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Self-Regulated Learning Strategies (SRLS) and academic achievement in pre-university EFL learners

Abstract- The present study tried to investigate and find the relationship between the two variables of the research that is, the use of SRL strategies and students' academic achievement. The subjects under study were a group of male (40) and female (42) pre-university students randomly selected from two schools in Tehran, Iran. The instruments used to gather data were a translated version of the Motivated Strategies for Learning Questionnaire (MSLQ) translated by Navidi (2003) and an academic achievement test. In order to describe data collected from administering the above- mentioned instruments statistical procedures such as mean, standard deviation, correlation coefficient, as well as an independent *t*-test were used. The findings of the present study revealed that there is a strong relationship ($r = .80$) between the use of SRL strategies and students' academic achievement which is consistent with the findings of studies conducted before. However, considering the difference between male and females concerning the use of different components of SRL strategies, the findings of this study showed that there is a difference between male and females as to the use of SRL strategies. Females outperformed males in both academic achievement and the use of SRL strategies.

1. Introduction

Throughout the history of learning and teaching in general, and second and foreign language teaching and learning in particular, different roles have been ascribed to the learners in the process of learning based on the dominant theory or approach. Once, at the very beginning of the scientific era of educational psychology (i.e., behaviorism), learners were considered as

passive and dependent individuals. It was the teacher who assumed the sole responsibility in the teaching and learning process. He or she could choose long and short term goals, determine the type of activities to be done in the classroom, provide teaching materials, and even set the time and the context for learning. However, since the 1960s, due to the emergence of cognitivism in the field of educational psychology an increasing burden of responsibility has been placed on the shoulders of learners for their own learning. Learners are no longer considered as passive individuals equipped just with knowledge and information. They are, as Perkins (1992) states, actively involved in organizing and reconstructing their already existing knowledge with the newly received information.

Therefore, learners can set goals for their learning, and then attempt to monitor, regulate, and control their cognition, motivation, behavior (Wolters, Pintrich, & Karabenick, 2003) and even the context of learning (Pintrich, 2000). This "active, constructive process" (Pintrich , 2003, p. 2) is called self-regulated learning (SRL). Zimmerman and Risemberg (1997) define SRL as self initiated actions which include goal setting and regulating effort to reach the goal, self monitoring, time management, and physical and social regulation. SRL can be conceptualized as the learner's ability to use metacognitive strategies or to control cognition.

Pintrich, Smith, Garcia, and McKeachie (1991) refer to the metacognitive strategies of planning, monitoring and regulating. A second approach views SRL as the learner's ability to use both metacognitive and cognitive learning strategies (Schoenfeld, 1992). Rehearsal, elaboration, and organizational strategies are seen as key cognitive strategies (Pintrich, 1999). Finally, a third view highlights the importance of incorporating motivation, cognitive, and metacognitive components of learning (Tanner & Jones, 2003). Research based on the latter view suggests SRL is related to motivation and, more specifically, that the motivation promotes and sustains SRL (Rheinberg et al., 2000). Accepting the above mentioned ideas,

this study is intentionally limited to the relationship between the use of SRL (cognitive, and metacognitive) strategies and academic performance of learners.

Most self regulation models assume a direct link between self regulatory activities and outcomes such as achievement and performance (Wolters et al., 2003). A huge number of studies in education have demonstrated how SRL can promote student achievement and facilitate learning motivation (Wang & Lindvall, 1984; Zimmerman & Martinez-Pons, 1986). However, there are few studies, particularly in the Iranian context, conducted on senior high school students to show the relationship between the use of self-regulated learning strategies and student performance and achievement in EFL.

1.1. Theoretical Grounding

In the last few decades, numerous theories and models have tried to identify the processes intervening in the SR of learning and also to establish relations between SR and academic performance. These theories and models include those suggested by Butler and Winne (1995), Zimmerman (1998, 2000), Pintrich, Wolters, and Baxter (2000), Pintrich and De Groot (1991) and also Sternberg (1998). Among these models, Pintrich's (2000) model is considered as the most comprehensive model because it includes all cognitive and metacognitive aspects of learning as well as other social, contextual features of the learning environment. Pintrich's (2000) model proposed a theoretical framework based on Bandura's (1986) socio-cognitive perspective. It was aimed at classifying and analyzing the different processes which play a role in SRL. In this model, regulatory processes are organized according to four phases of: 1) planning, 2) monitoring, 3) control, and 4) evaluation. Within each of these phases, self regulation activities are structured into four areas: cognitive, motivational/affective, behavioral, and contextual. One of the innovations of this model is that for the first time the controversial "context" area is included as an area subject to regulation. In the present study following the Pintrich (2000) model of SR the relationship between the use of SRL strategies

and academic achievement was tested through the Farsi version the Motivated Strategies for Learning Questionnaire (MSLQ) translated by Navidi (2003).

1.2. Self -Regulated Learning

During recent years, success and achievement through the use of SRL strategies applied by learners has attracted the attention of many educators and researchers (Zimmerman, 1998). New definitions of self- regulation (SR) embody all environmental, motivational, and meta-cognitive processes which result in quick academic success and achievement. Learning through regulation refers to the fact that students think about themselves, their own abilities, and also how they deal with the assignment expected from them (Zimmerman, 1998). SRL theory concerns "How and Why learners involve themselves in the learning process"; and in order for the learners to be independent, what they should know about themselves and their academic affairs. In other words, based on this theory, students learn how to direct their own learning process, and how to choose appropriate cognitive, metacognitive, and behavioral strategies which cause sufficient effort to achieve their already set goals.

To be self regulated learners, Pintrich and De Groot (1990) hold that they should acquire the necessary knowledge and skill to choose and apply cognitive, metacognitive, and behavioral strategies. According to Zimmerman (1989), self-regulated learners are "meta-cognitively, motivationally, and behaviorally active participants in their own learning process" (p. 4). One feature of this definition is how and why students choose to use a particular process or strategy. A main feature of self-regulated learning is *metacognition*. Metacognition refers to the awareness, knowledge, and control of cognition; the three processes that make up metacognitive self-regulatory activities are planning, monitoring, and regulating (Pintrich et al., 1991).

A considerable number of definitions have been proposed for self regulatory learning; however, in terms of students' academic achievement three components seem very important.

The first and the utmost important component is that SRL encompasses those meta-cognitive strategies which students use to plan, monitor, and re-organize their cognition. The second important component is the students' management and controlling of their attempts to do curricular and academic assignments. The third component of SRL includes those cognitive strategies (rehearsal, elaboration, and organization) which students use to learn, remember, and fully comprehend curricular concepts. These three components form the basis of self-regulated learning (Pintrich & De Groot, 1990). Zimmerman (1986) considers SRL as a kind of learning in which individuals, without any dependence on teachers or others, start and direct their attempts to acquire knowledge and skills.

SRL consists of a series of cyclical stages in which its starting point can be the learners' information and primary beliefs. When SR learners take part in educational activities, they first use their information, beliefs, and knowledge so that they can have an assessment of the qualifications and tools required for those activities. Then, based on their evaluation, they determine their "goals". Finally through using strategies which result in cognitive, affective, and behavioral outcomes, they approach their pre set goals (Zimmerman, 1995).Through the monitoring process of their learning activities and controlling their progress, students come up with an internal feedback which provides them with new information to reassess those activities and the approach they should take while participating in the activities.

1.3. Characteristics of Self- Regulated Learners

Pintrich (1995) believes that self-regulation is not an enduring measure of mental intelligence after a certain point in life, nor is it a personal characteristic that is genetically based or formed early in life. Students learn self-regulation through experience and self-reflection (Zimmerman, 1998). Because self-regulation is not a personality trait, students can control their behaviors and affect to improve their academic learning and performance (Pintrich, 1995). Zimmerman (2001, 2002) characterizes self regulated students as those who take an

active part in their learning process from the metacognitive to motivational and behavioral viewpoint. Characteristics attributed to self-regulated persons are similar with those attributed to high performance, high capacity students, as opposed to those with low performance who show a lack in these variables (Reyero & Touron, 2003; Zimmerman, 1998). However, with adequate training in these dimensions, all students can improve their degree of control over learning and performance and many learning disabilities found particularly in low performance students can be alleviated.

In general, studies show that the following characteristics differentiate between self regulating and non self-regulating students:

1) Self regulated learners are familiar and know how to apply a series of cognitive strategies (rehearsal, elaboration, organization) which help them to attend to, transform, organize, elaborate, and recover information (Winne, 1995; Zimmerman, 2001).

2) They know how to plan, control, and direct their mental process toward achievement of personal goals, i.e., metacognition (Corno, 2001).

3) Self regulated students show motivational beliefs and adaptive emotions such as a sense of academic self efficacy, the adoption learning goals, the development of positive emotion towards tasks (e.g. joy, satisfaction, enthusiasm) and the capability to control and modify them to the requirements of the pre set task and the specific learning situation (Weinstein, Husman & Deirking, 2000; Zimmerman, 2002).

4) They plan and control the time and effort to be spent on tasks, and they know how to create and structure favorable environments, such as finding a suitable place to study and seeking help from teachers and classmates when they encounter problems (Corno, 2001; Winne, 1995; Zimmerman, 2001).

5) To the extent allowed by the context, self regulated learners show greater efforts to participate in controlling and regulating academic tasks, classroom climate, and structure (Corno, 2001; Weinstein, 2000; Zimmerman, 2002).

6) Self-regulated learners are able to effect a series of volitional strategies aimed at avoiding external and internal distractions so that they maintain their concentration, effort and motivation in performing tasks (Weinstein, Husman, & Deirking, 2000; Zimmerman, 2001, 2002).

To sum up, self regulated students take responsibility for their own learning, consider learning as a proactive process, are self motivated and use strategies enabling them achieve the desired academic results.

1.4. Learners' Role in the Regulation Process

In order to determine the roles ascribed to "learners" in the regulation process, it is important to have an overview of characteristics, features, and general assumptions shared by almost all models of regulation. After reviewing all models of self regulation, Wolters et al. (2003) consider learners as "active, constructive, and having the potential for control of their environment" (p. 3) as participants in the learning process. Learners are assumed to actively construct their own meanings, goals, and strategies from information available in the "external" environment as well as in their own minds (the "internal" environment). Instead of being mere passive recipients of information from teachers, parents, or other adults, learners are active, constructive meaning-makers as they go about learning (Pintrich, 2000). The second, but related, assumption is the potential for control assumption. All the models assume that learners can potentially monitor, control, and regulate certain aspects of their own cognition, motivation, and behavior as well as some environmental features (Karabenick, 2001). This assumption does not imply that individuals will or can monitor and control their cognition, motivation, or behavior at all times or in all contexts, rather just that some

monitoring, control, and regulation is possible. All of the models concede that certain biological, developmental, contextual, and individual differences and constraints can interfere with individual efforts at regulation (Butler & Winne, 1995; Zimmerman, 1989, 1998, 2000).

2. Research Questions and Hypotheses

An overview of the studies conducted in both academic and non academic learning contexts show a strong relationship between the use of SRL strategies and learners' achievement in various contexts and academic courses. However, most of these studies show that younger students are unable to distinguish among different components of SR because of some developmental considerations (Wolters et al., 2003). Pintrich (2000) believes that children's SR is limited to just cognitive strategies specifically "rehearsal" ones. Considering the results of the studies conducted in both universities and high schools the present study aims at answering the following questions:

1- Is there any relationship between academic achievement of senior high school students in English and the use of SRL strategies?

2- Is there any meaningful difference between male and female senior high school students concerning the use of SRL strategies and academic achievement?

In view of these questions, the following hypotheses are proposed:

1- Students with higher academic achievement compared with those with average and lower achievement apply more self- regulated strategies.

2- There is no meaningful difference between male and female senior high school students concerning the use of self- regulated learning strategies and academic achievement.

3. Methodology

3.1. Participants

The participants of this study were 40 senior high school (pre-university) male students randomly selected from a whole population of 123 from Shahed pre-university center in

Tehran, Iran and 42 female students also randomly selected from a population of 148 from Alzahra pre-university center in Tehran, Iran. Their ages range from 17 to 20 years. Based on the grades received from their final examination in English course each group was divided into three smaller groups (high, mid, and low achievers).The low achiever group, those who scored between 7 and 15 numbered 24 students, the mid achiever group who scored between 15 and 17 numbered 31, and finally the high achievers those who scored from 18 to 20 in their final exam numbered 27.

3.2. Instruments

As mentioned before, there are two variables in this research, students' academic achievement and SRL strategy use. Therefore, two instruments were required to gather the necessary data on these two variables, a Farsi version of MSLQ, and a teacher made pre-university test.

3.2. 1. Motivated Strategies for Learning Questionnaire (MSLQ)

To gain information on the type and the degree of application of SRL strategies used by the subjects the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and De Groot (1990) was used. The MSLQ (Pintrich & De Groot, 1990) is a self reporting tool with 81 items: 50 items for motivational beliefs scales and subscales and 31 items for self regulated learning strategies which is based on the motivational model of expectancy times values with the objective of measuring different motivational components and the use of learning strategies in a given course or subject matter. It uses a seven point Likert scale ranging from 1("not at all true of me") to 7("very true of me") with no specific labels for the other response categories. One advantage of this instrument is that it has been applied and validated at different educational levels, both university and non university (Wolters et al., 2003) .The MSLQ instrument has been used widely in investigating students' motivation and learning strategies in many countries, such as Australia (Fuller, 1999), Arabia (Almegta, 1997), Canada (d'Apollonia, Galley, & Simpson, 2001), China (Rao, Moely, & Sachs, 2000),

Japan (Yamauchi, Kumagai, & Kawasaki, 1999), and Taiwan (Lee, 1997). In the present study the Farsi version of this questionnaire translated by Navidi (2003) is used. In the present study, in order to determine the reliability of the Farsi version of MSLQ test re-test method was used on group of 22 pre-university students from Shahed center in Tehran in a time interval of two weeks. The correlation coefficient after the two administrations was ($r = .94$).

3.2.2. Academic Achievement Test

The second instrument used for gathering information on the second variable of the research, that is, students' academic achievement, was a teacher- made test. Before elaborating on different components of this test it is vital to give some information about the main objective of English teaching in Iran, as well as different components of the course books at the pre university level.

Although Talebinezhad and Aliakbari (2001) believe that ELT in Iran is experiencing a conversion from EFL towards EIL, the main objective of English teaching in the country, as written on the paper cover of the course book, is limited to teaching *reading*. Therefore, the focus of course books is on teaching reading strategies and skills. Reading activities are divided into three main parts: pre-reading, while reading, and finally, post-reading activities. In the *pre reading* phase activities some questions are raised to activate or provide the students with background knowledge about what they will have in the text. In the *while reading* phase there is a text which may be an excerpt with different genres taken from different sources. During *post reading* activities, students' comprehension will be checked through different types of questions. Moreover, a small portion of each lesson deals with different functions of a sentence such as explaining, exemplifying, or defining, as well as grammatical explanation. Based on the above mentioned components of the course book, the instrument used to determine the level of the students' academic achievement consists of these scales: vocabulary, reading comprehension, sentence function, and grammatical points**.**

Vocabulary is tested in many different ways such as putting the unfamiliar word in a context, or giving a definition to be matched with a word or phrase in the opposite column. Students' sentence or reading comprehension is tested through short and long texts with multiple choices, true false, and open ended items related to the text, as well as cloze passages. Sentence function items may be in the form of fill in the blanks, or completion type. In order to check students' grammatical knowledge, multiple choice items, rewriting the sentences using the cues in brackets, and matching items are used (see Appendix).

3.3. Procedures

In order to conduct the study and collect the required data related to the research questions and hypotheses the following procedure was followed. Forty male and forty- two female students were randomly selected from a population of 271 from two senior high schools (pre-university) in Tehran called Shahed and Al- Zahra. Before questionnaire administration, subjects were asked to undergo a briefing session lasting about 20 minutes. This session was to provide them with some information on the objective of the study and how to answer the questionnaire items. Since the subjects were not required to write their names on the questionnaire, both chairs and questionnaires were numbered. After collecting the questionnaires and checking for any invalid ones, they were scored twice by two scorers. And then based on the grades the subjects had received in their English course final examination in 2010 they were divided into three groups: high, average, and low scorers. Finally, in order to analyze the data received from the questionnaires and compare them with the subjects' performance in the final examination (in order to answer the research questions and approve or reject the hypotheses), the SPSS computer program was run.

3.4. Data Analysis

In order to describe the data received from administering the MSLQ, descriptive statistics (mean, medium, mode, and standard deviation) were used. To answer the first question and

approve or reject the first hypothesis, that is, the relationship between the uses of self regulated learning strategies and academic achievement, Pearson's correlation coefficient formula was applied. And finally in order to answer the second research question and hypothesis, that is, if there is any meaningful difference between male and female senior high school students concerning the use of different components self-regulated learning strategies and academic achievement, an independent **T test (**comparing the mean of male and female scores) was used .

4. Results

4.1. Descriptive Information as to the Subjects

 For the purpose of this study, as mentioned earlier, a total number of 82 pre-university students (40 male and 42 female students) were randomly selected. Table 4.1 clearly shows: the number, percentage, and cumulative percentage of each group.

Table (4.1). The frequency of subjects' gender

Gender	Frequency	Percentage	Cumulative percentage
Male	40	48.8	48.8
Female	42	51.2	100
Total	82	100	------

4.2. Academic Achievement Scores

A comprehensive survey of scores collected from correcting the achievement test papers and standardizing the subjects' raw scores to determine the standing and frequency of each score in relation to other scores shows that they fluctuate between 7 and 20. Among all scores the most frequent one is 16, surprisingly with a frequency of 16, which amounts nearly to 19.5 percent of all scores.

Table 4.2 Academic achievement scores in English.

score	frequency	Percentage	Valid percentage	Cumulative percentage
7.00	1	1.2	1.2	1.2
11.00	1	1.2	1.2	2.4
12.00	2	2.4	2.4	4.9
12.50	1	1.2	1.2	6.1
13.00	5	6.1	6.1	12.2
14.00	5	6.1	6.1	18.3
15.00	9	11.0	11.0	29.3
16.00	16	19.5	19.5	48.8
17.00	15	18.3	18.3	67.1
18.00	15	18.3	18.3	85.4
18.50	1	1.2	1.2	86.6
19.00	6	7.3	7.3	93.9
20.00	5	6.1	6.1	100.0
total	82	100.0	100.0	

Using the collected and organized academic achievement scores (Table 4-2), the measures of central tendency (mean ,median, mode) and measures of variability (range, standard deviation ,maximum, minimum scores) are computed. Table 4.3 shows that the mean is 16.3, median 17, mode 16, standard deviation 2.30, range 13, the minimum score 7, and the maximum score is 20.

Table 4.3. Statistical measures of academic achievement scores

Measures	Mean	Median	Mode	Std. deviation	Range	Minimum	Max
Scores	16.3	17.00	16.00	2.30	13	7	20

In order to answer the first research question, if there is any difference between high, mid, and low scorers as to the use of different components of SRL strategies, as well as, the first hypothesis, high scorer subjects use more SRL strategies in comparison with mid and low scorers, it was necessary to divide the subjects into three main groups. This classification is based upon the computation of the ***mean*** and ***standard deviation*** of the scores collected from administering the academic achievement test. As can be seen in Table 4.5, 24 of the students (29.3 per cent) who have scored between 7-15 fall in the low scorers group, 31 students (37.8

percent) who have scored between 16-17 belong to the mid scorers group, and 27 students (32.9 per cent) who have scored between 18-20 fall into the high scorers group.

Table 4.4.Grouping of students based on academic achievement scores

Group	Range	Frequency	Percentage	Cumulative percentage
Low	7-15	24	29.3	29.3
Mid	16-17	31	37.8	67.1
High	18-20	27	32.9	100
Total	--------	100	100	------------

In order to answer the second research question, that is, if there is any significant difference between male and female students in the use of SRL strategies and academic achievement, as well as, the second null hypothesis, there is no significant difference between male and female students concerning the use of different components of SRL strategies, it was necessary to calculate the mean and other statistical measures of both male and female students' academic achievement scores. Table 4.4 shows that the mean of female's scores is nearly 2 points greater than that of males', which shows that males scores in English is more variable than those of females'.

Table 4.5. A comparison of males' and females' mean and Std. deviation of academic achievement scores

Gender	Mean	Std. deviation	Frequency
Male	15.30	2.27	40
Female	17.28	1.90	42

4.3. SRL Strategies Scores

In order to determine the degree of the application of SRL strategies by the students, a Farsi version of MSLQ (Navidi, 2003) was given to the subjects. The scores collected from administering MSLQ show that the minimum score is 68, the maximum 186, the mode is 161, median 153.50, mean 149.98, and standard deviation is 17.79.

Table 4.6. Statistical measures of SRL strategies scores collected from administering MSLQ

Mean	Mode	Median	Std.deviation	Minimum	Maximum
149.98	161	153.50	17.79	68	180

Based on the data illustrated in Table 4.6, students' scores in applying SRL strategies fluctuate between 68-180. Grouping the students according to the levels of SRL strategies use shows that most students fall in the high scorer group. According to the data presented in Table 4.7, around 4.9 percent of the students fall in the low scorer group, 40.9 percent of them are in the mid achiever group, and about 54.9 percent fall in the high achiever group.

Table 4.7. Grouping students based on SRL scores.

Group scorers	Range	Frequency	Percentage	Cumulative percentage
Low	68-120	4	4.9	4.9
Mid	121-150	33	40.2	45.1
High	151-180	45	54.9	100
Total	----------	82	100	-----------

4.4. The Subjects' Performance in MSLQ Subscales

The MSLQ consists of five subscales: 1) Meta-cognitive self regulation, 2) Time and Study area management, 3) Effort Regulation, 4) Peer Learning 5) Help Seeking.

A close study of the scores collected from running MSLQ shows that of the total scores of 217 for all subscales the students have scored 154 which is approximately 70.96 percent of the whole scores. This shows an optimal use of SRL strategies in learning English by the students.

Table 4.8. A comparison of the subjects' scores in the subscales of SRL strategies

Scale	No. of items	Maximum score	Mean	Percentage
Metacognitive self regulation	12	84	59	70.23
Time &study area management	8	56	45	80.35
Effort regulation	4	28	17	60.71
Peer learning	3	21	12	57.14
Help seeking	4	28	21	75
Total	31	217	154	70.96

Based on the data illustrated in Table 4.8. the highest level of application of SRL subscales belongs to *time and study area management* scale with an 80.35 percent; and the lowest level of application of SRL subscales belongs to *peer learning* subscale with 57.14 percent.

4.5. Research Questions

1-Is there any relationship between the use of SRL strategies and pre university academic achievement in English?

An overall analysis of scores related to the research variables: a) the use of SRL strategies, and b) the subjects' academic achievement show that there is a correlation coefficient of .80 between the two variables (r = .80). In other words, there is a positive relationship between the two variables. This level of correlation is meaningful with a probability of p < .000. Statistically speaking this level of correlation is highly significant and meaningful. Considering internal correlation between five subscales of SRL strategies and students achievement, the highest correlation belongs to meta-cognitive self regulation (r = .63), and the lowest level of correlation belongs to Effort regulation (r = .36) which is meaningful at the level of p < .000. Table 4.9 clearly shows the degree of correlation between SRL strategies and academic achievement in general, as well as, the level correlation of five sub scales of SRL strategies.

Table.4.9. Correlation coefficient between the use of SRL strategies and students' academic achievement in English

Scales	Co. coefficient	meaningfulness	No.
Meta-cognitive SR	.65	.000	82
Time & study area management	.54	.000	82
Effort regulation	.36	.000	82
Peer learning	.52	.000	82
Help seeking	.49	.000	82
SRL scales	.80	.000	82

Therefore, based on the above figures, it can be said that there is a significant correlation between the use of SRL strategies and student academic achievement.

2- Is there a meaningful difference between male and female students concerning the use of different components of SRL strategies?

In order to answer the above mentioned question, using an independent *t*-test, a comparison is made between males' and females' English academic scores means. As presented in Table 4.10, the mean score for males is 144.27, while the mean for females is 155.42. Considering the calculated *F* (3.18), it can be concluded that there is no significant difference between males and females in the use of SRL strategies; at the probability level of 90 percent the difference is not meaningful; however, it is meaningful at the level of 99 percent.

Table (4-10). Comparison of males and females means in using SRL strategies

Gender	Frequency	Mean	Std. deviation	Std. Error of measurement	Calculated *F*	Sig.
Males	40	144.27	20.08	3.17	3.18	.07
Females	42	155.42	13.40	2.06		

4.6. Research Hypotheses

Consistent with the two already posed questions, there are two research hypotheses in this study; both of them will be discussed in this section.

Hypothesis (1): ***High scorer*** students in comparison with ***mid*** and ***low scorer*** students use more SRL strategies.

A comparison of the level of SRL strategies application among three groups of students (high, mid, and low scorers) show that those with low academic achievement have a mean of (133.83), students with mid academic achievement have a mean of (152.23), and those with high academic achievement have a mean of (162.66) in using SRL strategies. Based on the data illustrated in Table 4.11, there is a considerable difference between the mean of low and mid achievers in comparison with that of high achievers group. Therefore, as can easily be discerned from Table 4.11, there is a positive relationship between the use of SRL strategies by the students and the improvement of their academic performance. In other words, as the students' academic scores ascend the degree of application of SRL strategies by the students increase. So, the first research hypothesis is definitely confirmed.

Table 4.11. A comparison of level of application of SRL strategies among three different groups of students with different academic achievement

Academic achievement	SRL strategies Mean	No. of students in each group	Std. deviation
Low.	133.83	24	20.46
Mid.	152.32	31	11.12
High.	161.66	27	9.16
Total.	149.98	82	17.79

Hypothesis (2): There is no meaningful difference between female and male students (high, mid, and low scorers) as to the use of different components of SRL strategies.

In order to investigate this hypothesis the statistical test, a one way analysis of variances (ANOVA) is used .Using this technique, the level of difference between two variables of research, that is, the use of SRL strategies (independent variable), and the academic achievement of female and male students (dependent variable) is analyzed and determined (Table 4.12). As illustrated in Table 4.12 the observed F (25.73) is greater than the critical table F. Therefore, it can be concluded that there is a meaningful difference between male and female students as to the use of SRL strategies at the significant level of 99 percent.

Table (4.12) analysis of variances between, the use of SRL strategies and the academic achievement of female and male students

Sources of variability	Sum of Square	df	Mean square	F	Sig.
Between groups	10114.880	2	5057.440		
Within groups	15526.108	79	196.532		
Total	25640.988	81	--------	25.73	.000

4.8. Peripheral Findings

As shown in Table 4.13 a comparison is made between males and females concerning their academic achievement scores .This comparison shows that although females' mean is 17.28 and males' mean is 15.30, there is no significant difference between them. Females' scores standard deviation is 1.9 while males' standard deviation is 2.27. This difference shows that males' scores are more scattered than females'. In other words, male students are more heterogeneous than females.

Table (4-13).a comparison of the performance of males' and females' academic achievement in English

Sex	Frequency	Mean	Std. deviation	Std. Error mean	F	Sig.
Males	40	15.30	2.27	.360	.64	.42
Females	42	17.28	1.90	.290		

5. Discussion

A brief survey of the results of this study shows that they are, as earlier mentioned, in the case of the relationship between the use of SRL strategies and academic achievement consistent with the findings of previous studies. However, considering the second research question and hypothesis, the findings are inconsistent with those of previous studies. Taking the two variables of research into consideration as mentioned earlier and illustrated in Table 4.9., there is a positive relationship between the use of SRL strategies and students' academic achievement .The degree of correlation coefficient is .80 which is statistically acceptable and consistent with the results of previous studies. However, taking the second research question that is if there is any meaningful difference between male and female students in using SRL strategies, and the second research null hypothesis, "there is no significant difference between male and female students as to the use of SRL strategies" into consideration, it can easily be seen that the result of this research are not consistent with those conducted before.

6. Conclusions

The findings of the present study show that there is a close and positive relationship between the use of different components of SRL strategies and pre-university students' academic achievement in English. In other words, those students who were more successful and scored better in their English final examination used more SRL strategies .Therefore, it can be inferred that there is a positive relationship between the two variables. This study also shows that there is **no significant difference** between male and female students concerning the use of different components of SRL strategies, which is inconsistent with the findings of the studies carried out before. This discrepancy may be due to different factors including: 1) male

and female students are different considering personal traits. 2) They may have had different educational and social backgrounds. 3) Although they are at the same level of education, they may have different incentives. 2) Since they are at different educational centers, they may enjoy different instruction and training. 4) They (females) may have received some kind of training or instruction as to the use of SRL strategies.

7. Pedagogical Implication

Nowadays methodologists, teachers**,** experts, and anyone who has got knowledge or experience in teaching in general and language teaching in particular, believes that it is not just personal factors such as learners' intelligence, background knowledge, motivation, or external factors including teachers' mastery, teaching or learning environment , and course books which streamline the process of learning or acquiring a skill. Moreover, psychologists believe there are differences among learners; and this diversity of needs, personality traits, and incentives makes it difficult for teachers to come up with methods or approaches to satisfy these diverse needs and requirements. Therefore, methodologists have come to the conclusion to shift this burden of responsibility from teachers only to learners. Learners should assume responsibility for their own learning. But how? To address this, educational experts and methodologists believe that teachers should train their learners so that they by themselves, using different techniques or **strategies,** manage, control, monitor, and evaluate their learning processes. In fact, they should learn "how to learn."

Considering the findings of the present study and those of the previous ones, self regulation and different kinds of cognitive and metacognitive strategies seem to be indispensable .The significant difference between high achiever students in comparison with those with low and mid academic achievement emphasizes the importance of SRL strategies in the process of learning in general and second or foreign language in particular. Therefore, it is incumbent upon both educational experts and authorities to do the following:

1) Familiarize their teachers and instructors with the importance of and knowledge of learning strategies in general and SRL strategies in particular.

2) Provide those who are directly involved in teaching and training with some kind of pre-service or in-service training so that they teach the students to become independent learners through using different types of strategies.

3) Help the students become independent learners by using different kinds of cognitive, meta-cognitive, and SRL strategies.

8. Suggestions for Further Research

Because of the novelty of this research in the Iranian context and also the importance of **SRL** strategies in the process of learning a foreign language such as English, the following is suggested:

1) The present study can be conducted on other levels of general or higher education.

2) The relationship between the use of SRL strategies and other academic courses be studied.

3) Instead of using an achievement test to represent student academic achievement, a standard achievement test can be used.

4) This study can be carried out at different schools with different educational conditions.

Appendices

Appendix A

MSLQ Scales and Items (Pintrich, P. R.; Smith, D. A., Garcia, T., & McKeachie, W. J. (1991).

(Note: Item numbers are the original numbers in the questionnaire**)**

Cognitive and Metacognitive Strategies:

 Metacognitive Self-Regulation

33. During class time I often miss important points because I'm thinking of other things.

36. When reading for this course, I make up questions to help focus my reading.

41. When I become confused about something I'm reading for this class, I go back and try to figure it out.

44. If course readings are difficult to understand, I change the way I read the material.

54. Before I study new course material thoroughly, I often skim it to see how it is organized.

55. I ask myself questions to make sure I understand the material I have been studying in this class.

56. I try to change the way I study in order to fit the course requirements and the instructor's teaching style.

57. I often find that I have been reading for this class but don't know what it was all about.

61. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.

76. When studying for this course I try to determine which concepts I don't understand well.

78. When I study for this class, I set goals for myself in order to direct my activities in each study period.

79. If I get confused taking notes in class, I make sure I sort it out afterwards.

Resource Management Strategies:

Time and Study Environment

35. I usually study in a place where I can concentrate on my course work.

43. I make good use of my study time for this course.

52. I find it hard to stick to a study schedule. (REVERSED)

65. I have a regular place set aside for studying.

70. I make sure that I keep up with the weekly readings and assignments for this course.

73. I attend this class regularly.

77. I often find that I don't spend very much time on this course because of other activities.

    (REVERSED)

80. I rarely find time to review my notes or readings before an exam. (REVERSED)

Resource Management Strategies:

Effort Regulation

37. I often feel so lazy or bored when I study for this class that I quit before I finish what I

    planned to do.

48. I work hard to do well in this class even if I don't like what we are doing.

60. When course work is difficult, I either give up or only study the easy parts. (REVERSED)

74. Even when course materials are dull and uninteresting, I manage to keep working until I

    finish.

Resource Management Strategies:

Peer Learning

34. When studying for this course, I often try to explain the material to a classmate or friend.

45. I try to work with other students from this class to complete the course assignments.

50. When studying for this course, I often set aside time to discuss course material with a

    group of students from the class.

Resource Management:

 Help Seeking

40. Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone.

58. I ask the instructor to clarify concepts I don't understand well.

68. When I can't understand the material in this course, I ask another student in this class for help.

75. I try to identify students in this class whom I can ask for help if necessary.

Appendix B (The Farsi version of MSLQ)

<div dir="rtl">

پرسشنامه راهبردهاي يادگيري خود نظم داده شده

دانش آموز گرامي

ضمن تشكر از همكاري صميمانه شما به اطلاع مي رساند اين پر سشنامه براي راهبردهاي ي   يادگيري و م

لعه دانش اموزان تنظيم شده است.توجه داشته باشيد كه هيچ پاسخ درست يا غلط وجود ندارد.تا جاييكه

ممكن است سعي كنيد به هر سوال صاد قانه پاسخ دهيد. اگر فكر مي كنيد مفهوم يك جمله هرگز در مورد

شما صدق نمي كند عدد 1 را انتخاب كنيد. اگر مفهوم جمله كاملا با رفتار شما هماهنگ است عدد 7 را

مشخص كنيد.توجه كنيد كه هر چه عدد د بزرگتري را انتخاب كنيد به معني اين است كه ان جمله بيشتر با

رفتار شما هماهنگ است.

</div>

<div dir="rtl">

كاملا درست						كاملا غلط	اظهارات	رديف
1	2	3	4	5	6	7	در كلاس درس به چيزهاي ديگر فكر مي كنم و نمي توانم به نكات مهم درس توجه كنم.	1
							به هنگام مطالعه ، براي كمك به تمركز در خواندن،از خود سوال هايي مي پرسم .	2
							اگر به هنگام مطالعه مطلبي رل نفهمم ، به عقب بر مي گردم و تلاش مي كنم آن را به خوبي بفهم .	3
							اگر فهميدن مطلب درس ها برايم دشوار باشد، روش مطالعه خود را تغيير مي دهم	4
							قبل از اينكه مطالب جديد را به طور كامل مطالعه كنم ، اغلب با يك نگاه اجمالي آن را بررسي ميكنم تا با نحوه ي سازمان بندي آن آشنا شوم .	5
							براي كسب اطمينان از درك و فهم موضوعات مطالعه شده از خود سوال هاي مي پرسم	6

</div>

							اظهارات	رديف
							سعي مي كنم روش مطالعه خود را تغيير بدهم تا با نيازهاى دوره و شيوه تدريس معلم ها هماهنگ باشد.	7
							اغلب مي دانم كه مطلبى را در كلاس خوانده ام ، اما نمي دانم درباره چه بوده است .	8
							به هنگام مطالعه يك موضوع به جاي اينكه بدون هدف مطالعه كنم ، همواره به چيزي كه مي خواستم ياد بگيرم مي انديشم .	9
							به هنگام مطالعه يك موضوع سعي ميكنم كه مطالبي را كه به خوبي نفهميده ام مشخص كنم	10
							به هنكام مطالعه ، اهداف خود را براي هدايت فعاليت هاي يادگيري تنظيم مي كنم .	11
							اگر يادداشت هاي من در كلاس مبهم باشد ،اطمينان دارم كه بعداً ابهام آن ها را بر طرف خواهم ساخت .	12

كاملا درست						كاملا غلط	اظهارات	رديف
1	2	3	4	5	6	7	معمولا در مكاني مطالعه مي كنم كه بتوانم بر روي مطالب تمر كز داشته باشم.	13
							از((وقت))خود براي مطالعه درس ها به خوبي استفاده مي كنم.	14
							براي من سخت است كه برطبق يك برنامه زمان بندي شده مطالعه كنم	15
							من جايي (مكان) را براي مطالعه خودم مرتب و آماده كرده ام.	16
							اطمينان دارم كه مي توانم از عهده تكاليف هفتگي و مطالب خواندني اين دوره آموزشي برآيم.	17
							من به طور مرتب در كلاس هاي درس شركت مي كنم.	18
							مي دانم كه در اثر فعاليت هاي ديگر ، وقت زيادي براي آموختن	19

						درس ها صرف نمي كنم.	
						به ندرت مي توانم قبل امتحان براي مرور نوشته ها و مطالب ((وقتي)) را اختصاص بدهم.	20
						اغلب به هنگام مطالعه درس احساس تنبلي يا خستگي مي كنم و قبل از آنكه تكاليف خودم.	21
						به سختي تلاش مي كنم تا عملكرد من در كلاس خوب باشد ، حتي اگر به آنچه انجام مي دهم ، علاقه نداشته باشم.	22
						وقتي به مطالب دشواري برخورد مي كنم ، آن را رها مي كنم ، يا تنها بخش هاي آسان را مطا لعه مي كنم.	23
						حتي زماني كه مطالب آموختني جالب نبوده و خسته كننده باشد ، به مطالعه خود تا آخر ادامه مي دهم.	24
						به هنگام مطالعه درس ها ، اغلب سعي مي كنم مطالب را به از همكلاسان يا دوستان توضيح دهم.	25
						براي انجام تكليف دوره ، سعي مي كنم با ساير دانش آموزان همكاري كنم.	26
						در طول دوره آموزشي ، اغلب ((وقتي))را براي بحت با گروهي از دانش آموزان كلاس درس ها اختصاص مي دهم.	27
						حتي اگر آموختن مطالب درس ها براي من زحمت زيادي داشته باشد ،سعي ميكنم كارهايم را بدون كمك گرفتن از كسي انجام دهم.	28
						معمولا از معلم ها مي خواهم مفاهيمي را كه به خوبي نفهميده ام براي من توضيح بدهند.	29
						وقتي كه نمي توانم مطالب درس ها را بفهمم از يك دانش آموز همكلاسي كمك مي خواهم.	30
						سعي مي كنم از دانش آموزان كلاس كساني را شناسايي كنم كه در صورت نياز آن ها بخواهم	31

Appendix C. Pre-university Academic achievement test

A)VOCABULARY

A-Fill in the blanks with the given words. There is one extra word.

(observe-private-poverty-compose-agriculture-signs-access)

1-in many parts of the world, some people live below the ……line.

2-at an early age, Edison showed ……..of a serious hearing problem.

3-a large number of people don't have …….to the Internet.

4-this was the first ……..research laboratory in the USA.

5-Newton used a better telescope to …….other objects in space.

6-most working children in rural areas are found in ……..

B-match the following words in column A with their definitions in column B.

A	B
7-document( )	a-not public
8-mission ( )	b-a person who is learning a job.
9-launch ( )	c-a piece of paper with information on it.
10-private ( )	d-join one thing to another
11-apprentice( )	e-a flight into space
12-attach ( )	f-a small amount of sth. To test.
	g-sending sb. Or sth. Into space

c-choose the correct answer.

13-my grand father ………..from a strange disease.

a-supports   b-offers   c-suffers   d-operates

14-some schools in Iran are built by …….organizations.

a-duty   b-convents   c-capital   d-charity

15-a computer is a useful device, but it can be ……………

a-positive   b-anxious   c-irrelevant   d-addictive

16-please tell me if these flowers are natural or ………………

D- Circle the different word.

17-a-impression   b-influence   c-effect   d-promotion

18-a-church   b-devote   c-slum   d-Covent

B.GRAMMAR

A-Choose the best answer.

19-in some are very rich ….others are quite poor.

a-when   b-while   c-whether   d-since

20-"I can't find my bag."

"You ………….have left it home .I am not sure, of course."

a-might   b-could   c-would   d-should

21-she can speak three languages ………she is only seven.

a-since   b-whether   c-because   d-although

22-Ali goes to the library ……….he can study carefully.

a-but   b-whether   c-whereas   d-so that

B-using the words given in brackets combine the following sentences.

23-she cleaned the house .she had a terrible headache.(even though)

………………………………………………………………

24-i went to Tehran .I wanted to see my friend.(so as to)

………………………………………………………………

C-put the following words into a correct order.

25-but-studied –mina-she –carefully –have-didn't-should.

………………………………………………………………

26-work-sick-although-went-he-to-he-was.

D-write the correct form of the words to fill in the blanks.

27-she is saving her money so as to-------a new house in the city.(buy)

28-they were late for school this morning .they should ………earlier.(get up)

C-SENTENCE FUNCTION

A-match the items in column A with those in column B.

A

29-A computer is a useful device………..

30-mother Teresa had charity projects ………..

31-the internet is ……………..

B

A-a system that lets computers all over the world talk to each other.

b-because it speeds up problem solving.

c-such as work among people living in slums.

d-such as Africa, Asia, and Latin America.

D-COMPREHENSION

A-sentence comprehension. Read the following sentences and choose the best answer.

32-Most child laborers around the world are busy doing extreme forms of work that are dangerous for their health.

The above sentence means that ……………

A-extreme forms of work are dangerous for children.

B-working around the world is dangerous for children.

c-every work that children do is dangerous for them.

D-work done around the world is dangerous for children.

33-It is hard to attach a fax into another document or to pass it on to someone

else, but e-mail stays readable no matter how many times it is forwarded.

According to the above sentence …………..

A-it is easy to attach a fax into another document.

B-nowadays faxes are not needed any more.

C-it is difficult to send an e-mail to some one else.

d-we can forward an e-mail many times and it will remain readable.

B-cloze passage. Fill in the blanks with the words from the list below.

(education-robbed-develop-smokes-dangerous-hire-childhood)

Most children around the world are forced to do different types of work which

are really dangerous for their health. they are also being ………… of their

rights, including not only the right to ……….to the highest level

through ………….but also the right to ……………..they often work as

many as 12 hours a day ,work under …………..conditions such as factories

with harmful …………in the air, handle dangerous materials,which are not

made for them.

C-Reading comprehension.

Read the passage carefully and then answer the questions.

Whether a language is learnt quickly or slowly, it is hard. Laboratories, good

books, and tapes will help, but nothing can be as helpful as a good teacher.

Speaking a foreign language is what most people want. Every year many

people start learning a language. Many people try at home with books and

tapes. Some use radio and TV programs, thousands go to evening classes. If

they use the language only 2 or 3 times a week, it will take a long time to

learn it, like language learning at school. Some try to learn a language fast

by studying for 6 hours or more a day. Some travel to the foreign country where the language is spoken, to learn it. However, most people don't have enough money to travel to a foreign country .some people need language to do their work better. For example, students, doctors, and scientists need to read foreign books and reports .others need it for some other purposes.

34-From this passage we understand that learning a language by…………is the best way.

a-using tapes and television programs

b-reading good books and reports

c-traveling to other countries

d-the help of a good teacher

35-According to the passage learning a foreign language ……………

A-does not prepare a person for life.

b-is difficult

c. is of no use

d-is useful only for doctors and scientists.

36. According to the passage people learn a language for different purposes.

a-true   b-false   c-not mentioned

Good luck.

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