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Motivational and Learning Strategies of Iranian EFL Learners Exposed to an E-Learning Program

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Abstract

The purpose of this study was to expose a group of Iranian students to an e-Learning program and find out the effects of this exposure on their learning and motivation strategies. This study made an attempt to evaluate the degree of strategy use in both traditional and e-Learning modes of learning. Moreover, the effects of the e-Learning program of the participants of the study on learning strategies, motivation and volition regarding sex, age, educational degree and internet literacy were sought. The data for this study were collected from 100 Iranian EFL students (62 females and 38 males) who were exposed to an e-Learning class for a period of two months. The students were mostly mature and educated studying at university or holding a degree. This study used a translated and modified version of the MSLQ (Motivated Strategies for Learning Questionnaire), a volitional questionnaire, a demography questionnaire and a series of interviews with the students and teachers involved in this research. Regarding the theoretical framework of the study, self-regulation was adopted. The data were analyzed both quantitatively and qualitatively to find out the changes the students might undergo moving from conventional mode of learning to e-Learning and get some insights for prospective e-Learning programs in Iran.

Keywords: 1. Motivation 2. Learning Strategies 3. E-Learning 4. Volition 5. Self-Regulation.

1. Introduction

Over the past few years, a gradual but highly significant shift has taken place in the field of second language education, putting less emphasis on

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teachers and teaching but greater stress on learners and learning. As Schunk (1993) has postulated, learning is influenced by cognitive, social, and affective factors. Moreover, differences in personality and motivation justify a significant portion of the individual differences in the attainment of learning outcomes. Nowadays, as it is highly demanded, learning situations are expanding to include distance-Learning environments. According to Moore (1990) distance education is a kind of planned learning that normally occurs in a different place from teaching and requires special techniques of course design, instructional techniques, methods of communication by electronic, organizational and administrative arrangements.

Distance learning has evolved from correspondence courses, audio taped and video taped lectures, teleconferencing and multimedia delivery to today's internet-based technologies. Today, in many countries, distance education has spread throughout postsecondary education. E-Learning sites range from static web pages to interactive learning classrooms. Right now, across the globe different sites are available to meet various needs of those who want to learn English. Some sites are designed for the learners who are interested in guiding their own learning and finding excellent handouts accompanied by answers. Going one step further, other sites are at the service of those interested in free self-access English materials. There are also some more interactive sites with Chat and Talking Point facilities which make the learner part of a community. Finally, at the far end of the scale, the free-based virtual classrooms appear that are generally online courses with set dates to begin and end courses. They are tutor-led and participants can access the asynchronous sessions at any time, completing tasks individually or in groups. Moreover, there are often some evaluations and the participants will be awarded certificates on successful completion of courses. To access these courses usually a password is required but sometimes free services are offered as well. To mention one site, www.englishtown.com/sp/ip/Home.aspx guides those interested in pursuing online courses and offers different programs along with their related sites.

1.1. Objectives of the Study

The main purpose of this study was to investigate how a random sample of Iranian EFL learners' may approach an e-Learning environment in terms of motivation and language learning strategies. As such, the following research hypotheses and questions were addressed.

1.2. Research Hypotheses

- There is no statistically significant difference between the participants' use of learning strategies.

- There is no change of strategy use when the students are exposed to the e-Learning program.

- There are no statistically significant differences between males and females' strategy use in the e-Learning mode of learning.

- There is no positive or negative change in the participant's attitude toward e-Learning.

1.3. Research Questions

1. Which strategies and to what extent are used in e-Learning mode of learning by the participants?

2. Which strategies undergo major changes through the process of e-Learning?

3. Are there any differences between males and females' strategy use in the e-Learning modes of learning?

4. What experiences do the students and teachers undergo throughout the e-learning program?

1.4. Significance of the Study

Internet-based distance learning, by its very nature has the potential to affect motivation and learning strategies because it radically changes the learning environment offered by physically separating the instructor from the leaner. It seems that identifying the extent to which students utilize self-regulatory behaviors in internet-based distance learning will provide a valuable insight for the design and delivery of e-Learning courses. Additionally, a comparison of the first-stage and end-stage of the learners exposed to the e-Learning program may lead to an improved understanding of learners. The study of motivation and learning strategies of learners in e-Learning opportunities may lead to a greater understanding of the characteristics of individuals in non-conventional environments. The information obtained from this study may be utilized to design and develop more effective e-Learning courses and provide practical information for educators and instructional designers.

1.5. Theoretical framework of the study

The theoretical framework of this study is self-regulation which as postulated by Pintrich (2000), Ruohotie (2000) and Zimmerman (2000) refers to self-generated, self-activated and self-monitored thoughts, feelings and actions which ultimately affect one's learning. Pintrich (2000), one of the prominent pioneers of self-regulation, maintains that self-regulated learning is an active, constructive process through which learners activate, monitor and regulate their cognition, motivation and behavior in a given

environment. According to self-regulation theorists, personal, contextual and behavioral factors and their interactions provide the learners with some opportunities to control their learning. The theoretical framework of this study concerns the use of learning strategies (i.e., cognitive and meta-cognitive learning strategies, control and regulation strategies, resource management strategies and volition strategies).

Kivinen (2003) maintains that some volition strategies should be added to the theoretical framework concerning the use of learning strategies. He contends that if volition strategies are added to Pintrich's framework, a more comprehensive picture of learning can be obtained. According to Kivinen, the four main strategy categories (See Figure 1) are interrelated and interact with one another. Pintrich (2000) states that rehearsal, elaboration, organization, and critical thinking are the main categories of cognitive and meta-cognitive learning strategies employed by learners.

Moreover, he describes resource management strategies (i.e., time-management, environmental management, peer-learning, effort-regulation, social control and help seeking). Finally, he enumerates the main categories of control and regulation strategies (i.e., encoding control, attention control, motivation control, affect regulation, behavioral regulation, physical conditions, and self-instruction statements). The last of the four main strategy categories discussed by Kivinen (2003) highlights the volitional strategies in two broad categories of covert processes of self-control and overt processes of self-control. Covert processes of self-control fall into three sub-categories of cognition control (i.e., attention control, encoding control, information processing control), emotion-control and motivation control (i.e., incentive escalation, attribution/self-reinforcement and self-instruction). Moreover, overt processes of self-control embody environmental control (i.e., task control, setting control) and control of others (i.e., peer control and teacher control/assistance).The above-mentioned categories and their related subcategories, validated by Pintrich (2000) and Kivinen (2003), serve as a guide to categorize and analyze the data gathered from the participants of this study. Figure 1 depicts the theoretical framework of the study.

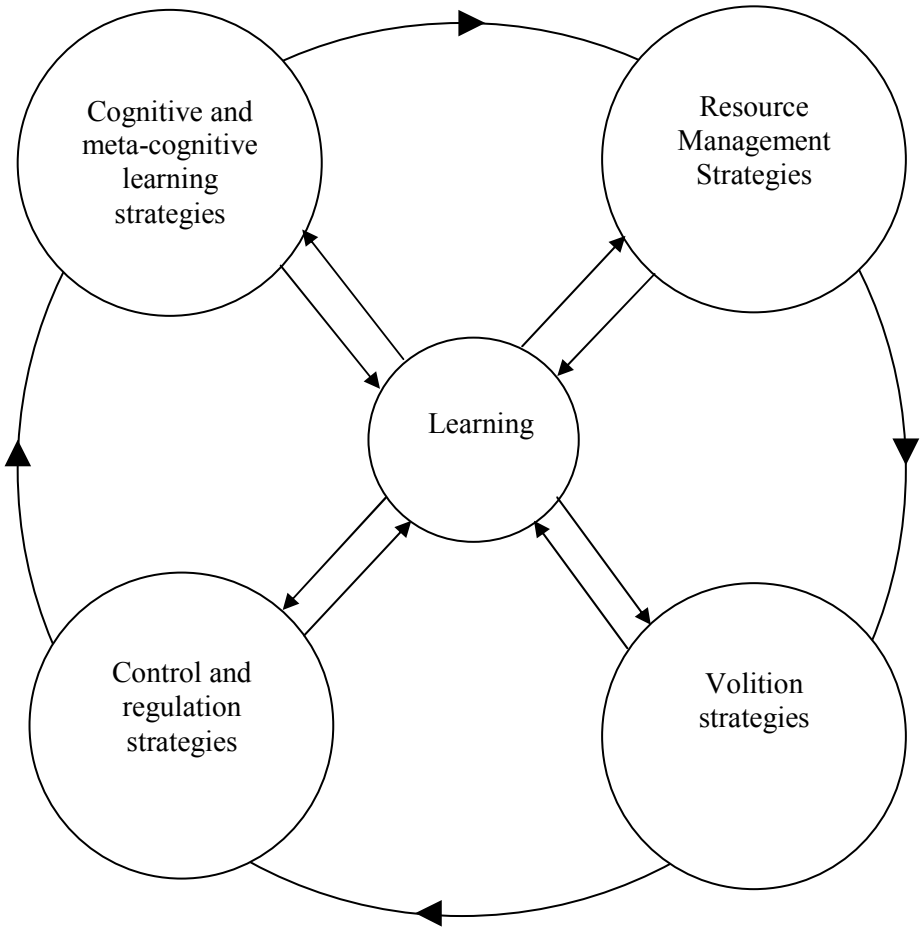

Figure 1: Theoretical framework of the study:
The four categories of learning (Kivinen, 2003, p.18)

The related sub-categories of the proposed theoretical framework are presented in Table1.

Table1: The sub-categories of learning (Kivinin, 2003, pp.112-113)

Cognitive and meta-cognitive learning strategies	Rehearsal strategies	a) revision	
		b) underlining and making notes	
		c) from easy to difficult	
	Elaboration	a) learning formulae	
		b) summarizing and paraphrasing	
		c) self-questioning	
	Organization	a) selecting appropriate information	
		b) constructing connections among the information	
	Critical thinking	a) applying previous knowledge to new situations	
		b) making critical evaluations with respect to standards of excellence	
Recourse management strategies	Time management	a) time planning	
		b) time ritual	
		c) break planning	
		d) time limit	
		e) lack of time	
	Environmental management	a) quiet place	
		b) distraction elimination	
		c)collection of all necessary materials	
		d) going elsewhere	
		e) taking it easy	
	Peer-learning		
	Effort-regulation		
	Help-seeking		
	Social control	a)social command	
		b)social withdrawal	
		c) social know-how	
		d) social help	
		e) trouble-sharing	
	Self-helping		
Control and regulation strategies	Encoding control		
	Attention control	a) improving concentration	
		b) distance avoidance	
		c) self-forcing	

		d) mind-wandering avoidance	
		e) involving self-belief	
		f) giving up	
	Motivation regulation	a) self-reward	
		b) positive outcome thinking	
		c) negative outcome thinking	
		d) intrinsic interest: task value / learning goal / interest	
		e) other motivation regulation statements	
		f) self-efficacy statements	
	Affect regulation	a) studying can be fun	
		b) learning by fear	
		c) relaxation	
		d) test anxiety	
	Behavioral regulation	a) nutrition	
		b) need for sleep	
	Physical conditions		
	Self-instruction statements	a) reminding	
		b) rule of life principles	
		c) self-reinforcement task value strengthening	
Volition strategies	Covert processes of self-control	Cognition control	a) attention control
			b) encoding control
			c) information processing control
		Emotion control	
		Motivation control	a)incentive escalation
			b) attribution/self-reinforcement
			c) self-instruction

	Overt processes of self-control	Environmental control	a) task control
			b) setting control
		Control of others	a) peer control
			b) teacher control/assistance

1.6. Conceptual framework of the study

According to Pintrich (2000) the categories of learning are interrelated and interact with one another. While cognitive and meta-cognitive strategies enable learners to rehearse, elaborate, and organize the materials, resource management strategies help learners in time and environment management, social controls and self and peer helping. And when learners resort to control and regulation strategies, they have a better control over their attention, motivation, affect, behavior, and self instruction. Finally, volition strategies are involved in covert and overt processes of self-control. In Figure 1, the arrows show the interrelationships among the four categories of learning. This study aimed at coming to a conceptual framework of the factors that affect /predict the use of learning strategies in EFL e-Learning contexts. Numerous factors are involved which influence the use of strategies (i.e., language proficiency, motivation, years of language study, gender, age, marital and health status, education and job status, earning power, leisure time, and technology literacy (computer and internet literacy). Due to many reasons, some variables are not included in the present framework. For instance, the field of study was not included because the participants of this study were from miscellaneous fields. In this study, the interaction of some variables was taken into consideration to offer a conceptual framework revealing the possible interaction of the learning factors and hence the consequent changes of language learner strategies that might be affected because of exposure to e-Learning opportunities. The conceptual framework of the study is depicted in Figure 2.

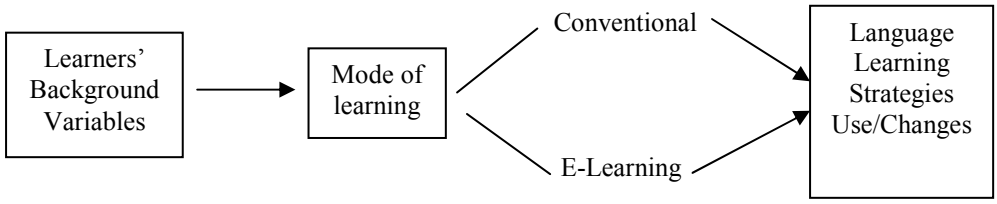

Figure 2: Conceptual model of the factors affecting strategy use

As the theoretical framework of this study reveals, motivation and different strategies along with their related components affect learning. The conceptual framework of this research shows that learners with different background variables might opt for different modes of learning to satisfy their needs. It is believed when learners choose e- Learning mode of learning, it might influence their self-regulation and hence motivation and learning strategy choices.

2. Background

2.1. Research on e-Learning

Research is a multifaceted issue conducted in different contexts using different instruments and modes of learning. Lots of research is done in conventional/traditional (on-site/on-campus) contexts and some studies have been conducted in distance learning/e-Learning (off-site) environments. Different studies have been conducted focusing on different traits and issues involved in distance learning, particularly e-Learning context. Motivation, learning styles and learning strategies as well as volitional strategies which are all the components of self-regulation frame have been studied by different researchers.

2.2. Studies on motivation

Regarding motivation, Spiros (2003) talking about the influence of goal orientation and self-efficacy on learning outcomes, has elaborated on individual differences in motivation during distance training. Jamison (2003) has used motivational systems theory to predict student completion of asynchronous web-based distance courses. Furthermore, Dunigan (2003), highlighting motivational factors, renders humanistic management of distance education. Maupin (2003) offers a comparison of demographics, motivation, and learning strategies of campus-based versus internet-based learning courses.

2.3. Studies on learning strategies

McLaughlin (2004), NG (2005), Bell and Akroyd (2006), Kanuka (2005), Pattarroya (2006), Bell (2006) and many other researchers have conducted studies to elaborate on learning strategies in distance education. Lynch (2003) has reviewed the distance education literature in order to identify those learner characteristics and learning strategies that are predictive of academic success in distance and online learning. This study elaborates on the social cognitive self-regulation literature in order to show how its emphasis on individual learner characteristics provides a valuable learner-centered conceptual framework for online education research.

Nokelainen et al (2003) highlight and support learner-centered collaborative learning. Patarroya (2006) mentions that successful distance learners are to a great extent independent. Langly, et al. (2004) also discuss that high-performers have a higher level of motivation, perseverance and independence. Diaz and Cartnel (2000) have also claimed that independent learners are more successful in distance learning. Bell (2006), NG (2005) and Anderton (2006) have discussed the role of environment and right zones and conditions in learners' success. Kanuka (2005) strongly recommends creating necessary conditions to facilitate higher levels of learning. Finally, Blocher, et al. (2002) mention that seeking help from the instructor is much more prevalent than seeking help from peers. As a concluding remark, all researchers maintain that distance education has lots of potentials and more research should be carried out to confirm the previous findings.

To synthesize, different researchers have elaborated on the role of motivation and self-regulation in any kind of distance education. NG (2000) maintains that efficacy beliefs are the most important predictors of success in distance learning. NG (2002) highlights motivational goals, beliefs, use of strategies, and a sense of efficacy. He holds that self-regulation should be encouraged among distance learners. Kivinin (2003) also believes self-regulatory skills should be enhanced among the students. Hagris (2000) calls for a higher degree of self-regulation. Finally, Zhang, et al. (2001) maintain that positive beliefs, self-efficacy and intrinsic motivation are the predictors of success in distance education. McLoughlin (2004) maintains that motivation is the single best predictor of success and he mentions that researchers should develop more challenging and motivating zones of engagement for learners. Aloyman and Au (2003) and Muirhead (2006) have also mentioned the significant role of motivation and use of discussions and interactions which are compelling. NG (2005) has also elaborated on the role of student versus teacher interactions which can enhance motivational beliefs. Bell and Akroyd (2006) and Miltiadou (1999) hold that the best predictor of success is expectancy for learning.

To conclude the review of literature on the factors influencing the motivational and learning processes of distance learners, some drawbacks and flaws of the aforementioned studies should be highlighted. One major problem is that the proficiency levels of the subjects are not tapped and reported based on highly reliable tests. Thus, any findings pertaining to the relationship between the subjects' mastery and proficiency levels and their reported factors, strategies and styles might be doubted. Another pitfall is that in some of these studies some important variables are not taken into consideration and the variables that are not controlled or reported might have radical effects on the learners' choice of strategies. Sex, ethnicity,

proficiency, academic background, disability, job demands and many other issues can be significant motivational or learning factors. NG (2002) does not justify some patterns of strategy use prevalent among the students in his study. The findings of Hagris (2000) are not generalizable. In the same vein, Kanuka (2005) does not take a large population randomly selected to make findings generalizable. Moreover, the researcher is the instructor himself which might involve a degree of bias. Finally, there are no validity reports concerning the methods or instruments used in the study. McLoughlin (2004) uses only self-report instruments and does not use triangulation to augment and enrich the findings. Some studies do not take the interest and needs of participants into consideration and consequently a high rate of attrition is observed (Wickerman & Dooley, 2001). Finally, utilization of non-probability samples (Diaz & Cartnal, 1999) should not be ignored as a flaw typical of many studies not yielding generalized ability. Thus, perceptions and motivation should be enhanced.

3. Method

3.1. Participants

The participants of this study comprised 100 EFL learners, 38 males and 62 females. All the participants were native speakers of Persian and their age ranged from 18 to 50. Those adult learners who were willing to study via e-Learning and could pass the placement test were eligible to participate in the program. It should be mentioned that initially a series of advertisements were run in the local newspaper promoting the instructional program and calling for prospective candidates willing to participate in an e-Learning program designed for an elementary level. More than 1400 people viewed the site and more than 400 took the placement test online before entering the program. Over 300 hundred people passed the placement test meeting the selection criterion of getting a minimum score of 12 out of 70 indicative of New Interchange 1 match (as recommended by Richards 2003) and they were given pass words to enter the program. However, of all 300 students who entered the program only 100 continued up to the end of the program and the rate of drop out was high. The participants were mostly unemployed bachelor degree holders who had an elementary level of English proficiency according to the guidelines of the placement test. They were all from Shiraz, Iran and they were assigned to their e-Learning classes where they could get the instruction and contact their teachers or peers.

3.2. Materials

The materials chosen comprised the New Interchange series volume one (Richards, 1998) along with the supplementary materials, the

workbook, audio and tests (i.e., placement and final tests). The lessons were presented in an interactive mode to the students on the internet through a site. A letter of consent was also obtained from the author of the series who allowed the researchers to use the materials on the internet for the purpose of this study. The New Interchange 1 was chosen because first, this book is available to Iranian EFL learners. Second, it has a self-contained package including text book, work book, CDs, video and video book, teacher's guide book and student's guide book and a placement test package. Third, teachers in Iran are familiar with the series. Fourth, the materials are manageable for a virtual class.

3.3. Instruments

Two questionnaires and two tests were used in this study. The Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, et al., 1991), a volitional questionnaire (Kivinen, 2003), and New Interchange I placement and final tests (Richards, 2003) were employed.

3.3.1. Motivated strategies for learning questionnaire

The MSLQ delves into distance learners' motivation (i.e., achievement goals, efficacy beliefs, control beliefs), and self-regulated learning (i.e., time management, effort management, help seeking, self-regulated strategies). The MSLQ is an 81-item Likert type self-report instrument designed to measure students' motivational beliefs and strategy use. As proposed by Pintrich (1988), the MSLQ is based on a general social cognitive view of motivation and learning strategies. Pintrich (1989) and Weinstein and Mayer (1986) perceive the learner as an active processor of information whose beliefs and cognitions are important mediators of instructional input and task characteristics. Schunk and Zimmerman (1994) hold that by focusing on the roles of motivation and cognition, the MSLQ addresses recent advances in self-regulated learning emphasizing the interface between motivation and cognition. Garcia and Pintrich (1995) assert that in contrast to other widely used self-report instruments, the MSLQ takes a more detailed view of the motivational processes involved in self-regulated learning and contextualizes motivation and learning strategies.

There are essentially two sections to the MSLQ: a) motivation and b) learning strategies. The motivational scales as proposed by Pintrich (1989) are based on a general social-cognitive model of motivation that proposes three general motivational constructs: a) expectancy, b) value, and c) affect. According to Garcia (1995), expectancy components refer to students' beliefs to accomplish a task. Value components delve into the reasons due to which learners engage in an academic task. The affect construct

operationalised in terms of responses to the test anxiety scale taps into learners' concerns over participating in exams. The motivation section consists of 31 items assessing learners' goals and value beliefs for a course, their beliefs about their ability to succeed in a course and their anxiety about course tests. The MSLQ learning strategies section is based on a general model of learning and information processing. It contains three general types of scales: a) cognitive strategies, b) meta-cognitive control strategies, and c) resource management strategies. Cognitive strategies include students' use of basic and complex strategies for processing information from texts and lectures.

Meta-cognitive control strategies help learners control and regulate their own cognition. Ultimately, resource management strategies include learners' regulatory strategies (e.g. using their time well) to control other resources beside cognition and help-seeking (e.g. seeking help when needed). The learning strategies section contains 50 items: 19 items pertaining to cognitive strategies, 12 items related to meta-cognitive strategies and 19 items concerning resource management strategies. Table 2 presents different parts of the questionnaire.

Table 2: MSLQ Scales and Subscales (Pintrich et al., 1993)

Scales	Dimensions	Sub-Scales	Items
Motivation	Expectancy components	Control beliefs	2,9,18,25
		Self-efficacy	5,6,12,15,20,21,29,31
	Value components	Intrinsic goals	1,16,22,24
		Extrinsic goals	7,11,13,30
		Task value	4,10,17,23,26,27
	Affective components	Test anxiety	3,8,14,19,28
Scales	**Dimensions**	**Sub-Scales**	**Items**
Learning Strategies	Cognitive strategies	Rehearsal	39,46,59,72
		Elaboration	53,62,64,67,69,81
		Organization	32,42,49,63
		Critical thinking	38,47,51,66,71
	Meta-cognitive control strategies	Self-regulation	33R,36,41,44,54,55,56,57R,61,76,78,79

	Resource management strategies	Time and place of study	35,43,52,65,70,73, 77R,80R
		Effort regulation	37R,48,60R,74
		Peer learning	34,45,50
		Help-seeking	40R,58,68,75

In the original form of the MSLQ, all the 81 items were scored on a 7-point Likert Scale. More recently, a 5-point Likert scale has been used for most research with the MSLQ .This research uses a 5-point scale. To identify respondents who simply check the questions instead of responding, it is recommended that some of the questions be reversed. The ratings pertaining to the negatively worded questions (i.e., 33, 37, 40, 57, 60, 77, and 80) have to be reversed before computing an individual's score. Pintrich et al. (1991) have released detailed descriptions of each summative scale, as well as relevant statistics such as internal reliability coefficients, means, standard deviations and correlations with final course grades for each item and scale. It is noteworthy that some demographic data were also collected to be used for further analysis.

3.3.1.1. Validity and reliability of the MSLQ

Garcia and Pintrich (1995) maintain that the MSLQ items on earlier versions underwent the usual statistical and psychometric analyses including internal reliability coefficient computation, factor analysis and correlations with academic performance measures. After many years of data analysis, the items were revised as the conceptual model underlying the instrument was refined. The results from the confirmatory analyses show that the coefficient alphas are robust, demonstrating good internal consistency. Lambda-Ksi estimates for the different subscales range from.45 to.91.

In order to make sure the participants of the study would fully comprehend the items of the MSLQ questionnaire, a Persian version of this instrument was developed. In order to ensure the correctness of the translation, it was given to two Ph.D. holders at the Department of Foreign Languages and Linguistics at Shiraz University to be back translated into English to see if the translated items conveyed the same meaning as the original ones. Furthermore, the points of discrepancy were discussed and modified. To ensure the reliability of the instrument, it was given to 30 EFL college students who had taken it before, after a lapse of two weeks. The test-retest reliability index was 0.87, which is highly reliable.

3.3.2. Volitional questionnaire

The second instrument employed in this research was Kivinen's (2003) volitional questionnaire. As Kivinen (2003) has discussed, there are some important volitional areas which are not covered by the MSLQ but seem to be vital in a comprehensive study on motivation. The volitional questionnaire measures the use of different strategies on a Likert scale. It consists of two parts and twenty items. The questions on this questionnaire were modified for secondary-school students and university degree holders and reliability coefficient computations, factor analysis and correlations with academic performance measures were undertaken to define the final version of the analysis. Kivinen reports that an exploratory factor analysis was performed on the additional questionnaire items. Principle component varimax rotation analysis resulted in seven factors. In the 7-factor analysis, there were two factors consisting of a single item. To avoid unnecessary incoherence, a 3-factor analysis was made. Items with a relatively low loading in the 3-factor analysis were withdrawn from the final version.

According to the 3-factor analysis results, Kivinen (2003) has labeled three main scales: a) attention strategies (i.e. attention control and social strategies); b) self-instruction strategies (i.e. motivation control); and c) self-helping strategies (i.e. control of others and emotion control). Attention strategies refer to the students' ability to concentrate on the task and block out social distractions. Self-instruction strategies combine a variety of self-talk strategies used for self-reinforcement, incentive escalation and encoding control. Students might use these strategies to remind themselves of their chosen strategies during a test and about the possible consequences of a failure. Finally, self-helping strategies refer to the strategies used to get help from others, to control emotional states and to provide self-reinforcement and reassurance. To make sure that the participants would fully follow the items of the volitional questionnaire, a Persian version of the instrument was used. To ensure the correctness of the translation, it was given to two Ph.D. holders at the department of Foreign Languages and Linguistics at Shiraz University for back translation and the points of discrepancy were discussed and modified. To confirm the reliability of the instrument, it was given to 30 EFL college students who had taken it before, after a two-week lapse of time. The test-retest reliability index was 0.78.

3.3.3. Placement and final tests

The placement and final tests devised, validated and offered in the Placement and Evaluation Package (Richards, 2003) were employed. Learning outcomes were measured in terms of students' final test results and placement test scores. The students took both tests online. They took the

placement test before they started the program and they received their final test after the completion of their lessons at the end of the program.

4. Data collection procedure

The data were collected over two consecutive months during the fall semester of 2005-2006 academic years. The data collection was carried out electronically, via an e-Learning program. The nature of the research was explained to the participants of the study by the instructions provided on the site. Moreover, the participants were assured on the confidentiality of the results and the advantages of their contributions to the study. Students firstly filled out the demography questionnaire, and after passing the placement test they got the permission for registration. They signed up and completed the MSLQ and volition questionnaires. Then, they had about 50 hours of instruction and received the volition and MSLQ questionnaires again as well as the final test. During the instruction, students' questions were answered via phone or e-mail. Furthermore, in order to gather some further data some interviews were conducted with nine out of 100 participants of the program. Three teachers out of all ten teachers of the program and the researcher had a session to discuss the weak and strong points of the e-Learning program. The flaws and merits of the program as well as some positive and constructive suggestions and comments were offered for future e-Learning programs in Iran.

4.1. Data analysis

In the quantitative analysis, to find out whether there was a significant difference between strategies used in the pre-test and the post-test, some t-tests were used. A t-test was run to see the differences between males and females strategy use in the traditional mode of learning. Another t-test was conducted to compare the differences between males and females concerning strategy use. To find out the effect of sex on components of the MSLQ and volition, a t-test was employed. Paired samples statistics were used to compare the MSLQ and volition strategies in the pre-test and post-test.

In the qualitative analysis, after the instructional program, an interview was used to find the patterns of strategy use. In so doing, some participants of the study belonging to different levels of proficiency were selected. A coding scheme for the MSLQ and volition was devised and used. Moreover, an interview was conducted with three teachers involved in this study to find out the weak and strong points of the program.

4.1.1. Results of the quantitative data analysis total motivation, learning, and volition

The motivation, learning and volition scales tapped by the questionnaires submitted to the students during the pre-test and post-test were analyzed. The overall and specific minimum and maximum number of strategies used and the mean strategy use are shown in Tables 3 and 4, respectively.

Table 3 reveals the minimum, maximum and mean of the overall strategies used in the pre-test and post-test. Regarding the minimum number of strategies used in the pre-test, it is seen that the total numbers of strategies used for motivation, learning and volition are 83, 122, and 51, respectively. In the post-test, it seems that the participants of the study have used far fewer strategies in all main categories.

Table 3: Descriptive statistics and t-test results on Motivation, Learning, and Volition in pre- and post-tests

1= Pre-test 2= Post-test	Minimum	Maximum	Mean	t	Sig.
Total motivation 1	83	168	115.76	3.648	.000
Total motivation 2	49	158	109.84		
Total learning 1	122	210	169.02	-.201	.841
Total learning 2	69	265	170.36		
Total volition 1	51	91	70.09	.482	.631
Total volition 2	38	91	69.65		

Motivation, learning and volition strategies have all declined in the post-test and the numbers of strategies used respectively are only 49, 69, and 38. It seems that a new mode of learning has affected motivation strategies significantly. Concerning the maximum number of strategies employed by the students in the pre-test, it can be observed that the numbers of motivation, learning and volition strategies are 168, 210, and 91 and their counterparts in the post-test are 158, 265 and 91, respectively. Comparing the pre- and post-tests, we see that while there is a decline in the number of motivation strategies employed, volition has remained unaffected and learning strategies have been much more employed changing from 210 to 265. Finally, the mean difference for motivation in pre- and post-tests is significant; whereas, for learning and volition the mean differences are not significant. Table 3 reveals the paired samples t-test results pertaining to pre- and post-tests comparisons of overall motivation, learning and volition strategies. It can be observed that in the post-test, compared with the pre-

test, use of motivation strategies has declined significantly indicating that students were not as motivated as they were during the pre-test.

Learning and volition strategies have more or less remained the same and the mean differences are not significant. Table 4 deals with pre-test and post-test comparison of motivation, learning and volition strategies. As it can be seen, the overall motivation has declined in the post-test and concerning the means of motivation components, except for intrinsic and extrinsic goal orientation, all other components show significant mean differences. The means have mostly declined moving from the pre-test to post-test. Regarding learning, it is observed that rehearsal, elaboration and meta-cognitive strategies enjoy higher means in the post-test contributing to a higher mean in the overall cognitive and meta-cognitive strategies. Concerning resource, only post-test peer learning has a higher mean and none of the mean differences in meta-cognitive and resource strategies and hence that of learning strategies is significant. Talking about volition, except for motivation control, a decline in use of other strategies in the post-test is noticed. The mean for volition in post-test has declined slightly; however, the mean differences in volition and its components are not significant. Table 4 specifically deals with the components of major categories. Starting with motivation components, it is seen that moving from the pre-test to the post-test, the students have mostly used fewer strategies and only extrinsic motivation has enhanced slightly (from 4 to 5). Regarding the maximum number of strategies, it can be noticed that in the transition from pre-test to post-test the numbers of strategies used have mostly remained unaffected or declined but only self-efficacy and affect are boosted slightly and the means reveal that in both pre-test and post-test value strategies have been used the most frequently and extrinsic and intrinsic motivation, affect and control are the least frequently used strategies.

Table 4: Pre-test and post-test MSLQ and volitional strategies descriptive statistics

	1= Pre-test 2= Post-test	Minimum	Maximum	Mean	t	Sig.
Motivation	Intrinsic goals 1	7	19	14.69	-.043	.966
	Intrinsic goals 2	7	19	14.70		
	Extrinsic goals 1	4	20	13.64	.241	.810
	Extrinsic goals 2	5	20	13.56		
	Task value 1	13	30	24.72	4.632	**.000**
	Task value 2	10	30	22.85		
	Value components 1	34	66	53.05	2.815	**.006**
	Value components 2	22	66	51.11		
	Control beliefs 1	11	67	17.17	4.846	**.000**

	Control beliefs 2	7	62	15.39		
	Self efficacy 1	19	38	30.49	3.070	**.003**
	Self efficacy 2	13	40	29.30		
	Expectancy 1	32	98	47.66	4.387	**.000**
	Expectancy 2	20	90	44.69		
	Affective 1	9	23	15.05	2.864	**.005**
	Affective 2	7	24	14.04		
	Total motivation 1	83	168	115.76	3.648	**.000**
	Total motivation 2	49	158	109.84		
Learning	Rehearsal 1	9	20	14.46	-1.820	.072
	Rehearsal 2	7	20	14.89		
	Elaboration 1	13	28	20.91	-2.367	**.020**
	Elaboration 2	8	30	21.67		
	Organization 1	7	19	13.95	1.834	.070
	Organization 2	5	68	14.54		
	Critical thinking 1	11	24	17.80	.487	.628
	Critical thinking 2	6	25	17.65		
	Meta-cognitive 1	31	51	40.65	-.751	.454
	Meta -cognitive 2	16	55	41.01		
	Cognitive & metacog 1	76	139	107.77	-.740	.461
	Cognitive & metacog 1	42	195	109.68		
	Time & place of study 1	19	32	27.10	.486	.628
	Time & place of study 2	12	36	26.93		
	Effort regulation1	9	20	12.38	1.421	.159
	Effort regulation 2	5	16	12.07		
	Peer learning 1	3	13	8.14	-.539	.591
	Peer learning 2	3	13	8.25		
	Help-seeking 1	9	18	13.63	.690	.492
	Help-seeking 2	6	20	13.43		
	Resource 1	46	74	61.25	.787	.433
	Resource 2	27	81	60.68		
	Total learning 1	122	210	**169.02**	-.201	.841
	Total learning 2	69	265	**170.36**		
Volition	Cognition control 1	18	30	24.76	1.403	.164
	Cognition control 2	13	32	24.27		
	Motivation control 1	9	24	16.98	-1.221	.225
	Motivation control 2	9	23	17.36		
	Covert 1	31	53	41.74	.192	.849
	Covert 2	23	54	41.63		
	Environmental control 1	6	15	12.04	.804	.424
	Environmental control 2	4	15	11.86		
	Control of Others 1	11	24	16.31	.480	.633

	Control of Others 2	8	22	16.16		
	Overt 1	20	38	28.35	.777	.439
	Overt 2	14	37	28.02		
	Total volition 1	51	91	70.09	.482	.631
	Total volition 2	38	91	69.65		
	N= 100 (62F, 38M)					

Overall, the means reveal a total decline in the use of motivation strategies moving from the pre-test to the post-test. Regarding learning strategies, generally speaking, the major components of learning (meta-cognitive and resource strategies) have been used quite less frequently in the post-test compared to pre-test results. Moreover, the minimum numbers of strategies used regarding almost all the sub-components of meta-cognitive and resource reveal a decline in strategy use moving from the pre-test to the post-test. Talking about the maximum number of strategies employed, it is seen that rehearsal, and peer-learning have remained unchanged and effort has declined while in other components an increase in strategy use is observed. Overall, the maximum number of learning strategies used in the post-test has increased.

Finally, the means show that except for critical thinking, time and place of study, effort regulation and help seeking, which have declined slightly, the other learning strategies have been employed more often in the post-test. Generally speaking, meta-cognitive strategies have a higher mean and resource strategies have a lower mean and the total learning means reveal that in the post-test more learning strategies have been employed. Concerning volition, the minimum numbers of strategies employed show a decline moving from the pre-test to the post-test; whereas, the maximum number of strategies employed in the post-test is more or less the same, slightly higher or lower than that of their counterparts. In almost all sub-components a slight decline in the use of strategies is observed. To conclude the findings of Tables 3 and 4, it can be said that the students going through the program have lost their motivation and tried to use slightly more learning strategies and slightly fewer volition strategies which are not significant.

4.1.1.1. Effect of sex on the use of learning strategies as a whole

Table 5 reveals the effect of sex on the use of learning strategies as a whole in the pre-and post-tests. The means obtained from the pre-test and the post-test indicate that females have used more strategies in both cases. Concerning the means related to the main components of learning strategies, it is seen that females in both pre- and post tests have resorted to more

resource strategies. To see whether the mean differences are significant or not the t-test results show that the mean differences in the pre-test are not significant but the mean differences for resource 2 and overall learning 2 strategies are significant. It can be concluded that in general females have used learning strategies more frequently to enhance their learning during the program.

Table 5: Effect of sex on the use of learning strategies as a whole in the pre- and post-tests (independent t-test)

1 = pre-test 2 = post-test	Sex	Mean	t	df	Sig.
Cognitive & Metacognitive 1	M	105.37	-1.485	98	.141
	F	109.21			
Cognitive & Metacognitive 2	M	105.00	-1.852	98	.067
	F	110.94			
Resource 1	M	59.97	-1.651	98	.102
	F	62.03			
Resource 2	M	58.42	-2.451	98	.016
	F	62.07			
Overall Learning Strategies 1	M	165.34	-1.657	98	.101
	F	171.24			
Overall Learning Strategies 2	M	163.42	-2.188	98	.031
	F	173.00			

4.1.1.2. Effect of sex on the components of learning strategies

Table 6 reveals the effect of sex on the use of learning strategies components in both the pre- and post tests. Looking at the means reveals that in all cases except for critical thinking females have used more resource, cognitive and meta-cognitive strategies and their overall learning strategies used are higher than those of their counterparts. A t-test was employed to see whether the mean differences were significant or not. It is observed that concerning organization, the mean differences in both pre- and post-tests are significant. Regarding peer learning, again in both cases the means are significant. Talking about help seeking, it is seen that only in the post-test the mean differences are significant. The total picture revealed by resource, cognitive and meta-cognitive strategies shows that while the mean differences for cognitive and meta-cognitive strategies are not significant in both pre- and post-tests, the mean differences for resource are significant for the post-test. Generally, the mean differences pertaining to learning strategies are significant only for the post-test indicating that females have used more learning strategies than their counterparts during the program.

Table 6: Effect of sex on the use of learning strategies components in the pre-test and post-test(independent t-test)

1 = pretest 2 = post-test	Sex	Mean	t	df	Sig.
Rehearsal 1	M	13.95	-1.728	98	.087
	F	14.77			
Rehearsal 2	M	14.34	-1.519	98	.132
	F	15.23			
Elaboration 1	M	20.58	-.775	98	.440
	F	21.11			
Elaboration 2	M	20.95	-1.411	98	.162
	F	22.11			
Organization 1	M	12.79	-3.306	98	.001
	F	14.66			
Organization 2	M	12.63	-2.244	98	.027
	F	13.97			
Critical 1	M	18.08	.696	98	.488
	F	17.63			
Critical 2	M	17.16	-1.131	98	.261
	F	17.95			
Metacognitive 1	M	39.97	-1.153	98	.252
	F	41.03			
Metacognitive 2	M	39.92	-1.508	98	.135
	F	41.68			
Cognitive & Metacognitive 1	M	105.37	-1.485	98	.141
	F	109.21			
Cognitive & Metacognitive 2	M	105.00	-1.852	98	.067
	F	110.94			
Time 1	M	27.21	.340	98	.735
	F	27.03			
Time 2	M	26.74	-.438	98	.662
	F	27.05			
Effort 1	M	11.95	-1.802	98	.075
	F	12.65			
Effort 2	M	11.68	-1.504	98	.136
	F	12.31			
Peer 1	M	7.53	-1.984	98	.050
	F	8.52			
Peer 2	M	7.50	-2.604	98	.011
	F	8.71			
Help 1	M	13.29	-1.129	98	.262
	F	13.84			
Help 2	M	12.50	-2.994	98	.003
	F	14.00			

Overall Resource 1	M	59.97	-1.651	98	.102
	F	62.03			
Overall Resource 2	M	58.42	-2.451	98	.016
	F	62.07			
Overall Learning Strategies 1	M	165.34	-1.657	98	.101
	F	171.24			
Overall Learning Strategies 2	M	163.42	-2.188	98	.031
	F	173.00			
N= 100 (62F, 38M)					

4.1.1.3. Effect of sex on volition as a whole

Table 7 shows the effect of sex on volition as a whole. It can be observed that in
the pre- and the post-tests females have used more volition strategies and the t-test results show that the mean differences for both cases are significant.

Table 7: Effect of sex on volition as a whole

1 = pretest 2 = post-test	SEX	Mean	SD	t	df	Sig.
Volition 1	M	66.50	7.808	-3.754	98	**.000**
	F	72.29	7.284			
Volition 2	M	64.95	10.875	-4.097	98	**.000**
	f	72.53	7.615			

Effect of sex on the components of volition

Table 8 pertains to the effect of sex on the components of volition. Looking at the main components of volition, we see that in both pre- and post tests females have used more covert and overt volition strategies. Regarding all the sub-components of volition, it is observed that in all cases the means for females are higher than those of their counterparts in both pre- and post-tests. The t-test reveals that the mean differences for all the components are significant except for the pre-test environmental control. The total picture of volition shows significant mean differences for both pre- and post-tests.

Table 8: Effect of sex on the components of volition strategies

1 = Pretest, 2 = Post-Test	Sex	Mean	SD	T	Df	Sig.
Cognition And Emotion Control 1	M	24.03	2.488	-2.235	98	**.028**
	F	25.21	2.619			
Cognition And Emotion Control 2	M	23.13	4.307	-2.522	98	**.013**
	F	24.97	2.970			
Motivation Control 1	M	15.61	3.063	-3.916	98	**.000**
	F	17.82	2.538			
Motivation Control 2	M	16.45	3.227	-2.398	98	**.018**
	F	17.92	2.819			
Covert 1	M	39.63	4.829	-3.624	98	**.000**
	F	43.03	4.379			
Covert 2	M	39.58	6.856	-2.823	98	**.006**
	F	42.89	4.845			
Environmental Control 1	M	11.68	2.315	-1.389	98	.168
	F	12.26	1.792			
Environmental Control 2	M	11.11	2.719	-2.712	98	**.008**
	F	12.32	1.772			
Control Of Others 1	M	15.18	2.448	-3.252	98	**.002**
	F	17.00	2.857			
Control Of Others 2	M	14.26	2.956	-5.693	98	**.000**
	F	17.32	2.373			
Overt 1	M	26.87	3.707	-2.985	98	**.004**
	F	29.26	3.992			
Overt 2	M	25.37	4.773	-5.088	98	**.000**
	F	29.65	3.595			
Volition 1	M	66.50	7.808	-3.754	98	**.000**
	F	72.29	7.284			
Volition 2	M	64.95	10.875	-4.097	98	**.000**
	F	72.53	7.615			
N= 100 (62F, 38M)						

4.1.1.4. Effect of sex on overall motivation, learning strategies and volition

To recap, Table 9 shows the effect of sex on overall motivation, learning strategies and volition. It is seen that females enjoy higher means in all major categories; however, the mean differences for motivation are not significant in both pre- and post-tests. Regarding learning, post-test mean

differences are significant and as for volition, in both pre-test and post-test the mean differences are significant as well.

Table 9: Effect of sex on overall motivation, learning strategies and volition (Independent samples t-test)

1=pretest, 2=post-test	SEX	Mean	SD	t	df	Sig.
Motivation scales 1	M	112.37	11.663	-1.971	98	.052
	F	117.84	14.459			
Motivation scales 2	M	107.68	17.852	-1.095	98	.276
	F	111.16	13.732			
Learning 1	M	165.34	18.968	-1.657	98	.101
	F	171.24	16.169			
Learning 2	M	163.42	25.028	-2.188	98	.031
	F	173.00	18.585			
Volition 1	M	66.50	7.808	-3.754	98	.000
	F	72.29	7.284			
Volition 2	M	64.95	10.875	-4.097	98	.000
	F	72.53	7.615			
N100 (62F, 38M)						

4.1.2. Results of the qualitative data analysis

In order to find the patterns of strategy use, interviews were conducted with some students and teachers. Based on the final scores of the achievement test submitted to the students at the end of the e-Learning program, nine students were interviewed. Sitting at the computer browsing different pages of the e-Learning program, they recalled and talked about their experiences of going through the e-Learning program. The interviews were recorded and then based on a coding system developed by the researcher inspired by the coding systems developed by Kevinin (2003) the data were codified. A sample interview was first codified by the researcher and after two weeks for the second time the sample interview was codified by both the researcher and a TEFL Ph.D. colleague to check the reliability of coding. The intra-coder reliability for the MSLQ coding scheme was 0.95 and that of the volition coding scheme was 0.89. The inter-coder reliability for the MSLQ coding scheme was 0.90 and that of the volition coding scheme was 0.85. Then, the entire data were evaluated and analyzed. The general results of data analysis revealed that the participants of the study used a variety of strategies to accomplish their tasks. The findings of this phase of the research are as follows.

4.1.2.1. The use of cognitive and meta-cognitive learning strategies

The findings of this study show that the nine participants taking part in the interviews used a lot of cognitive and meta-cognitive learning strategies. They used many rehearsal strategies (80 cases), some cases of elaboration strategies (10), a few cases of organization strategies (6) and a few cases of critical thinking strategies (6). Of all cognitive and meta-cognitive learning strategies, rehearsal strategies were employed and favored much more. Concerning the rehearsal strategies employed by the participants of this study, the findings of the codified interview revealed that out of all cases (80) reported pertaining to rehearsal strategies, we can see many cases of revision (28), some cases of going through the notes (80), some cases of underlying and making notes (8) and many cases of easy to difficult categorization (36). Thus, it can be concluded that revision and easy to difficult categorization of materials were the most frequently strategies used and going through notes, underlying and making notes were the least frequently used strategies.

As the data revealed, of all cases of elaboration strategies reported (10), some cases belonged to learning formulae (6), a few cases were related to summarizing and paraphrasing (2) and a few cases belonged to self-questioning strategies (2). Thus, it seems that students favored learning formulae more than other elaboration strategies. Moreover, some cases of organization strategies (6) related to selecting appropriate information and constructing connections among the information were found. However, many cases of resource management strategies (240) were observed. Actually, the number of the total resource management strategies exceeded that of cognitive and meta-cognitive, control and regulation strategies.

4.1.2.2. The use of resource management strategies

Regarding time management strategies, many cases of such strategies (64) were observed. Of all employed strategies (64), many cases of time planning (22), some cases of time ritual (10), a few cases of break planning (4), many cases of time limit (24) and a few cases of lack of time (4) were found to be reported. Moreover, many cases of environment management were reported (64), some cases of time planning (32), some cases of distraction elimination (24), a few cases of collecting all the necessary materials (4), a few cases of going elsewhere (4), and a few cases of taking it easy were the subcategories observed in environment management. However, only a few cases of effort regulation (2) were reported. Regarding peer learning, of all social control strategies used by the students (68), many social command (30), some social withdrawal (16), a few social know-how (8), a few social help (8), and a few trouble-shooting strategies were

employed (4). Finally, many cases of help seeking were reported and concerning self-helping some cases of such strategies were employed.

4.1.2.3. The use of meta-cognitive control and regulation strategies

Concerning control and regulation strategies, the interviewees reported many cases of such strategies comprising a few encoding strategies and many attention control strategies. Regarding attention control, some cases of improving concentration, some cases of distraction, a few cases of self-forcing, many cases of mind-wandering avoidance, many cases of involving self-belief and finally some cases of giving up were reported. Moreover, of all 36 motivation regulation strategies employed, no cases of self-reward, some cases of positive-outcome thinking, no cases of negative outcome thinking, many cases of intrinsic interest, some motivation regulation statements and many cases of self-efficacy statements were reported.

4.1.2.4. Affect/Emotion Regulation Strategies

Regarding affect/ motivation regulation strategies, many cases of such strategies comprising some studying can be fun, a few learning by fear, some relaxation, and a few text anxiety cases were reported. Concerning behavioral regulation strategies, students seemed to control the state of their body and regulate themselves or their conditions in at least three different areas: nutrition (e.g. coffee, food), need for sleep and physical conditions (e.g. changing position, going for a walk). Behavioral monitoring strategies were used by the students to monitor or control their behavior. In the learning situation, many students seemed to know themselves rather well. They knew the best time to eat/drink something or go to sleep or wake up to be at their best in the test situation. They also seemed to be familiar with their physical limits. Regarding volitional control strategies, many cases of attention control, some cases of emotion control, a few cases of motivation control, many cases of environment control and some cases of control of others were observed. Overall, 72 cases of covert processes of self-control and 54 cases of overt processes were reported by the interviewees of this study.

5. Discussion

Concerning the first research hypothesis, Table 3 reveals that there is no statistical difference between the participants' use of overall learning strategies in both pre- and post-tests. The overall volition does not show significant differences in both cases as well. However, the overall motivation has undergone statistically significant differences, and it seems that motivation has dropped moving from the pre-test to post-test. Talking

about the second research hypothesis, there is no change of strategy use when the students are exposed to the e-Learning program, Table 4 reveals that use of motivation strategies has dropped significantly. The means indicate that generally and in many cases motivation has declined. Regarding learning strategies, it is observed that the pre- and post-tests means are more or less the same and they are not significantly different. Concerning volition, again the overall volition means are not significantly different. Thus, the second research hypothesis can be rejected due to motivation changes.

The third research hypothesis deals with the differences between males and females' strategy use. Table 5 reveals that females generally used more learning strategies and that the means for resource and overall learning strategies are statistically significant regarding post-test results. Moreover, Table 6 highlights learning strategies components and it is seen that the mean differences for pre-test organization, and peer learning are significant, and that help seeking and hence resource in the post-test are significant as well. Finally, overall learning strategies means are significant for the post-test. Table 7 dealing with volition strategies reveals that the means for females are higher and they are significant for both the pre- and post-tests. Table 8 goes into details and reveals that the means in all the volition components are higher for women and except for pre-test environmental control, all differences are significant. Thus, the hypothesis cannot be retained. To answer research questions broadly, it can be said that motivation, learning strategies, and volition strategies are used quite frequently and that the participants have used more learning than motivation and more motivation than volition strategies. Moreover, motivation strategies have been affected significantly and there are differences between males and females. Females use more motivation, learning and volition strategies.

The quantitative and qualitative findings of this research reveal that mostly students used more learning and volition strategies than motivation strategies. The students reported on using learning strategies much more frequently moving from the pre-study to post-study. Volition strategies were used more often probably because in the absence of face to face contacts with teachers and peers, the students might lose their motivation and they have to resort to more volition strategies to gain a better control over themselves, their tasks, their environment, emotions, motivation and others. Females, as previous research indicates, surpass males in using strategies. They show that they are more organized, seek more help and control everything better. Hence, the findings of this research back up the previous research findings claiming that females are more successful learners and

achievers. In this research, we can say females were more successful than males because they used more strategies, the mean differences were more significant, they gained better final scores and there were fewer drop-outs among females. It seems that males need more training, that is, in the light of learning more strategies and practicing some essential strategies, they might improve their rate of success. Leung and Chan (1998) believe that males should improve their motivation. Ergual (2004) maintains that males should improve their motivation and self-regulation to make successful learners. Zachariah (1995) says that attitude should be enhanced to gain a better self-control. Ng (2000) maintains that efficacy beliefs improve self-regulation and hence learning.

Ng (2002) believes that efficacy beliefs might improve attitudes to achieve goals better. The findings of this research do not support the findings of Patarroyo (2006) that successful students are more independent because females in this study resorted to others to seek assistance quite frequently, but it supports the findings of McLouglin and Luca (2004) that peer work, group work, and help seeking have a strong correlation with motivation and improved scores and achievement. The findings of this research support the claims proposed by Yam (1998), Wang (2006) and Kajbaf et al. (2006) that control, motivation, and self-regulation are fundamental aspects in learning online.

Regarding the interviews done with the teachers, it can be discussed and concluded that for e-learning programs some teachers with positive feelings who are good problem-solvers, Internet lovers, and computer experts should be recruited. These teachers should look for adventures and innovations and they must have sufficient time, energy and expertise. To reduce the rate of dropout, some training should be provided for both teachers and students and technical problems should be minimized. Though most of the students in this research were 20-30 year olds holding bachelor degrees with an average knowledge of computer and ample vacant time, still there were some students who didn't contribute to the homogeneity of the sample. The strongest gain for the students of this study was improvement of their reading skill, and it might indicate that such classes might enhance reading ability better than other abilities. The high number of messages to teachers indicates that still students are more teacher-dependant than peer-dependant and they should be trained to trust their peers and improve their cooperation and team work activities. Finally, the interview results support the previous findings that motivation has declined and the aforementioned points can be good reasons for loss of motivation among students and teachers.

6. Conclusion, suggestions and pedagogical implications

Generally speaking, in line with empowering the students and enhancing their autonomy, a strong need for strategy training is needed to bring about more efficient learning outcomes, especially when the students are exposed to a new mode of education that necessitates self-regulation and monitoring. Motivation is a major factor in learning and serious measures should be taken to enhance the incentives so that learning in any mode and manifestation would be maximized. Less contact with the face to face encounters inevitably demotivates the students and some safeguards should be taken into consideration regarding this matter. Since females outperform men in using strategies, males need more intensive strategy training sessions. It seems that because mostly students in online classes are left alone to pursue their lessons, they need more volition and motivation. E-Learning in Iran is alien to many learners and teachers who have been involved in the traditional mode of chalk and talk and paper and pencil. To implement any e-Learning class, some highly motivated teachers should be sought and trained. Students, who register in the program need strategy instruction, should be computer-literate and they should get familiarized with the rudiments of e-Learning classes. This research was just a beginning not and end in itself and had its own limitations and pitfalls. However, it tried to break the ice and pave the way for other researchers interested in teaching English through virtual classes. It is hoped that other researchers will launch possible replications, use better materials, designs and interfaces in synchronous or asynchronous virtual classes and use multiple methods of inquiry to tap further into the strength and flaws of e-Learning.

The findings of this study can be used for pedagogical purposes. The pedagogical implications deal with teacher training, strategy instruction, and the use of instruments. Teachers who are responsible for e-Learning classes should have training sessions to see when the students who are used to conventional modes of learning embark on e-Learning classes, which strategy changes they might undergo, and if needed they should help them learn how to use necessary strategies. Moreover, virtual classes can be designed in such a way that use of different strategies would be demanded. The instruments of this study can be used for further research. The strategies used by the students can be used as a checklist of strategies which are most/least frequently used and the significant differences can be used in designing materials or training students and teachers. Finally, with all its flaws and strength, this study can be a guideline for those who are interested in research pertaining to e-Learning in Iran.

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