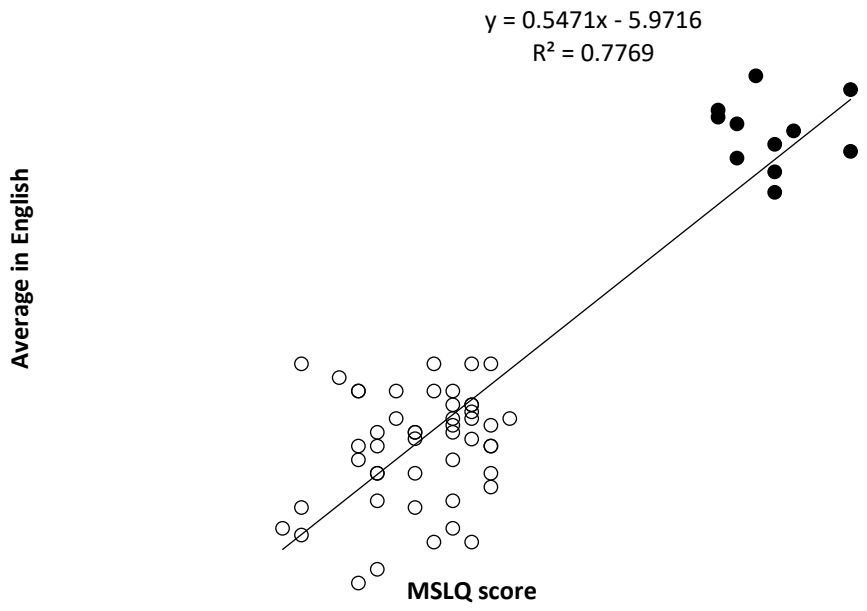

Figure 2. Correlational relationship between average in English and the MSLQ score

After running the zero-order correlation, a mutiple regression analysis was also performed to check for the predictive power of the results. Indeed as shown in Figure 3, it is possible to predict the average of the participants of this study based on their scores of the MSLQ (see figure 2). The regression coeficient R^2 = 0.831 suggests that 83% of the participants could correctly be classified into their appropriate achievment group based on their responses on the MSLQ.

The statistical analyses run on the MSLQ scores and the respective academic achievment of the participants lead to the acceptance of the first suggested hypothesis of the present research project which is SRL is positively linked to academic achievment.

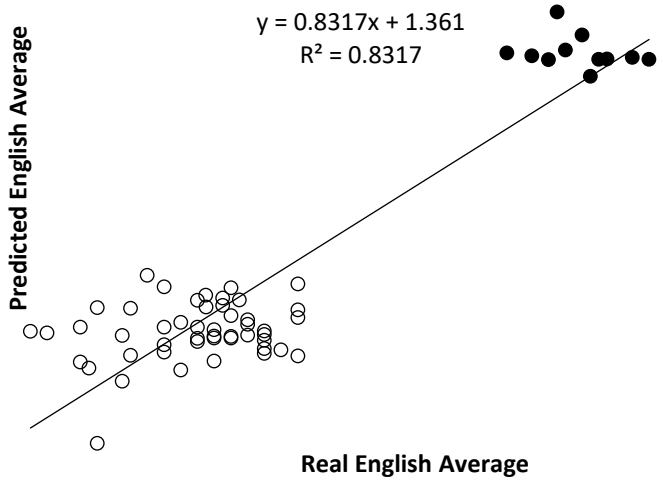

Figure 3. Regression analysis of real English average and predicted English average.

4.2 Description of HAs and LAs scores on the MSLQ

Preliminary descriptive statistics were run to compare the scores of HAs and LAs on the MSLQ. Results suggest that HAs scored higher than LAs. Only the default statistics were selected (mean, standard deviation, minimum, and maximum) to describe numerically the difference in the scores on the MSLQ (see table 4). The minimum column indicates the lowest score, and the maximum column indicates the highest score.

N is the number of cases, which, in this study, is 11 for HAs, and 48 for LAs. The average score of MSLQ is contained in the *Mean* column. The next column is the *Std. Deviation*. The more individual data points differ from the mean, the larger the *Std deviation* will be. On the other hand, the less individual points differ from the mean, the smaller the standard deviation will be. The std deviation for HA is 2,44 and the mean is 40,81. However, the standard deviation is 3,13 for LAs and the mean is 22,22. Examining differences in variability could be useful for anticipating further analyses. Respective standard deviations of HAs and LAs suggest that there is not a great variability in the scores of the two achievement groups. In fact, when the distribution is 'normal', almost 96% of the observations should fall within +/- 2 standard deviations from the mean. The minimum score for LAs is 15, which is two standard deviations below the mean of 22.15 and the maximum score is 27 which is two standard deviations above the mean. Similarly, the minimum score for HAs is 38 which is two standard deviations below the mean of 40.81 and the maximum score is 45 which is two standard deviations above the mean. Based on std deviations calculations, we can conclude that 96% of the scores on the MSLQ fall between the minimum and maximum scores, with a 2% of scores above the maximum and a 2% of scores below the minimum.

Table 4 *Descriptive of HAs and LAs scores on the MSLQ*

	N	Minimum	Maximum	Mean	Std. deviation
HAs	11	38.00	45.00	40.818	2.44206
LAs	48	15.00	27.00	22.229	3.13008

The second statistical analysis was based on t-test calculations. The choice of the t- test is justified by the type of distribution of the scores and of the populations. The *Independent-Samples t- test* was chosen to investigate the significance of the difference in the scores of the two groups of participants on the components of the MSLQ (see table 5).

Table 5 *T-test analysis of academic achievement and MSLQ componen*ts

	MSLQ scales	HA (N = 11)	LA (N = 48)	t-test	*p* value
Learning Strategies scales	Cognitive and metacognitive strategies score	54.09±2.77	24.9±3.31	27.115	p<.001
	Resource management strategies score	40.27±2.28	20.71±4.28	14.615	p<.001
Motivation scales	Intrinsic motivation score	40.18±1.94	22.79±2.87	19.084	p<.001
	Self-efficacy score	40.82±2.44	22.23±3.13	18.409	p<.001
	Test Anxiety	38,09±2,39	23,6±4,52	10,253	p < .001

The observation of t-test values in table 5 suggests that all the values express a significant difference at level of p<.001. A comparison of t-tests values shows that the Cognitive and Metacognitive Strategies scale has the highest values as opposed to the Test Anxiety scale which has the lowest value of 10.253. As for the motivational scales, t-test values are close to one another. 19.08 for the Intrinsic Motivation score, 18.409 for the Self-efficacy scores and 17.219 for Test anxiety. This finding suggests that the Cognitive and Metacognitive Strategies scale is the scale where HAs and LAs responded differently the most as opposed to their responses on the Test Anxiety scale.

To further analyze the pattern of responses of HAs and LAs on the MSLQ subscales, a comparison between the means of scores of the two groups on every subscale of SRL is conducted in the following section.

4.2.1 On the Self-regulated Learning Scale

The following diagrams were designed to compare the means of the scores of LAs and HAs on the Cognitive and Metacognitive Strategies scale and on the Resource Management scale (see figures 4 and 5).

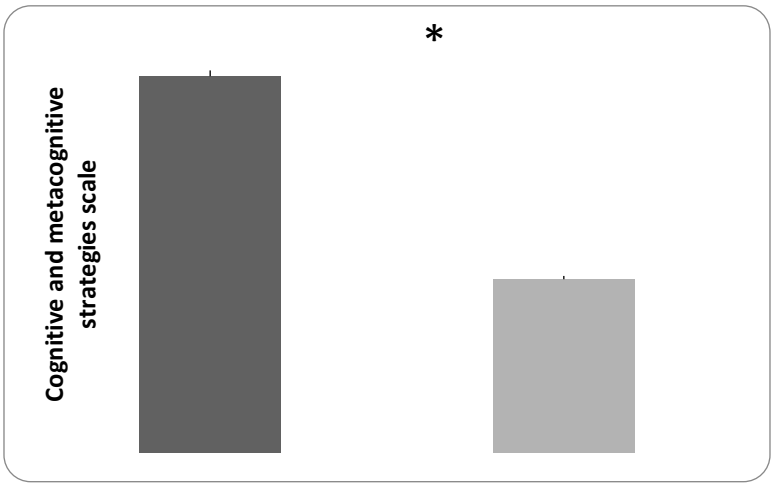

Figure 4. A comparison between the means of scores of HAs and LAs on the Cognitive and Metacognitive Strategies scale.

Note. *Significant difference at p<.001

The Metacognitive and Cognitive Strategies scale consists of items covering strategies related to rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation. HAs largely outscored LAs on this subscale. In fact, the mean of scores of HAs is 54.09 with a *std* deviation of 2.77 which is twice the means of LAs which is 24.9. This finding suggests that HAs can construct internal connections between the information received from different sources. They are also able to link the information acquired with prior knowledge thanks to the mastery of the cognitive and metacognitive strategies.

On the Resource Management Strategies Scale, on the other hand, the t-test value was not as large as the t-test value for the Cognitive and Metacognitive Strategies scale (figure 5). This can be explained by the larger standard deviation 4.28 of the means of LAs scores. The standard deviation may be large because of the nature of the data gathered from the responses of LAs on this scale which are not normally distributed ranging from 14 to 43. There is a lack of consistency in LAs responses on this subscale.

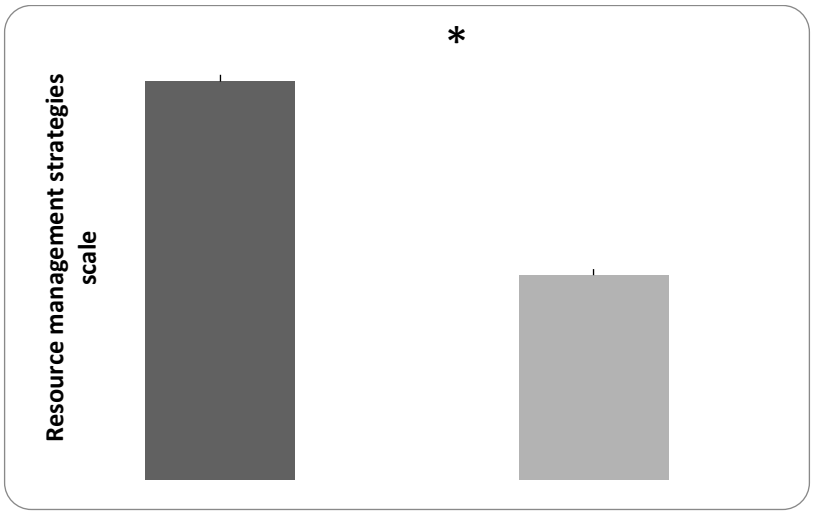

Figure 5. A comparison between the means of scores of HAs and LAs on the Resource Management Strategies scale.

Note. *Significant difference at p<.001

It seems possible to conclude that even though the t- test value is significant; HAs' and LAs' use of resource management strategies may not be as different as their use of the cognitive and metacognitive strategies even though HAs outscored LAs on both scales. A possible explanation may be related to the nature of strategies covered in the Resource Management Scale which are related to the management of time and study environment and to the use of resources available for the learners such as seeking help from peers, parents, teachers. LAs may use these strategies but in an inappropriate way.

4.3 On the Motivation Scale

The motivation component of SRL in the MSLQ refers to the learner's perceptions and beliefs of the reasons why he/she is engaged in learning. Goal orientation refers to the degree of intrinsic motivation by which the learner perceives the value of participating in the learning task (challenges, curiosity, mastery of skills). After running the t-test to compare the scores of HAs and LAs on the Intrinsic Motivation scale, the t-test value was 19.08 suggesting that LAs and HAs responded differently. To further analyze the difference in the score of HAs and LAs, a comparison between the means of both groups (see figure 6) reveals that HAs have outscored LAs on this scale with a means of scores of 40.18 for HAs and 22.23 for LAs. Having an intrinsic goal orientation towards an academic task indicates that the students' participation in the task is an end, rather than participating to an external objective.

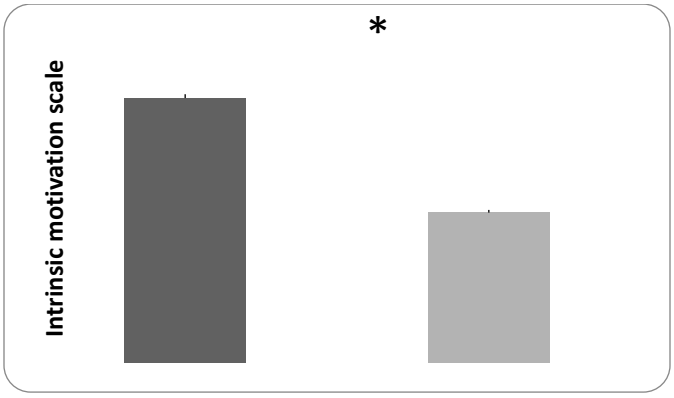

Figure 6. A comparison between the means of scores of HAs and LAs on the Intrinsic Motivation Scale.

Note. *Significant difference at p<.001

The second subscale of the MSLQ is Self-efficacy. Items under this scale cover personality traits about self-appraisal and self-confidence in one's ability to perform a task. In other words, it covers the judgment about one's ability to perform a task successfully. The t-test was again used for the calculation of the significance of the difference in the scores of the two achievement groups. It yielded a value of 18.40 suggesting the existence of a significant difference between the two groups. To further check this difference, a calculation of means was performed. HAs' mean is 40.82 and LAs' mean is 22.28 (see figure 7). Scoring high on this subscale indicates that HAs are self-confident in their abilities to perform a task as opposed to LAs whose performance may be debilitated because of their lack of self-efficacy beliefs.

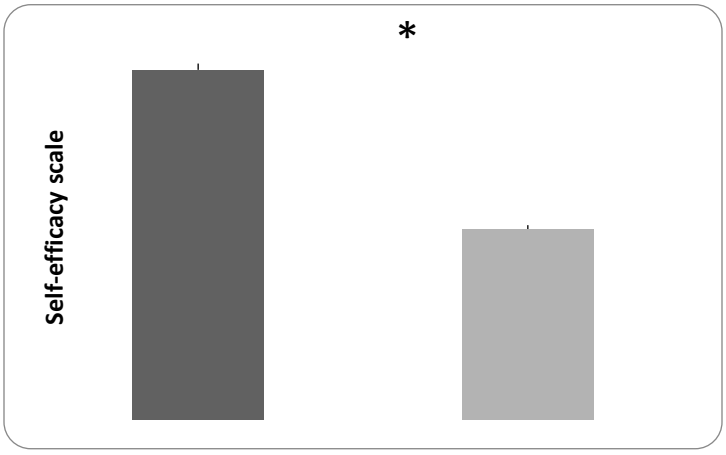

Figure 7. A comparison between the means of scores of HAs and LAs on the Self-efficacy Scale.
Note. *Significant difference at p<.001

The third subscale on the Motivation scale is Test Anxiety. The Test Anxiety scale covers items about student negative thoughts which interfere with performance. Interestingly, the comparison of means of both groups of participants reveals that both groups scored high on this scale (see figure 8). The careful observation of the scores, however, shows that scores of HAs have relatively decreased in comparison to their scores on the other subscales of the MSLQ (mean 38.09) as opposed to scores of LAs which increased in comparison to their scores on the other subscales of the MSLQ (mean 23.6). In fact, test anxiety is believed to be negatively related to performance because the cognitive concerns and the emotional stress before and while taking the test interfere with the use of effective SRL strategies. It seems that both HAs and LAs share the same Test Anxiety feelings.

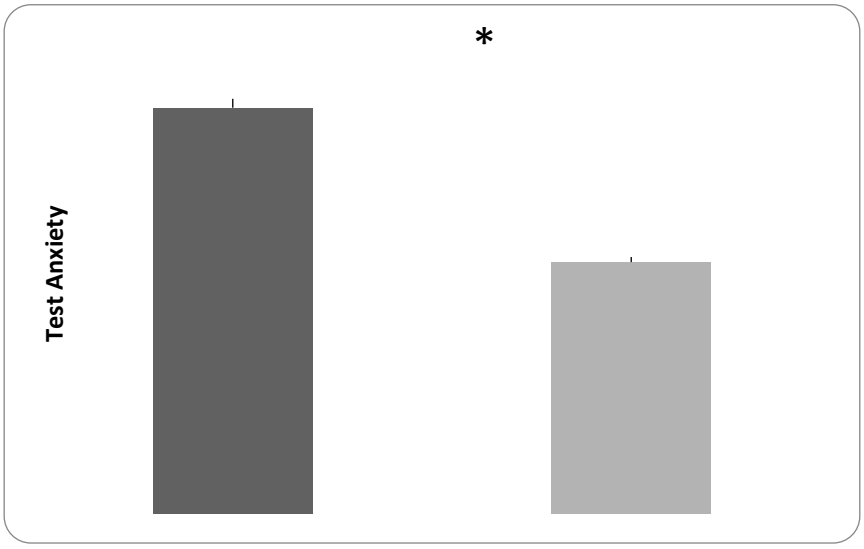

Figure 8. A comparison between the means of scores of HAs and LAs on the Test Anxiety Scale.
Note. *Significant difference at p<.001

The analysis of the scores of HAs and LAs on the MSLQ leads to two main conclusions. First, the two achievement groups scored differently on the MSLQ and second HAs outscored LAs on all the MSLQ subscales. This result suggests that the high use of SRL strategies and positive motivational beliefs facilitated their academic performance of HAs as opposed to LAs whose lack of strategy use and negative motivational beliefs hindered their academic performance.

5. Discussion of the results

SRL and academic achievement are positively linked. This finding was reached thanks to the application of statistical, descriptive, and analytical analyses on the data gathered from the MSLQ. First, statistical tests including the t-tests, correlations and regression were run to explore SRL strategy use among the participants and their respective achievement group. Thanks to the significant t-test value (18.409) and to the strong positive correlation (r=0.888), we were able to state that there is a positive relationship between SRL and academic achievement. A regression test was performed to provide more power to the positive relationship by calculating the coefficient of determination between academic achievement as calculated by the official software and scores on the MSLQ. Indeed, the regression coefficient R^2=0.831 suggests that the appropriate use of SRL strategies is a predictor of academic achievement.

After attaining the first objective of the present research project, we attempted to further explore the significance of the relationship between SRL and academic achievement by comparing SRL strategies, beliefs and processes between the two achievement groups. The statistical comparisons based on t-test calculations revealed that the two achievement groups scored differently on all the subscales of the MSLQ.

5.1 Understanding the reasons behind the difference in SRL between HAs and LAs

Since SRL is the process through which learners transfer their mental abilities into academic skills, the difference in the use of SRL strategies between HAs and LAs may be due to the cyclical nature of SRL. Zimmerman and Kitsantas (2005) explain that SRL is an open-ended process that requires cyclical activity on the part of the learner that occurs in three major phases. The forethought phase is the phase where influential processes and beliefs are set to prepare the stage to the performance or volitional phase. This phase involves monitoring strategies affecting concentration and performance in such a way to lead to the self-evaluation phase which comprises post-performance processes such as self-observation and self-evaluation. These processes, by their turn, affect the forethought stage and so and so forth.

For example, the ability to set clear goals of HAs leads to accurate self-monitoring which involves the use of more cognitive and metacognitive strategies to evaluate the success of the performance. This process affects self-efficacy beliefs in a positive way either by boosting motivation or in a negative way by avoiding performance. Similarly, unlike LAs, HAs ability to self-initiate the learning experience enables them to become controllers rather victims of their learning experience (Schunk & Zimmerman, 2008; Zimmerman, 2008).

The discussion of the results presented to answer the second research question allows us to conclude that HA are self-regulated learners. The discussion of the results and their comparison with previous research enable us to offer a description of the profile of the self-regulated learner as a learner who optimizes his learning performance by being actively engaged in the learning process on three different levels. The cognitive and metacognitive level where self-regulated learners plan, set goals, organize, self-initiate, self-construct and self-evaluate. On the motivational level where self-regulated learners are intrinsically motivated, task persistent and self-efficacious and on the behavioral level where self-regulated learners can control their learning environment, to seek assistance by selecting, structuring, and creating social and familial networks.

Age, level, and gender of students can also play a role in understanding the factors underlying the difference of impact of SRL on academic achievement. For example, SRL strategies were reported to vary across the level. Chamot (1987) reported the existence of a significant difference in strategy use between beginning and intermediate level ESL students. Furthermore, SRL was related to students' grade level in school. Zimmerman and Martinez-Pons (1990) showed that with the increasing age and grade level, students recorded more personal notes for reviewing activities. They have also noted a significant decline in students seeking assistance from adults between the 8th and 11th grades. The development of SRL varies across the life span. Childhood is a fundamental period for the development of SRL. However, Zimmerman (1989) believes that SRL does not automatically expand with age. Fantuzzo, Bulotsky, McDermot, et al. (2007) support Zimmerman's belief and explain that children are able, with the appropriate guidance, to become self-regulated especially when it comes to strategies like attention and memory which are life-long strategies.

Adolescence, on the other hand, is believed to be the most important period for the development of SRL because of the neurological, psychological, physiological and cultural changes which happen during that age. Optimal conditions should thus be guaranteed to allow for SRL to take place. In fact, most of the strategies develop from early childhood well into teenage years (Boekaerts & Cascallar, 2006). Zimmerman et al. (1992) reported that SRL strategies develop during the middle school years. For this reason, the learners become more skillful since they build on previous knowledge and become more directed into problem-solving situations. Interestingly, it is believed that during middle school years, the most 'dramatic' drop in students' competence takes place. Paris and Byrnes, (1989b) explain this shift in academic competence is the consequence of their lack of using more SRL strategies. Special attention should then be given to the assessment of SRL among adolescents for appropriate intervention to take place. Finally, interest in self-regulatory capacities among adults is increasing because of the need of these capacities in the labor. Gender differences are also reported as determining in the development of SRL and in SRL strategy use. Finally, various studies revealed that females used SRL strategies more frequently than males since females were reported to use more strategies of recording and monitoring, environmental structuring, and goal setting and planning than did boys (Pajares & Valiante, 1999; Mucherah & Yoder, 2008).

6. Conclusion

Documenting the importance of SRL in facilitating academic achievement can have different implications in the improvement of education. Fostering learning is indeed the goal of comparative research among groups of learners coming from different achievement groups. Consequently, implications on how to bridge the gap between theory and practice and how to incorporate the findings of this study in TEFL are presented.

Teachers, for example, can benefit from this study because they are able to directly observe students' use of SRL strategies in learning. Teachers should, then, adapt instructional objectives that may help learners become self-regulated by providing instruction and practice in the use of cognitive and metacognitive strategies since this study showed that they are the most significant strategies, in fostering academic achievement. On a more practical level, teachers can promote SRL strategy use are, for example, to explain the importance of the strategy, model the strategy, have students practice it immediately in class, practice it in a homework and a class discussion about the strategy after practice. Teachers should also encourage learners to reflect on their learning to help them develop self-evaluation strategies. SRL strategies should also be taught in regular class within content subjects so that learners become active and independent to use the strategies across all subjects. The use of scaffolding as a teaching technique is also beneficial since it offers the teacher with the opportunity to support the learners by first, boosting their competence with explanations and examples, second, engaging them in authentic learning situations and third encourage them to be proactive and self-directed.

Despite the valuable contributions of the present study, its methodology has a few limitations which should be elucidated. First, the sample is an area of weakness. Compared to other studies, the number of participants is relatively small. The participants' age

range has also made the assessment of SRL to a certain extent complicated. This difficulty may be due to their limited ability to verbalize and elaborate on their use of SRL strategy while learning. Additionally, the investigation of SRL was limited to learning in the classroom setting. It could be interesting to study SRL during exam periods especially that Kitsantas (2002) found a significant difference in SRL strategy use among college students at different periods during the semester. One last limitation is related to research in the SRL field in general. Even though SRL research is prominent nowadays, there are measurement challenges caused by the large number of available inventories, questionnaires and interviews making comparisons of results between studies somehow problematic. It seems that the field of SRL research is still struggling to develop referential measures of SRL assessment.

In conclusion, interest in the active role of learners in the classroom led to the emergence of a wide interest in SRL. There is a common ground upon which SRL theories are established which is that students' perceptions of themselves as learners and their use of various processes to regulate their learning are critical factors in analyses of academic achievement. Therefore, there is an increasing interest in adapting SRL principles within the different educational programs especially that the relationship between SRL and academic achievement is overall positive.

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