The Effect of Short Message Service on Iranian Lower Intermediate EFL Learners' Reading Comprehension through Skimming and Guessing Strategies Awareness

Emad Ataee
English Department, Torbat-e Heydarieh Branch, Islamic Azad University, Iran

Mohammad Ali Fatemi
English Department, Torbat-e Heydarieh Branch, Islamic Azad University, Iran

Hamid Ashraf
English Department, Torbat-e Heydarieh Branch, Islamic Azad University, Iran

Abstract—**The present study tried to investigate the use of Short Message Service (SMS) as a new way to skimming and guessing strategies awareness in reading comprehension, beyond the confines of classroom. To this end, 80 male high school students were selected. To ensure the homogeneity of their proficiency level, Oxford Quick Placement Test (version 2) was administered to them. Fifty five participants were chosen and others were excluded. The participants were assigned into control and experimental groups. Then, they received questions asking them to skim the texts for their main ideas as well as guess the meaning of some new words either on paper or through SMS messages in scheduled pattern of delivery two times a week during eight weeks. After eight weeks, the two groups were compared. The results of t-tests revealed that experimental group, the SMS group, outperformed significantly (p<.05) in both skimming and guessing strategies awareness. But there was no significant difference between reading comprehension skills of two groups.**

Index Terms—**strategies awareness, Mobile Assisted Language Learning (MALL), Short Message Service (SMS), skimming strategy, guessing strategy**

I. INTRODUCTION

During recent years language teaching and learning has tried to change its path from teacher-centeredness to learner-centeredness in western countries. Learner-centeredness is a term associated with Brown's (2007) learner's autonomy. On the other hand, Brown considers autonomy connected with strategies awareness in language learning. He believes in strategies awareness as an impetus to the process of autonomy. But the key point is what Brown states: strategies awareness is not something limited to classroom since many so-called successful learners have reached their mastery through their own efforts beyond the confines of a classroom. Nowadays, new technologies can provide foreign language teachers with the opportunity to attain this purpose. Using SMS, an anytime anywhere feature of mobile phone, the following study tried to examine MALL (Mobile Assisted Language Leaning), specifically mobile phone-based language learning, to achieve this end. Employing this device, the researchers intended to explore a new way of reading comprehension strategies awareness, especially skimming and guessing strategies awareness, beyond the confines of school.

The reason behind this decision was that in Iran, reading comprehension is the focus of English language learning in high school. But with limited hours of English language instruction in schools there is not enough time for teachers to work efficiently on reading comprehension skill and its strategies, especially skimming and guessing, as two important features. Therefore, the main concern of the study was to find a method of improving Iranian high school students' reading comprehension strategies out of classroom. It intended to detect a solution to the time limitation that teachers of English face in this regard.

II. LITERATURE REVIEW

Mobile Assisted Language Learning (MALL) is described by Begum (2011) as an approach to language learning that is enhanced through use of a mobile device and is involved with the use of mobile technologies, such as mobile phones, MP3 players and palmtop computers to support students' language learning. As long as the purpose of the study was to

examine the effect of using mobile phone and its distinctive feature Short Message Service (SMS) in language learning, our literature review will focus mainly on the previous work done in areas of language learning through mobile phone.

In a study, Motallebzadeh and Ganjali (2011) examined the effect of SMS on vocabulary retention and reading comprehension ability of Iranian EFL learners. The experimental group received English words besides definitions and example sentences via SMS in a spaced and scheduled pattern of delivery while those in control group were taught new words through conventional board and paper technique for the same period. Results of t-test analysis implied that participants in SMS group could significantly outperform those in control group. In another study, Motallebzadeh, Beh-Afarin, and Daliry Rad (2011) investigated the effect of SMS on the retention of collocations among Iranian lower intermediate EFL learners. The participants who were university students received collocations as well as example and definitions on paper in control group and through SMS in experimental group for retention. The result revealed the fact that participants in SMS group outperformed the ones in control group. Norouzi et al. (2012) explored the effect of mobile learning over the critical thinking in higher education. The participants were students of a language institute. The researcher discovered that students' attitudes toward the usefulness of a mobile learning system improved significantly at the end of the study. Likewise, it was found that after the study the students' creativity improved significantly. Alemi, Anani Sarab, and Lari (2012) investigating the effectiveness of SMS on Iranian university students' vocabulary learning and retention of academic word lists noticed that the experimental group had a better performance in the delayed post-test in comparison with the control group who used dictionary for retention. In another research, Tabatabaei and Heidari Goojani (2012) explored the effectiveness of text-messaging on vocabulary learning of EFL learners. Both the experimental and control group were taught the same words. In order to learn the new words, the experimental group was required to send sentences for the taught words through SMS, but the control group wrote sentences for each word and brought them to the class. Result of t-test indicated that participants in the experimental group outperformed those in the control group. In another research, Thornton and Houser (2005) performed two counter balanced studies to compare the usefulness of delivering of vocabulary items via different mobile media. In one experiment, they compared forwarding some short mini lessons to students' emails on their mobile phones with presenting them on paper. In another study, they compared sending lessons through SMS with presenting them on paper. At the end, they found no significant difference between long and short lessons. They argued that the effect of the frequency of the lessons was more important than the quantity of materials presented in a lesson. Likewise, Levy and Kennedy (2005) in a similar program developed for Italian learners in Australia found that sending English words and idioms via mobile phone can enhance the participants' recall of the given words (as cited in Motallebzadeh & Ganjali, 2011). On a study, Song and Fox (2005) examined the role of SMS in English as second language vocabulary learning for working adult learners. The study showed that mobile technology improved the learners' performance in their learning. Market et al. (2006) researched on use of SMS to encourage classroom interactions. In their study, some students sent SMSs via their personal mobile phones and these SMSs were exposed on the screen of a laptop where a modem interfacing with customized software was used to produce SMS file in order to view the sent message. The teacher then replied verbally and this message with teacher's verbal reply was later posted online to promote interactivity by further comments. Begum (2011) investigated the potentiality of cell phone use in the EFL classroom of Bangladesh as an instructional tool. The researcher conducted a case study on university students. For the study, some SMS based class tests were held in the English department of the university where one hundred graduate EFL students participated as subjects. Before the tests, in order to teach appropriate use of prepositions, some EFL teachers sent SMSs to students for one week. After one week, the teachers took some class tests where the test questions were delivered via SMS and the students also replied to the test questions by mobile SMS. The author gathered data through students' questionnaires, and teachers' interview records and classroom observation reports. The research results showed that cell phone has great potential as an instructional tool despite the common point of view that considers cell phones as a disturbing factor in the classroom.

To achieve the goals of the present study, the following questions were posed:

Q_1: Does SMS have any significant effect on EFL learners' skimming strategies awareness in reading comprehension?

Q_2: Does SMS have any significant effect on EFL learners' guessing strategies awareness in Reading comprehension?

Q_3: Does an awareness of skimming and guessing strategies through SMS have any significant effects on EFL learners' reading comprehension skill?

To come up with reasonable results on the basis of the mentioned research questions, the following null hypotheses were proposed:

$H0_1$: SMS does not have any significant effect on EFL learners' skimming strategies awareness in reading comprehension.

$H0_2$: SMS does not have any significant effect on EFL learners' guessing strategies awareness in reading comprehension.

$H0_3$: Skimming and guessing strategies awareness through SMS does not have any significant effects on EFL learners' reading comprehension skill.

III. METHODOLOGY

A. Participants

In this study, the sample was selected out of eighty students of last grade of a high school in Gonabad, Iran in the academic year of 2013-14. Due to gender segregation in Iran's schools, the participants in this project were only male. The subjects' age ranged from 17 to18. In order to homogenize the participants regarding their general proficiency level, a test of homogeneity was administered to the subjects. Having analyzed the data, 54 students whose scores were between 30 and 39 (out of 60) were chosen as the subjects of this study. Based on the scoring guideline of the test, this range of score is suitable for lower-intermediate level. Then, they were assigned into experimental and control groups with 27 in each group.

B. Instrumentation

To conduct the study, the researchers used the following instruments for data collection:

(1) Oxford Quick Placement Test (version 2): In order to homogenize the proficiency level of the participants to select the experimental and control groups, Quick Placement Test (version 2) developed by Oxford University Press and University of Cambridge Local Examinations Syndicate was used. This test included 60 items testing vocabulary and grammar knowledge of the participants.

(2) Researchers-made reading comprehension test: The second instrument was the researchers-made test containing eight reading comprehension passages which was used as pretest. Each of these passages included five multiple-choice questions, totally forty. Two questions in each passage were related to skimming and guessing strategies and the others were detail questions. These passages were chosen from University Entrance Examinations during past years. Hatch and Farhady (1982) postulated that if there is more than two week duration between a pretest and a posttest, we can use a pretest as a posttest. Therefore, this test was utilized at the end of study as posttest, too. The reliability of the test was estimated through Cronbach's Alpha which was 0.741.

C. Procedure

To achieve the purpose of this study, first of all, eighty students of last grade of high school were selected. To ensure the homogeneity of their proficiency level, Oxford Quick Placement Test (version 2) was administered to them. 54 participants, whose scores were between 30 and 39 (out of 60), were chosen and others were excluded. Then, the researchers spoke to the participants about what was going to happen in this study. Of course, skimming and guessing are two strategies which are mentioned in the students' book with a few exercises concerning them. In addition, the learners were reminded that in order to attend the experimental group of this research having a mobile phone is necessary. It was also emphasized that the expense of SMSs sent by experimental group would be paid to them before starting the research. On the basis of these assumptions and students' willingness to experience MALL, they were assigned to each of the experimental and control groups. The second phase was piloting the reading comprehension test devised by the researchers to verify its reliability. The researchers-made test was administered to thirty two students of a high school. The estimated reliability coefficient through Cronbach's Alpha was 0.741. After being assured of the reliability, the researchers pre-tested both groups to check reading comprehension proficiency of each one separately. The next phase was treatment. Twice a week, totally eight weeks (sixteen sessions), at the end of the last sessions of Sundays and Tuesdays, both of experimental and control groups received a reading passage. The reading passages given to both groups were the same. In each passage, there were four to six new words (two or three for each group) to guess. The criterion for selecting new words was the range of words that Iranian students learn in school. In the control group, they should skim the passage for its main idea, and then try to guess the meaning of underlined words and write their answers on the passage paper. At the beginning of the next day of their school (on Mondays and Wednesday), they submitted their papers. Later, the papers were checked and the proper main idea(s) as well as the correct meaning of the words required to guess were written on them; then they were returned to the students. In the experimental group, according to the previous arrangement an SMS including two questions was sent to the subjects; the first one was always about the main idea of the text to force them to skim the passage and the second one was a question that asked the students to guess the meaning of new words (sent through SMS). They were asked to send OK through SMS after receiving the questions. Receiving the SMS, they had to send the main idea and the guessed meanings to the researchers via SMS within half an hour. After receiving the answers from the students, correct answers were sent to them through mobile phone. This was done after receiving answers from the control group. From the beginning, this point was emphasized that in addition to the importance of the strategies in reading comprehension skill, they would be tested for them later as the main part of their second continuous class mark at the end of the year (in Iran's high school there are two continuous marks given in the mid-year and at the end of the year based on students' class work); likewise, they were told that bad marks show their dishonesty and cheating because they should improve after sixteen sessions of practice. This matter was implied that they should try to do their best for correct guessing and skimming; however, they would not be penalized for wrong answers (to prevent them from looking up the meanings in their dictionary and cheating). Sometimes they were chided for cheating to show that they are under control. After sixteen sessions of practice, both groups were given the post-test (the students didn't know that the post test would be the same as the pretest). The final stage of the study consisted of analyzing the data including the results of pre-test and post-test through applying t-test and comparing the mean of each group (after calculating the result of normality test) which was performed by software program of SPSS (Statistical Package for the Social Sciences), version nineteen.

IV. DATA ANALYSIS AND RESULT

A. Results of Normality Test

First of all, in order to ensure the normality of data, Kolmogorov-Smirnov test was used for all data in both Oxford Quick Placement (homogenizing) Test and the researchers-made reading comprehension test. Tables 1, 2, and 3 represent the results. Null hypothesis of Kolmogorov-Smirnov test shows the normality of data. If the obtained p-value is more than 0.05, then the null hypothesis is accepted.

TABLE 1.
RESULTS OF KOLMOGOROV-SMIRNOV TEST FOR OXFORD QUICK PLACEMENT TEST

Group	N	Kolmogorov-Smirnov Z	P-value
Control	27	.120	.200
Experimental	27	.122	.200

According to table 1, p-value for the two groups in Oxford Quick Placement test is more than 0.05; therefore the null hypothesis is accepted, and data are normal.

TABLE 2.
NORMALITY TEST OF RESEARCHERS-MADE READING COMPREHENSION TEST – CONTROL GROUP

Control group	Variable	Test	N	Kolmogorov-Smirnov Z	P-value
Skimming strategy	Dependent	Pretest	27	.262	0.71
		Posttest	27	.157	0.84
Guessing strategy	Dependent	Pretest	27	.153	.104
		Posttest	27	.166	.053
Reading Comprehension	Dependent	Pretest	27	.148	.123
		Posttest	27	.101	.200

TABLE 3.
NORMALITY TEST OF RESEARCHERS-MADE READING COMPREHENSION TEST – EXPERIMENTAL GROUP

Control group	Variable	Test	N	Kolmogorov-Smirnov Z	P-value
Skimming strategy	Dependent	Pretest	27	.127	.200
		Posttest	27	.215	.070
Guessing strategy	Dependent	Pretest	27	.243	.063
		Posttest	27	.198	.081
Reading Comprehension	Dependent	Pretest	27	.183	.098
		posttest	27	.112	.200

Tables 2 and 3 show that the p-values for the two groups' data in the researchers-made reading comprehension test are more than 0.05; then, the null hypothesis is accepted, that is, all data obtained for variables are normal. Therefore, t-test would be an appropriate method for comparing means.

B. Results of Oxford Quick Placement Test as the Homogenizing Instrument

After conducting Oxford Quick Placement Test to homogenize the participants, in order to ensure their true homogeneity (N = 54) in control (N = 27) and experimental (N = 27) groups, the researchers decided to conduct an independent-sample t-test (see Table 4).

TABLE 4.
RESULTS OF INDEPENDENT T-TEST FOR HOMOGENIZING TEST

Groups	N	M	SD	t	df	p
Cont	27	34.55	2.96	-.229	52	0.82
Exp	27	34.74	2.98			

First of all, it should be mentioned that all the t-tests of this study was carried out at the probability level $p<.05$. That is, in the following t-tests if the *p*-value is lower than 0.05 the result will be significant.

As the results of Table 4 implies, there is no statistically significant difference [t (52) = -.229, p = .82 (two-tailed)] between control (M = 34.55, SD = 2.96) and experimental (M = 34.74, SD = 2.98) groups concerning language proficiency which proves the homogeneity of two groups.

C. Results of Independent Samples T-test

In this phase, findings of independent samples or inter-group t-tests are surveyed. In these t-tests, the mean of control and experimental groups are compared with each other in pre and posttests. It should be noted that in all independent samples t-tests of this study, the computation of the variances for the two groups carried out through Levene's test showed a non-significant value (>.05).

1. Results of pretest

The inferential statistics of this section intend to present the findings vis-à-vis the scores of control and experimental groups in pretest. These findings show if there was a significant difference between two groups before treatment. Let's start the scrutiny with skimming variable.

TABLE 5.
PRETEST RESULTS OF INDEPENDENT SAMPLES T-TEST OF SKIMMING STRATEGY AWARENESS

Groups	N	M	SD	MD	t	df	p
Cont.	27	4.81	1.27	- 0.22	- .554	52	.582
Exp.	27	5.03	1.65				

As Table 5 reveals, the results express that the difference between control (paper and pencil) group (M = 4.81, SD = 1.27) and experimental (SMS) group (M = 5.03, SD = 1.65) is not significant [t (52) = - 0.554, p = 0.582 (two-tailed)]. This implies that skimming strategy awareness of control and experimental groups was similar before the treatment began.

TABLE 6.
PRETEST RESULTS OF INDEPENDENT SAMPLES T-TEST OF GUESSING STRATEGY AWARENESS

Groups	N	M	SD	MD	t	df	p
Cont.	27	4.25	1.34	- .44	- 1.12	52	0.264
Exp.	27	4.70	1.53				

Table 6 illustrates the difference between the means of control group (M = 4.25, SD = 1.34) and experimental group (M = 4.70, SD = 1.53). As it shows, there is not a significant difference [t (52) = - 1.12, p = 0.264 (two-tailed)] between two groups' performance before starting treatment. Therefore, their guessing strategy awareness has been nearly at the same level.

TABLE 7.
PRETEST RESULTS OF INDEPENDENT SAMPLES T-TEST OF READING COMPREHENSION

Groups	N	M	SD	MD	t	df	p
Cont.	27	14.44	3.96	.14	.131	52	.896
Exp.	27	14.29	4.33				

Table 7 displays, the difference between the performance of control group (M = 14.14, SD = 3.96) and experimental group (M = 14.29, SD = 4.33) in pretest is not significant [t (52) = 0.131, p = 0.896 (two-tailed)]. This means reading comprehension level of the two groups has been similar before treatment.

Tables 5, 6, and 7 show that the two groups were homogenized in skimming and guessing strategies awareness as well as reading comprehension level before starting treatment.

2. Results of posttest

In this section, the researcher is going to describe the most important findings, i.e. posttest inferential statistics. This purpose was obtained through t-tests comparing the means of control and experimental groups to show the significance of study. Again, this process is started with skimming strategy awareness.

TABLE 8.
POSTTEST RESULTS OF INDEPENDENT SAMPLES T-TEST OF SKIMMING STRATEGY AWARENESS

Groups	N	M	SD	MD	t	df	p
Cont.	27	5.55	1.25	- .92	- 3.081	52	.003
Exp.	27	6.84	.935				

Table 8 displays the results of control group (M = 5.55, SD = 1.25) and experimental group (M = 6.84, SD = .935) in posttest. As it implies, there is a significant difference [t (52) = - 3.081, p = .003 (two-tailed)] between the performance of control and experimental groups in skimming strategy after treatment. The results of Table 7 indicate that using SMS for strategy awareness of skimming has been more effective than traditional method of paper and pencil.

TABLE 9.
POSTTEST RESULTS OF INDEPENDENT SAMPLES T-TEST OF GUESSING STRATEGY AWARENESS

Group	N	M	SD	MD	t	df	p
Cont.	27	4.85	1.61	- .851	- 2.268	52	.028
Exp.	27	5.70	1.10				

As Table 9 illustrates, after sixteen sessions of treatment, the difference between control group (M = 4.85, SD = 1.61) and experimental group (M = 5.70, SD = 1.10) in guessing strategy awareness is statistically significant [t (52) = - 2.268, p = .028 (two-tailed)]. This reveals that guessing strategy awareness via SMS has had a more positive effect on learners than that of paper and pencil method.

TABLE 10.
POSTTEST RESULTS OF INDEPENDENT SAMPLES T-TEST OF READING COMPREHENSION

Groups	N	M	SD	MD	t	df	p
Cont.	27	15.70	3.20	- .629	- .639	52	.526
Exp.	27	16.33	3.99				

Table 10 shows the findings concerning the effect of strategy awareness through SMS on reading comprehension in experimental group compared with that of traditional paper and pencil method in control group. As it suggests after

sixteen sessions of treatment, the difference between control group (M = 15.70, SD = 3.20) and experimental group (M = 16.33, SD = 3.99) is not significant [t (52) = - .639, p = .526 (two-tailed)].

On the basis of tables 8, 9, and 10, it can be inferred that experimental group has outperformed significantly control group concerning skimming and guessing strategies awareness in posttest, but with regard to the effect of strategies awareness on reading comprehension, there is no significant difference between the two groups.

D. Results of Paired Samples T-tests

These tests contained the comparison of the control and experimental intra-group means regarding their performance in pre and posttests. The findings of this section are divided into parts: (1) results of control group, (2) results of experimental group.

1. Results of control group

To compare the control groups' performance on the pre and posttest, the researchers conducted three paired samples t-test concerning three research questions of the study. The first one relates to skimming strategy (see Table 11).

TABLE 11.
PAIRED SAMPLES T-TEST ON SKIMMING STRATEGY AWARENESS IN CONTROL GROUP

Tests	N	M	SD	MD	t	df	p
Pre	27	4.81	1.27	- 0.74	-3.058	26	.005
Post	27	5.55	1.25				

Note. Pre = pretest; Post = posttest; MD = Mean Difference between pretest and posttest.
The MD was reached with the mean of pretest minus that of posttest.

As Table 11 reveals, after sixteen sessions of skimming strategy awareness, subjects in control group (M = 5.55, SD = 1.25) significantly outperformed [t (26) =-3.058, p = .005 (two-tailed)] their performance at the beginning of treatment (M = 4.81, SD = 1.27). It can be concluded that control group developed their skimming strategy after working on this strategy through paper and pencil.

TABLE 12.
PAIRED SAMPLES T-TEST ON GUESSING STRATEGY AWARENESS IN CONTROL GROUP

Tests	N	M	SD	MD	t	df	p
Pre	27	4.25	1.34	- 0.59	-2.08	26	.047
Post	27	4.85	1.61				

Table 12 shows the results related to guessing strategy awareness of control group. As it indicates, after sixteen sessions of instruction, participants of posttest (M =4.85, SD = 1.61) significantly outperformed [t (26) = -2.08, p = .047 (two-tailed)] their pretest performance (M = 4.25, SD = 1.34). This expresses that guessing strategy awareness via paper and pencil has improved control group's guessing strategy.

TABLE 13.
PAIRED SAMPLES T-TEST RESULTS ON READING COMPREHENSION IN CONTROL GROUP

Test	N	M	SD	MD	t	df	p
Pre	27	14.44	3.96	- 1.25	-2.56	26	.016
Post	27	15.70	3.20				

Table 13 reveals the results of treatment regarding the effect of skimming and guessing strategies awareness on control group's reading comprehension. As it is presented in the table, after treatment, subjects of control group (M = 15.70, SD = 3.20) in posttest significantly outperformed [t (26) = -2.56, p = .016 (two-tailed)] their performance in pretest (M = 14.44, SD = 3.96). This finding delineates that working on their skimming and guessing strategies awareness through paper and pencil had a positive effect on control group's reading comprehension skill.

Tables 11, 12, and 13 express that paper and pencil method of treatment had a significant effect on control group.

2. Results of experimental group

In this section, the results of paired samples t-tests of experimental group are surveyed. These findings state the difference of their performance on pre and posttest concerning three research questions of study. Like control group's study, we start with the results of skimming strategy awareness.

TABLE 14.
PAIRED SAMPLE T-TEST ON SKIMMING STRATEGY AWARENESS IN EXPERIMENTAL GROUP

Test	N	M	SD	MD	t	df	p
Pre	27	5.03	1.65	- 1.44	-5.37	26	0.00
Post	27	6.48	0.93				

As Table 14 shows, after sixteen sessions of treatment, participants of experimental group (M = 6.48, SD = 0.93) significantly outperformed [t (26) = -5.37, p = 0.00 (two-tailed)] their performance before the beginning of treatment (M = 5.03, SD = 1.56). Therefore, it can be concluded that using SMS for skimming strategy awareness has been effective.

The next part relates to the effect of treatment on guessing strategies awareness (see Table 15).

TABLE 15.
PAIRED SAMPLES T-TEST ON GUESSING STRATEGY AWARENESS IN EXPERIMENTAL GROUP

Test	N	M	SD	MD	t	df	p
Pre	27	4.70	1.53	- 1.00	- 4.29	26	0.00
Post	27	5.70	1.10				

As Table 15 reveals, sixteen sessions of treatment using SMS has had a positive effect on guessing strategy awareness of experimental group. Subjects of experimental group (M = 5.70, SD = 1.10) significantly outperformed [t (26) = - 4.29, p = 0.00 (two-tailed)] their performance in pretest (M = 4.70, SD = 1.53).

TABLE 16.
PAIRED SAMPLES T-TEST ON READING COMPREHENSION IN EXPERIMENTAL GROUP

Tests	N	M	SD	MD	t	df	p
Pre	27	14.29	4.33	- 2.03	- 4.10	26	0.00
Post	27	16.33	3.99				

As Table 16 illustrates, after sixteen sessions of treatment, participants of experimental group in posttest (M = 16.33, SD = 3.99) significantly outperformed [t (26) = - 4.10, p = 0.00 (two-tailed)] their performance before the outset of treatment (M = 14, SD = 4.33). Therefore, it can be inferred that using SMS for skimming and scanning strategy awareness has influenced positively experimental group's reading comprehension skill.

With a review of tables 14, 15, and 16 you can deduce that using SMS for treatment in experimental group had a significant effect on skimming and guessing strategies awareness and in turn, this awareness significantly influenced reading comprehension; although the mean differences in experimental group are much more prominent than that of control group.

V. DISCUSSION AND CONCLUSION

On the basis of data analysis of the study, the following findings concerning the research hypotheses were achieved:

The first research hypothesis stating that SMS does not have any significant effect on EFL learners' skimming strategy awareness in reading was rejected. The results of paired-sample t-tests showed that sixteen sessions of treatment had a significant effect on experimental group's performance. Likewise, the findings of independent-sample t-tests delineated experimental (SMS) group outperformed significantly control (paper and pencil) group in skimming strategy awareness.

The second research hypothesis claiming that SMS does not have any significant effect on EFL learner's guessing strategy awareness in reading was also rejected. The finding of paired-sample t-tests revealed that treatment had a significant influence on experimental group's guessing strategy awareness. In addition, the results of independent-sample t-tests implied that SMS group outperformed significantly control group in this regard.

The third research hypothesis suggesting that skimming and guessing strategies awareness through SMS do not have any significant effect on EFL learners' reading comprehension should be judged from two aspects. First, data analysis of paired-sample t-tests illustrated that both method of skimming and guessing strategies awareness had a significant influence on reading comprehension skill of two groups. Nevertheless, the outcome of independent-sample t-tests displayed that there was no significant difference between the improvements of SMS (experimental) group's reading comprehension skill and that of control group.

From the results yielded in the study, the following issues can be discussed:

First, the significant effect of strategy awareness in skimming and guessing strategies awareness in both groups and their consequent significant effect on their reading comprehension are consistent with the following findings: they are in harmony with findings (Anderson, 1991; Chamot & El-Dinary, 1999) suggesting that guessing from context can be taught. They are in accordance with studies (Dreyer & Nel, 2003; Anastasiou & Griva, 2009; Hassan, n.d.; Mokhtari & Richard, 2004; Noroozi Sima & Soozandehfar, n.d.) claiming that strategic reading instruction has a significant effect on learners' reading comprehension. Specifically, they support Kojima and Narita's (2004) claiming that guessing strategy training has significant influence on reading comprehension. Likewise, they conform to Edmonds-Behrend's (2009) argument regarding the positive effect of skimming strategy training on reading comprehension. Also, they are consistent with Fuping's (2006) finding concerning the significant influence of the instruction of skimming and guessing strategies on reading comprehension.

Second, the significant outperformance of experimental group regarding strategies awareness as a part of foreign language learning supports the studies related to the positive effect of mobile phone-based language learning in general. These include: (a) findings related to using SMS for vocabulary retention (Alemi, Anani Sarab, & Lari, 2012; Derakhshan & Kaivanpanah, 2011; Tabatabaee & Heidari Goojani, 2012; Levy & Kennedy, 2005; Lu,2008), (b) studies using mobile phone for vocabulary retention and promoting reading comprehension (Chen & Hsu, 2008; Motallebzadeh & Ganjali, 2011), (c) Motallebzadeh, Beh-afarin, and Daliry Rad's (2011) utilizing SMS for the retention of collocations, (d) Thornton and Houser's (2005) employing mobile phone for presenting foreign language materials to students, (e) Baleghizadeh and Oladrostam's (2010) applying mobile phone to grammar learning of their learners; and finally, (f) Huang and Sun's (2010) using mobile phone for enhancing listening comprehension.

Third, the obtained results of the study revealed that both SMS and paper and pencil methods employed in this research had significant effects on strategies awareness and in turn on reading comprehension skill of the EFL learners. But concerning the degree of strategies awareness, SMS group significantly outperformed paper and pencil group. However, regarding reading comprehension, the difference between the effects of two methods was not significant.

Based on the findings of this study along with some previous similar studies, the following pedagogical implications concerning strategies awareness and mobile phone-based language learning arise:

The results of the research illustrates that strategies awareness and training are essential parts of EFL learning and should be integrated into high school learners' curriculum. As it was stated before, achieving significant effect in both methods incorporated into this study implies that Iranian EFL learners require such a kind of training. This requirement was also reflected in their attitudes towards strategy training.

However, achieving this purpose needs teacher's modeling and guided practice so that learners will know why, when, and how they use these strategies. Likewise, teachers should not limit their strategies training to particular mini-course; especially, absorbing test-taking strategies in reading is a time-consuming process. Therefore, it should be integrated into the teaching program from the first year of high school.

Eskey and Grabe (1988) claim that EFL teacher should help language learners develop both bottom-up and top-down processing. This aim was obtained in this study via working on skimming and guessing strategy awareness simultaneously. In reading comprehension, top-down processing is something that happens in skimming when students try to get a general idea of a text before scanning it to answer its questions. However, attempting to guess an unknown word only according to its surrounding words without skimming the whole text, they use bottom-up processing. While students skim a passage and have a general understanding of it, this helps them in better guessing of the meanings of new words. In fact, they are utilizing both bottom-up and top-down processing.

The preliminary step to strategies awareness is teacher's trying to motivate EFL learners for reading. In this study, this goal was attained extrinsically through telling the students that the results would affect their continuous marks. But this purpose can be achieved intrinsically via extensive reading by introducing short stories with attractive and authentic themes in different levels for students to choose and read. In this way, we can change the frustrating nature of reading to many EFL learners.

Teachers should be familiar with the process of strategies training. They should know how to model the strategy. They should follow a theoretical framework for their training. Having this knowledge, they can scaffold learners during the procedure and give them feedback. However, these proceedings should lead to autonomous application of strategies by learners. Therefore, this point must be considered in in-service teacher training program.

The results of the study showed that strategy training is not something necessarily limited to classroom, but training strategic readers can be continued at home.

This fact should be accepted that mobile phone-based language learning technology, thanks to its portability and anytime anywhere features, can give this opportunity to language educators to provide their learners with authentic audio/visual language learning materials and virtual classrooms without the panic of a laptop, video projector and electricity supply for their teaching. This advantage can also be transferred to outside of schools like what happened in this study to escape from time constraint of classroom. In addition, the interactive feature of this technology helps them make their teaching more learner-centered and encourage learners in self-regulating learning of constructivism although it does not replace direct instruction completely in classroom. This is in accordance with Roschelle et al.'s (2005) belief that learning management may best enhanced by a combination of mobile technology and human assistance. On the other hand, because of mobile learning novelty, it can arouse learners' motivation, intrinsically or extrinsically, and motivation is a concept closely related to achievement. In addition, it may be an alternative instructional tool for those learners who need special help or complementary teaching materials (Lu, 2008).

A. Suggestions for Further Studies

There are some suggestions for further studies that can be sources of different researches. Among them, eliminating the problem of selecting the correct meaning of multi-meaning English words in reading may be an impetus for devising innovative methodology whether via MALL or other approaches. Another suggestion is working on scanning strategy that can be implemented easily through mobile phone through sending questions via SMS asking learners to scan passages and send their answers through mobile phone. The next point is that this research was based on a simple design including two groups. Further researches with more complex design and larger scale of participants may be implemented to survey the effect of using mobile phone as an instructional tool. For example, by employing three groups the effect of skimming and guessing strategies on reading comprehension can be scrutinized separately. In this study, there was not such a separation. The next issue is regarding the duration of this study, strategy training is a time consuming process. If an instructor devotes an academic year to strategies training, he can definitely attain more convincing results.

B. (De) Limitations of Study

It must be mentioned that this research involved limitations which should be considered. First, there may be different causes for Iranian EFL learners' weaknesses in reading comprehension among which the researchers have chosen skimming and guessing strategies based on their experience. The next point is regarding sample size, this research was

performed on only fifty four students of a small city and its results should not be over generalized. The other limitation is concerning the duration of this research which included eight weeks; perfect strategy training is usually a long process. Likewise, gender and other personal variables were not taken into account because this study was taking place outside of school and controlling all conditions and variables were not possible for the researchers. The last point is regarding mobile phone itself; due to the limitation of character numbers allowed in an SMS and small screen of mobile phones, the researchers were forced to give the reading passages to the experimental group through paper. Therefore the method employed in experimental group was not merely performed via mobile phone.

The last word, at the turn of century to keep up with technological advancement is a need for EFL learning. The turning point of this aim can be mobile phone-based learning. There are many reciprocal and nonreciprocal mobile phone-based methods that inventive minds of language instructors can think of not only for instructing but also testing their EFL learners. However, sometimes innovations must be tailored to the cultural setting in which they are used. Today, in our schools, when students enter classroom, they should switch off their mobile phones because it is considered something meddling with learning. To cultivate the presence of mobile phone as an assistant of learning certainly needs time and conducting more researches to convince the policy makers of Iran Ministry of Education to change their views towards mobile phone. It is hoped that despite its limitation, this article will shed light into applicability of MALL in foreign language learning.

REFERENCES

[1] Alemi, M., Anani Sarab, M., R., Lari, Z. (2012). Successful Learning of Academic World List via MALL: Mobile Assisted Language Learning. *International Education. Studies*, 5(6), 99-109.doi:10.5539/ies.v5n6p99.
[2] Anastasiou, D., Griva, E. (2009) Awareness of reading strategy use and reading comprehension among poor and good readers. *Elementary Education Online*, 8(2), 283-297, Retrieved April 12, 2013 from http://ilkogretim online .org.tr.
[3] Anderson, N. (1991). Individual differences in strategy use in second language reading and testing. *Modern Language Journal,* 75, 460-472.
[4] Baleghizadeh, S., & Oladrostam, E. (2010). The Effect of Mobile Assisted Language Learning (MALL) on Grammatical Accuracy of EFL Students. *MEXTESOL Journal*, 34 (2). 1-10.
[5] Begum, R. (2011). Prospect for Cell Phone as Instructional Tools in the EFL Classroom: A Case Study of Jahangirnagar University, *Bangladesh. English Language Teaching*, 4(1), 105-115. Retrieved April 11, 2013 from: .http://www. Ccsenet.org/elt.
[6] Brown, H. D. (2007). Principles of language learning and teaching. NY: Pearson Education
[7] Carnine, D., Kameenui, E.J., & Coyle, G. (1984). Utilization of contextual information in determining the meaning of unfamiliar words in context. *Reading. Research. Quarterly*, 19, 188-202.
[8] Chamot, A., & El-Dinary, P. (1990). Children's learning strategies in immersion classrooms. *Modern Language Journal,* 83, 319-341.
[9] Chen, C. M. & Hsu, S. H. (2008). "Personalized Intelligent Mobile Learning System for. Supporting Effective English Learning". *Educational Technology & Society*, 11 (3), 153-180.
[10] Derakhshan, A., & Kaivanpanah, S. (2010, October). The impact of text messaging on EFL freshmen's vocabulary learning. Poster presented at the Eighth TELLSI Conference, Tehran, Iran. Abstract retrieved April 18 from http:// www.academia.edu/356477/The_impact_ of_ text_ messaging _on _EFL_ freshmen _s_ vocabulary-learning.
[11] Dreyer, C. & C. Nel (2003). Teaching reading strategies and reading comprehension within a technology- enhanced learning environment". *System*, 31, 349-365.
[12] Edmonds Behrend, C. R. (2009). A Comparative Effectiveness Study of Summarization versus Skim/Scan .Strategies on the Reading Achievement of Seventh-Grade Students with Mild Disabilities (Doctoral dissertation, Illinois State University) [Abstract]. Retrieved April 12, 2013 from http://www..eric.ed.gov/ ERICWebPortal/ search/detailmini.jsp?-nfpb.
[13] Eskey, D. E. & Grabe, W. (1988). Interactive models for second language reading: Perspective on instruction. In D. L. Carrell, J., Devine, & D. E. Eskey (Eds.), *Interactive Approaches to Second Language Reading* (pp. 223-228). Cambridge: Cup
[14] Fuping, X. (2006). The impact of strategy training on reading comprehension. *Celea Journal*, 29(4),36-42.
[15] Hassan, F. (n.d.) Metacognitive Strategy Awareness and Reading Comprehension. Retrieved April 23, 2013 from www.melta.org.my/ET/2003/2003-16.pdf.
[16] Hatch, E., & Farhady, H. (1982). Research design and statistics for applied linguistics. Tehran: Rahnama publication
[17] Kojima, H., & Narita, H. (2004).The Effects of Word Guessing Strategy Instruction on Reading Comprehension. Retrieved April 18, 2013 from www. researchgate. net/.../37182094_ The_Effects_of_ Word_Guessing_St.
[18] Levy, M., & Kennedy, C. (2005). Learning Italian via mobile SMS. In A. Kukulska-Hulme & J. Trax (Eds.), *Mobile Learning: A Handbook for Educators and Trainers*. London: Talor and Francis.
[19] Lu, M. (2008). "Effectiveness of vocabulary learning via mobile phone". *Journal of computer assisted learning*, 24, 515-525.
[20] Markett, C., Sanchet, I.A., Weber, S. & Tangney, B. (2006). Using Short Message Service to encourage interactivity in the class room. *Computers & Education*, 46(3), 280-293.
[21] Mokhtari, K. & C. Reichard. (2004). "Investigating the strategic reading process of first and second language readers in two different cultural contexts". *System*, 32, 379-394.

[22] Motallebzadeh, K., Beh-Afarin, R., & Daliry Rad, S. (2011). The Effect of Short Message Service on the Retention of Collocations among Iranian Lower Intermediate EFL Learners. *Theory and Practice in Language Studies*, 1(11), 1514-1520. doi:10.4304/tpls. 1.11. 1541-1520.

[23] Motallebzadeh, K., & Ganjali, R. (2011). SMS: tool for L2 Vocabulary Retention and Reading Comprehension Ability. *Journal of Language .Teaching and Research,* 2(5), 1111-1115. doi:1o.4304/jltr.2.5. 1111-1115.

[24] Norouzi, M., Samet, A., Sharifuddin, R., S., & Awang Hj. Hamid, D., T. (2012). Investigate the effect of mobile learning over the critical thinking in higher education. *Advances. in Natural and Applied Sciences*, 6(6), 909-.915. Retrieved April 20, 2013 from:.http://www.aensiweb.com/anas/2012/909-915.pdf.

[25] Noroozi Siam, E. & Soozandehfar, M., A. (n.d.) Metacognitive awareness of reading strategies and reading comprehension. Retrieved April 23, 2013 from hss.fullerton.edu/ linguistics/cln/.../Siam%20&%20Sooz-Metacognitive.

[26] Roschelle J., Sharples M. & Chan T.W. (2005) Introduction to the special issue on wireless and mobile technologies in education. *Journal of Computer Assisted Learning*, 21,159–161.

[27] Song, Y. & Fox, R. (2005). Integrating m-technology into web-based ESL vocabulary. learning for working adult learners. *Proceedings of the 2nd IEEE. international. workshop on wireless and mobile technologies education*. Jhongli, Taiwan, IEEE Computer Society.

[28] Tabatabaei, O., & Heidari Goojani, A. (2012). The Impact of Text-Message on Vocabulary Learning of Iranian EFL Learners. *Cross-Cultural Communication*, 8(2), 47-55. doi: 10.3968.jccc.1993670020120802.1689.

[29] Taylor, A., Stevens, J., & Asher, J. W. (2006). The effects of explicit reading strategy training. on L2 reading comprehension. In. J. Norrise & L. Ortegra (Eds.), *Synthesizing. research on language learning and teaching* (pp. 213-44). Philadelphia: John Benjomins.

[30] Thornton, P. & Houser, C. (2005). Using Mobile Phones in English Education in Japan. *Journal of Computer Assisted Learning,* 21, 217-228. Retrieved April 12, 2013 from: https: //resources.oncourse.iu.edu /.../user /.../ Mobile%20Devices.

Emad Ataee is an EFL teacher at ministry of education of Iran and a part-time instructor of university. He holds an MA degree in TEFL from Islamic Azad University of Iran (Torbat-e-Heydarieh Branch). His areas of interests are language learning strategies, MALL (Mobile Assisted Language Learning) and sociolinguistics.

Mohammad Ali Fatemi, PhD in TEFL is currently teaching in Islamic Azad University of Iran (Torbat-e-Heydarieh Branch). His fields of interests are Teaching Methodology, Research Methodology and Contrastive Discourse Analysis. He has participated and presented articles in many national as well as international conferences. He has also published articles in relation to teachability of learning strategies, pronunciation problems of Iranian EFL Learners, active learning instructions, instructors' beliefs, E-Reading Text, Iranian perceptions of the best language teaching method, etc.

Hamid Ashraf did his PhD in English Language Teaching at English Department, University of Pune, India. He has been a member of faculty at English Department in Islamic Azad University of Iran (Torbat Heydarieh Branch) since 1996. He has published and presented papers in international and national journals and conferences on issues in ELT: critical thinking in ELT, speaking assessment (iBT TOEFL), electronic material preparation (Podcasting), and English project works, etc. He has authored textbooks on listening for IELTS, and critical reading, and also has done three granted projects. He has also supervised and advised MA theses of a number of TEFL students.

Hamid Ashraf is a member of Asia TEFL society, and TELLSI. He has been the chair of scientific committee in two recent national and international conferences in Iran.