The Learner's Side of Foreign Language Learning: Predicting Language Learning Strategies from Language Learning Styles among Iranian Medical Students

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Abstract—**The purpose of the study is to examine whether certain language learning styles are predictive of certain language learning strategies among Iranian EFL medical students. Unlike many studies which have investigated isolated dimensions of learning styles, this study applies a broadly focused learning styles indices as predictors of achievement in the use of language learning strategies. The study presents two kinds of data: quantitative and qualitative. In the quantitative study, the participants consist of 265 EFL second-year undergraduates. Two self-reported inventories, the Persian version of Learning Style Questionnaire (E&L LSQ) (Ehrman & Leaver, 2002), and the Persian version of the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) were used. Semi-structured interviews have been performed among 34 high and low achievers in the qualitative aspect of the study. The analyses indicate that the synoptic language learning style significantly predicts more language learning strategies than ectenic style, thus turning out to be the more influential language learning style variable affecting learners' language learning strategy choices. Unlike low achievers, high achievers are synoptic driven in style, and capable of exercising more frequent and sophisticated strategies in general and compensation strategies in particular. The pedagogical implications of the study are discussed.**

Index Terms—**synoptic style, ectenic style, language learning styles, language learning strategies**

I. INTRODUCTION

One of the most satisfying experiences afforded by intellectual pursuits comes from the discovery of distinction between things that are superficially alike. The two concepts of learning styles and learning strategies are interrelated concepts since they both indicate specific ways learners carry out learning tasks (Dornyei, 2005). Reid (1995) provides a standard definition for learning styles as: "an individual's natural, habitual, and preferred way(s) of absorbing, processing, and retaining new information and skills" (p. 121). Keefe (1979) also defines a learning style as "cognitive, affective and physiological behaviors that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment" (p. 197). On the other hand, Cohen (1998) defines strategies as "learning processes which are consciously selected by the learner" (p. 162). Oxford (1999) offers a comprehensive and currently the best definition of learning strategies as: "Specific actions, behaviors, steps, or techniques that students use to improve their own progress in developing skills in a second or foreign language". (p.163)

Sternberg and Grigorenko (2001) emphasize the difference between the degree of consciousness involved in styles and strategies: Styles work without individual awareness, whereas strategies demand a conscious choice of alternatives. Oxford, Ehrman and Levin (1991) stress the importance of learners' discovering strategies that suit their learning styles; the authors advocate style-flexing and using a wide variety of strategies to enhance proficiency in the target language. Reid (1987), who has reported on the learning style preferences of a large sample (N = 1,234) of ESL students studying in intensive English programs in American universities, found that the differences in the strategies used by second language learners could be attributed to the differences in their learning styles preferences. Reid reported that ESL students typically prefer kinesthetic and tactile learning styles, although students who had been in the United States for more than three years showed a marked preference for an auditory learning style. Ehrman and Oxford (1989) conducted a study of seventy-nine foreign language learners at a large language institute. They administered Oxford's Strategy Inventory for Language Learning, and the Myers-Briggs Type Indicator to learners. They found that 1) extroverts reported using more social strategies than introverts; 2) sensing (concrete) learners liked memory strategies, while intuitive learners liked compensation strategies; 3) thinkers liked metacognitive strategies while feelers liked social strategies; and 4) perceivers (flexible learners) liked affective strategies, which judgers (closure-oriented learners) rejected.

Although the linkage between strategies and styles has been established, most studies concentrated on either quantitative or qualitative method in exploring the relationship between learning styles and strategies. Many also investigated isolated dimensions of learning styles, or they employed the most widely used personality type inventory, Myers Briggs Type Indicator (MBTI) when measuring learning styles. Even when employing a learning style measurement, most of the studies in the L2 field employed scales of learning styles that are language-independent, as evidenced by the fact that most of the items in the style batteries could be used for any subject matter (not just for English language learning). Hence, this study could be the first that attempts to identify the nature of the linkage between language learning styles and strategies, employing a L2 specific measure of learning styles: Ehrman and Leaver Learning Style Questionnaire (E&L LSQ) (2002).

A study of this kind would throw new lights on the current teaching and learning situation in Iran. Once language learners get to know their language style preferences, it may be easier for them to see why they prefer using certain strategies and not others. This awareness would help learners develop the flexibilities to cope with different learning contexts and ultimately achieve learner autonomy.

Accordingly, an attempt was made to find an empirically justified answer to each of the following questions of the study:

1. Are language learning styles significant predictors of language learning strategies?

2. Is there any significant difference between learners with either synoptic or ectenic language learning style, in their application of language learning strategies?

3. What are the qualitative differences in language learning styles between high achievers and low achievers?

4. What are the qualitative differences in language learning strategies between high achievers and low achievers?

To remain conservative, the researcher estimated null hypotheses as follow:

1. Language learning styles are not significant predictors of language learning strategies.

2. There is no significant difference between learners with either synoptic or ectenic language learning style, in their application of language learning strategies.

Questions three and four are descriptive and do not pose any relation or interaction among variables. Hence, no hypothesis was stated for them.

II. METHODOLOGY

This study is a kind of descriptive, mixed method study, having both quantitative phase and then follow-up qualitative interview phase, adding flesh to the bones. Language learning styles were taken to be the independent variables and language learning strategies considered as dependent variables. To determine the significance of the statistical results of the research questions of the study, the standard level of $p \leq .05$ was considered. Three computer databases, namely, Excel, SPSS, and MATLAB were used for statistical analyses.

A. Participants

A total of 265 EFL undergraduate Iranian university students studying General English as part of English for academic purposes in medical curriculum at Tehran University of Medical Sciences participated in this study. Students were randomly selected from medical fields of: speech therapy, audiometry, optometry, technical orthopedics, physiotherapy, occupational therapy, radiotherapy, surgical technology and laboratory science. They were sophomores and already passed two prerequisites English courses to be prepared for general and then academic English. The participants included 190 female and 75 male students, ranging in age from 18 to 25 (M=19.5, SD=.92). The group was not controlled for gender, age, or any other variables except the variables of the study.

Moreover, for the qualitative phase of the study, 34 sub-sample students were selected based on stratified sampling for in-depth study; branching questionnaires respondents into two groups of high achievers (n=17) and low achievers (n=17). Students' reported scores on the objective questions of the final English test in the second semester of their first academic year were used as the indices of the students' language learning outcomes and the basis for their division in this study. The test items consisted of listening comprehension, reading comprehension, cloze and vocabulary, administered by English Center of Tehran University of Medical Sciences. The reliabilities of the final test scores ranged from .84 to .90. In this study, those with the final score of 17- 20 (out of 20) were considered as high achievers and those with the final score of 10- 13 (out of 20) were considered as low achievers.

It is also important to note that English learning of medical university students at Tehran University of Medical Sciences has been under constant scrutiny to respond to the diverse learning needs of these students as well as various demands of the society. The study, further, focused on undergraduate students to pave the way for understanding the process of learning foreign language in its startup. Although Iranian university students, when beginning their higher education, they have already studied English for seven years in the middle school and high school, it seems that most students when entering university lack skills necessary for learning language. Therefore, the first years of their university study are in fact the beginning of their higher-educational learning of a foreign language that demands improving even after seven years of instruction at school.

B. Instrumentation

Two paper-and-pencil instruments were used for the quantitative phase of the study as fallow.

• *Ehrman and Leaver Learning Style Questionnaire (E&L LSQ)*

It contains 30 items using a 9- point semantic differential scale format and provides a rich set of data about an individual language learning styles which has the advantage of generality and specificity. This complex battery has an elaborate underlying theoretical construct and has undergone extensive field-testing and validation at the Foreign Service Institute. The instrument reorganizes a number of established style dimensions under a new, comprehensive construct with the two poles labeled *Synopsis* and *Ectasis*. The main difference between the two extremes is that a *Synoptic* learner allows more preconscious or unconscious processing whereas an *Ectenic* learner demands conscious control over the learning process. The complete system is made up of 10 subdimensions as follow:

1: Field sensitivity_ field insensitivity, 2: Field independence_ field dependence, 3: Leveling–sharpening, 4: Global– particular, 5: Impulsive–reflective, 6: Synthetic–analytic, 7: Analogue–digital, 8: Concrete–abstract, 9: Random– sequential, 10: Inductive–deductive.

This study, however, applied the general aspects of E&L LSQ: namely Synoptic and Ectenic language learning styles indices as predictors of achievement in the use of language learning strategies. While, Synoptic pole includes the first one of each opposing pair, Ectenic pole includes the second part of each pair. In this study, Cronbach alphas of .91and .92 were found for synoptic and ectenic language learning styles respectively.

• *Strategy Inventory for Language Learning (SILL)*

It contains a 50-item four-Point Likert-Scale ranging from 'never' to 'always' used to assess a broad range of L2 learning strategies. It consists of six strategy categories, each of which corresponds to a specific set of strategy items. It measures the frequency with which a student uses memory, cognitive, compensation (under direct class), metacognitive, affective and social language learning strategies (under indirect class). The SILL is the best-known strategy scale and is utilized widely for its high reliability and validity. The internal consistency of SILL ranges from .89 to .98 in various studies (Oxford & Burry-Stock, 1995). Tahmasebi (1999) found Cronbach alpha of .77 for Persian version of SILL. In this study Cronbach alpha was found to be .93.

C. Qualitative Interview Part of the Study

In qualitative part of the study, semi-structured interviews were performed branching questionnaires respondents into two groups of high achievers and low achievers. The whole interview protocol fell into two parts searching for more in-depth analyses of the variables of the study.

Part one, was intended to find out whether the students were aware of their own learning styles and the effects of the learning styles on their English learning. Questions such as "imagine today is holiday and you are to study English, do you prepare yourself immediately or it takes time to call forth your attention? How?"; "Are you learning new words as you are reading the text through context or you need to check the meaning of the words in the dictionary to be sure? What's your experience?" deserved the interviewees' answering. To Ehrman (1996) common styles dimensions are sequential- random, field sensitive- field insensitive and concrete- abstract, all of which covered in the interview part.

Second part, was interested in gathering data about the participants' strategies in learning English. Typical questions addressed were: "you have been successful in learning language, what did you do that lead you to success?" asked from high achievers; "It seems you did not get a deserving score in English last term, what did you do that lead you to failure?" asked from low achievers. It needs noticing that most of low achievers have already failed once in final test.

Results of styles and strategies obtained from high achievers in the qualitative data were compared against those of low achievers. The interview results of high and low achievers were checked against their quantitative statistics and found to be compatible.

D. Procedure

Ehrman and Leaver Learning Style Questionnaire (2002), with the consultation of experts in both field of applied linguistics and psychology was translated into Persian to prevent the impact of English language proficiency and to make sure about the students' understanding of the items in the questionnaire. Pilot study (n=50) was run and consequently revisions were made.

The coded batteries of the questionnaires were administered to 265 undergraduate Iranian university students studying General English at Tehran University of Medical Sciences. Detailed instructions were given by the researcher on how to respond to the batteries. The purpose of the questionnaires and the potential significance of the results were communicated to the students. The participants were guaranteed anonymity of their responses. It contributed to the honesty of respondents' answers. However, they were asked to keep the written code on the first page of the batteries of questionnaires for the volunteer follow up interview. Completing the coded packet of instruments typically required 30 minutes.

To make the meaning of style preferences clear, participants were asked to do simple exercises such as crossing their arms and writing their names with their subdominant hand. Which arm someone put on top is (an unconscious) preference. At the same time, while writing with the dominant hand is fast and easy, writing with the other hand could be slow and difficult. Language learning styles are similar to our hands. Just as we have a preferred hand for writing and doing most other things _ a dominant hand_ so we have preference for how to learn on any of the many learning styles. For example, if we prefer to learn sequentially, it will come relatively automatically, whereas learning randomly with

no set agenda from outside will be slow, awkward, and very tiring until we get practiced at it, and the product will probably not be as mature.

The researcher also pointed out that no one voluntarily uses only one hand all the time. Just as we use the dominant hand for many tasks (taking note), we also need the non-dominant hand for other tasks (at the same time, speaking on the phone) and to support the work of the dominant hand. We are quite literally crippled without both hands. Similarly, a person who prefers to learn inductively (discovering rules from data) most of the time sometimes needs _ or even wants_ to learn deductively (learn rules first), depending on the time available.

Further, to point to the interest, curiosity, and engagement as the qualities of the state inducive to learning and understanding, the participants were provided with a picture of a young lady to find hidden picture of an old lady within the first (Fig. 1).

Figure 1: Picture provided to draw students' attention to the language learning styles notion

It was an attempt to see the picture from different angles; or to see both trees and the forest. They were asked "How many of you see the pretty girl? How many can see the old lady? You can't see them both at the same time. How many saw the old lady first? Anybody not got the old lady? Here's her mouth, her chin, her big nose. Students were looking at the picture, trying to see the hidden pattern for minutes; and sometimes few got almost desperate to see the hidden one. However, every now and then someone would shout "I see it!" and the others would work even harder.

The researcher also asked the participant if they remember those coloring books they pored over as a child, a picture of a forest scene with exotic trees and flowers, and a caption saying, "Find the hidden monkeys in the trees". The ability to find those hidden monkeys hinged upon our field independent style: the ability to perceive a particular, relevant item or factor in a 'field' of distracting items. In general, however, there are positive characteristics to both field independence and field dependence. That is, too much field independence causes us to see only the parts and not their relationship to the whole. Thus, each style is worthy.

Finally, with consultation with experts in psychology and applied linguistics a careful planning of interview questions were made followed by some piloting, to ensure that the questions elicit sufficiently rich data and run smoothly. It is important to mention, interview as an exploratory tool reveals much more about the individuals in the study than that of a written questionnaire. Here, the researcher can find much more of the personality, interests, worries problems and real learning process of the respondents. Again, in the process of the interview which took about 15 minutes for each student, the interviewees were told that the interviews would be highly confidential and used for research only. The interviews were audio taped and notes were taken on them for further analyses.

III. RESULTS

Normality of the data was checked by using Kolmogorov-Smirnov Test, used to decide if a sample comes from a special population or not. In other words, it tests whether the distribution of data is normal. The test was run for the SILL, and E&L LSQ as presented in Table 1.

TABLE I.
MEANS, STANDARD DEVIATIONS AND KOLMOGROV-SMIRNOV INDICES FOR THE SUBSCALES OF
SILL AND E&L LSQ FOR THE TOTAL SAMPLE (N= 265)

Measure	M	SD	Kolmogorov-Smirnov Z	Sig. (2-tailed)
SILL				
Memory	2.47	.50	.96	.31
Cognitive	2.42	.47	.89	.39
Compensation	2.31	.55	1.50	.06
Metacognitive	2.79	.58	1.31	.06
Affective	2.07	.46	1.62	.06
Social	2.22	.64	1.61	.06
E&L LSQ				
Synoptic	3.76	.64	1.03	.23
Ectenic	3.47	.67	1.29	.70

Kolmogorov-Smirnov Test for the subscales of all three questionnaires indicated the sample of the study was distributed normally and was not found to be different from the population. Hence, parametric statistics were legitimately applied.

Concerning the descriptive statistics of the SILL, the mean of the individual strategy items ranged from 2.07 (for affective) to 2.79 (for metacognitive), with an overall mean of 2.42, indicating low (mean values between 1 and 2.4) strategy usage overall. As Phillips (1991) maintains, beginning L2 learners might possess little in declarative knowledge regarding their second language learning, and much less procedural knowledge about how to effectively apply learning strategies. Metacognitive strategies found to be the mostly applied ones used by 52.5% of students with medium frequency. Among the other strategy categories, memory and cognitive strategies were also applied approximately in medium range, while compensation and social strategies were employed in low range, and affective strategies found to be the least used. It is in line with Hong-Nam and Leavell's (2006) study investigating language learning strategies of both beginner and intermediate international ESL students. They also found that the students preferred to use metacognitive strategies most, whereas they showed the least use of affective strategies. The overall mean strategy use for female students (M = 2.44, SD =.44) found to be a little bit more than that of male students (M = 2.41, SD = .40).

For the E&L LSQ, the interplay of 10 bipolar dimensions of the scale made it possible for an individual to have both synoptic and ectenic tendencies, expressing more inclination toward one of them or adopting one as the dominant style. Thus, mean scores of both styles were calculated for the individuals in the sample. The participants reported higher preference for synoptic language learning style (M = 3.76), indicating more interest toward subconscious processing or contextual learning of the language. The dominant style of both gender was found to be synoptic, with female indicating more inclination (M = 3.80, SD = .64) than male students (M = 3.67, SD = .64).

Further, concerning students' sensory styles of learning language, while, 50% of them favored visual style as their major style, 28% favored auditory as the first, 16% liked kinesthetic and the least favored was that of tactile style with only 6% of students. In other words, students reported learning language better by reading (or seeing) than listening to someone. Implicitly, it could be challenging for them to be asked by the teacher to close the books and just listen.

A. Answer to Research Question One

To answer the first research question of the study linear regression was utilized to examine the association between language learning styles and strategies. Due to multicollinearity effect, a condition that can be problematic in regression analyses, leading to inaccurate results, multiple regression was not employed to answer this research question.

Results of the relationships between E&L LSQ scales (synoptic and ectenic) and each of the 6 language learning strategies were synthesized into Table 2.

TABLE II.
INTERCORREALTIONS AMONG THE E&L LSQ AND SILL FOR THE TOTAL SAMPLE (N= 265)

Independent Variables	Dependent Variables					
	Memory	Cognitive	Compensation	Metacognitive	Affective	Social
E&L LSQ						
Synoptic	.14**	.097*	.05	.15**	.05	.11*
Ectenic	.14**	.004	_.096	.12*	.01	.05

*p≤ .05, **p≤ .01

The above preliminary correlation matrix indicated that 6 out of the 12 correlation coefficients were statistically significant. The intercorrelations, however found to be low. It is important to refer to Hatch and Farhady (1981) who suggested not depending on figures without applying logical reasoning, meaning that a correlation coefficient might be fairly low and still meaningful. In fact, low predictability, could be due to taking generality (rather than specifity) aspects of styles.

Synoptic style found to be significantly related to memory, cognitive, metacognitive and social language learning strategies, whereas ectenic style found to be significantly related to just memory, and metacognitive language learning strategies. Further, in order to investigate the regressions between language learning styles and strategies, the six learning strategy subscale scores were regressed on each of the two E&L LSQ predictor scores (synoptic and ectenic).

Each of the six subscale scores from the SILL served as one criterion variable per regression analysis. The results are summarized in Table 3.

TABLE III.
LINEAR REGRESSION OF EACH PREDICTOR VARIABLES (SYNOPTIC AND ECTENIC LANGUAGE LEARNING STYLES) ONTO EACH COMPONENT OF SILL
LANGUAGE LEARNING STRATEGIES; ONLY SIGNIFICANT ASSOCIATIONS ARE DISPLAYED (N= 265)

Criterion Dependent Variables	Significant Predictor(s)	F	SEB	β
Memory	Synoptic	5.69	.04	.14**
	Ectenic	5.81	.04	.14**
Metacognitive	Synoptic	6.51	.05	.15**
	Ectenic	3.88	.05	.12*
Social	Synoptic	3.78	.06	.11*

*p≤ .05, **p≤ .01

Linear regression was conducted to determine the best linear association of synoptic and ectenic language learning styles for predicting SILL strategies. Both style variables significantly predicted memory strategies F= 5.69 for synoptic and F= 5.81 for ectenic style. Both of the language learning styles also significantly predicted metacognitive strategies F= 6.51 and F= 3.88 respectively. But, it was just synoptic style which significantly predicted social strategies, F = 3.78. The beta weights, presented in Table 3, suggested that synoptic style contributed the most to predicting metacognitive strategies. Ectenic style also predicted metacognitive strategies, but with lower beta weight than that of synoptic style. Both ectenic and synoptic language learning styles had almost the same contribution to the use of memory strategies, with F= 5.81 of ectenic style having a little bit more predictive value than that of synoptic style for memory strategies. Finally, synoptic style had the least significant contribution just to the social strategies. In sum, of the two predictor style variables, both of them were a significant predictor of two types of language learning strategies (memory and metacognitive). The synoptic style was also a significant predictor of just one type of language learning strategies (social).

B. Answer to Research Question Two

To answer the second research question of the study or handling the first research question of the study from different perspective to find more exact picture, multivariate analysis of variance (MANOVA) was utilized to examine the differences among language learning strategies employed by learners with different language learning style dominances. When there is more than one independent variable (in this study: synoptic and ectenic styles) and several related dependent variables (subscales of strategies) MANOVA is useful. The major assumption of MANOVA include: homogeneity of variance/covariance matrices. Table 4 presents numbers of students with different dominant language learning styles, and the mean strategy use of the two groups.

TABLE IV.
NUMBER OF STUDENTS IN EACH OF THE TWO DOMINANT STYLES AND THEIR PERFORMANCE ON SILL

Dominant Style	N	Dependent Strategies of SILL											
		Memory		Cognitive		Compensation		Metacognitive		Affective		Social	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Synoptic	176	2.47	.50	2.46	.46	2.36	.54	2.81	.56	2.10	.47	2.28	.62
Ectenic	60	2.44	.51	2.33	.46	2.15	.57	2.72	.61	1.98	.40	2.10	.64

176 participants were more synoptic, and 60 ones were more ectenic in style. However, out of 265 students, 29 had the same mean score for both styles and thus removed from the analysis of the second research question of the study. As Table 4 indicated the means strategy use of synoptics in all six subscales of the SILL were more than those of the ectenics.

Since the numbers of students in the two groups with the dominant styles were not approximately equal, Box's Test was run to check the assumption of homogeneity of covariances of the six dependent strategies across the two language learning styles groups. Here, the larger group (synoptics: N= 176) was 2.93 times larger than the smaller group (ectenics: N= 60), so Box test was checked and found not to be significant (p= .72). Thus, the assumption of homogeneity of covariances was not violated. Levene's test was also checked to see if variances of each variable are equal across groups. Variances were also found not to be significant for any group of strategies. Thus, the assumption of homogeneity of variances was not violated as well.

Then a multivariate analysis of variance was conducted to assess if there were differences between the two learning styles groups on a linear combination of six language learning strategies, analyzing all dependent variables together. No significant difference was found, Wilk's Lambda = .96, F (6, 229) = 1.53, p= .16, multivariate Eta squared η²= .03, indicated no significant general differences on the interaction of the six subscales of SILL for the two language learning styles groups. However, to check if there was any trend of difference, since means strategy use of synoptics in all six subscales of the SILL were more than those of the ectenics, follow-up univariate analyses of ANOVAs were measured as well.

Consequently, two separate univariate one-way ANOVAs (or follow up tests of between subject effects) were run to determine whether the style groups differed on each of the six strategy variables, examined alone. It is important to notice that unlike MANOVA which can handle multiple dependent variables, ANOVA only handle one dependent variable at a time. Significant effects were found for compensation strategies (p=. 01, F (1, 234) = 6.35, Eta squared= .02), with effect size of .14 (the square root of. 02), and for social strategies (p= .05, F (1, 234) = 3.72, Eta squared= .01) with effect size of .1, which both could be considered low effect sizes. The ANOVAs helped to understand which variables, separately, differed across two styles groups. Both etas squared in between subjects analysis and weighted Bs in parameter estimates indicated higher effect or weight for compensation strategies between the two style groups, with synopsis to contribute more to compensation strategies and then to social strategies respectively. Table 5 presents the results of ANOVAs.

TABLE V.
SUMMARY OF UNIVARIATE ANALYSES OF VARIANCES FOR LANGUAGE LEARNING STRATEGIES IN THE TWO GROUPS OF LEARNERS WITH EITHER DOMINANT LANGUAGE LEARNING STYLES OF SYNOPTIC OR ECTENIC

Source	Dependent Variables	MS	F (1, 234)	η^2
Language Learning Style Synoptic vs. Ectenic	Memory	.43	.16	.00
	Cognitive	.74	3.48	.01
	Compensation	1.94	6.35**	.02
	Metacognitive	.37	1.12	.00
	Affective	.57	2.76	.01
	Social	1.47	3.72*	.01

*p≤ .05, **p≤ .01

So, there found to be trends of differences in compensation and social strategies. In other words, synoptics found to use these two strategies significantly more than ectenics, but not to the extent that to make the MANOVA meaningful.

C. Qualitative Differences in Language Learning Styles between High Achievers and Low Achievers

To answer the third research question of the study the interview data were analyzed according to the comments related to specific language learning styles namely: field sensitive- field insensitive, sequential- random, concrete- abstract, as reported by Ehrman (1996) as common styles dimensions as well as leveler- sharpener which FSI experience suggested to play important roles in language learning (Ehrman & Leaver, 2003).

In deep analysis of the subscales of language learning style, it was revealed that 94% of high achievers were field sensitive (subscale of synopsis), preferring to address material as part of the context or learning new words through context while reading the text. In contrast, 78% of low achievers were found to be field insensitive (subscale of ectesis) and made little or no use of the context and felt the need to check the meaning of new words in the dictionary as they were reading the text.

Both groups favored sequential learning, a subscale of ectenic style (all high achievers, and 76% of low achievers) in that they preferred a systematic, externally provided order of processing (such as orderly following the units in the textbook).

In contrast to 70% of high achievers who reported that they would prepare themselves for leaning language as soon as possible without delay and they were quick to take action (a synoptic characteristic), 64% of low achievers reported it took time for them to prepare themselves for study and they should have planned to study from last night (an ectenic characteristic).

Unlike high achievers whose natural learning strength lied in concrete experience (a synoptic subscale), tending to work by trial and error, and were more comfortable with _even sought_ ambiguity through engaging in direct experience of language with English conversation in the classroom, low achievers found to be abstract learners (an ectenic subscale) and liked the grammatical system or abstract rules underlying language more than conversation.

Finally, the groups displayed their differences in language learning style, by their tendencies to either leveling, seeing similarities and merge things together to form a generalized image (a synoptic subscale) or sharpening, noticing differences and retrieving details (an ectenic subscale) in that 64% of high achievers appreciated leveling and 71% of low achieves tended toward sharpening style.

In sum, high achievers were identified by being field sensitive, sequential, concrete, and leveler, all of which (except sequential) are characteristics of synoptic style. That is, they inclined more toward synoptic style with a layer of sequential ectenic style. It is important to note that good language learners, besides having synoptic features would be more successful by orderly pursuing language learning. Such learners seldom miss important points, because they make sure that all the material is covered (Ehrman, 1996).

However, low achievers were identified by being field insensitive, sequential, abstract, and sharpener, all of which are characteristics of ectenic style. The major tendency of low achievers found to be toward ectenic style, concerning the four common styles of language learning.

D. Qualitative Differences in Language Learning Strategies between High Achievers and Low Achievers

To answer the fourth research question of the study the interview data were analyzed according to the comments related to language learning strategies coded according to Oxford's (1990) strategy classification. Table 6 summarizes the learners' choice of strategies in both groups.

TABLE VI.
STRATEGY USE OF HIGH AND LOW ACHIEVERS

	Memory	Cognitive	Compensation	Metacognitive	Affective	Social
High Achievers	+ +	+ + +	+ + +	+ + +	+	+ +
Low Achievers	+ + +	+ +	0	+	0	+

+ + + = described as positive, comfortable, or liked by almost all of the students in this group.
+ + = described as positive, comfortable, or liked by most of the students in this group.
+ = reported as positive, comfortable, or liked by few of the students in this group.
0 = not reported at all by the students in this group.

Table 6 presents that low achievers reported more use of memory strategies than high achievers. Indeed, the only clearly preferred set of strategies was memory strategies among low achievers. When asked "what did you do that you did not receive a deserving score last term?" almost all low achievers pointed their attention at the memorization of the Persian meanings of the English vocabularies: "I learn by rote". In contrast, high achievers believed that they could have been more successful if they had applied memory strategy of reviewing well and zoomed less on memorization and more on understanding of the materials.

Cognitive strategies favored more by high achievers. Varied profiles of cognitive strategies employed by high achievers. These were: practicing language at language institutes, learning vocabularies in context, extensive reading, listening to music and watching films, translating academic texts, summarizing, English self talk, and practicing conversation in group … However, low achievers reported cognitive strategies of reading English course books, watching films, applying English words in Persian sentences…. As it was, the range of cognitive strategies worked out by high achievers found to be higher than that of low achievers.

High achievers and low achievers were opposite with respect to use of compensation strategies. High achievers used such strategies easily; low achievers rejected such strategies (or used them in rare instances with significant effort). These strategies were applied by high achievers through techniques such as guessing the meaning of the unknown words while reading and listening, speaking slowly, using synonyms and simple words in speech. However, almost no one in low achiever group referred to these types of strategies rather they felt forced to look up the meaning of every word in the bilingual dictionary than guessing and kept silent in classroom discussions unless felt obliged.

Further, unlike highly appreciated metacognitive strategies of planning for study and seeking practice opportunities among high achievers, low achievers reported low planning for study and a few also mentioned they studied just the night before the exam. Despite, most of low achievers spent more time on studying, evidenced by the reported mean time study of 3.7 in a week for this group, opposed to the lesser mean time of 3.4 for their counterparts, their study was not strategic through linking with already learned materials or even setting goals and objectives. The mean spent time for study in both groups clearly indicated the fact that quality outweighed the quantity.

In terms of affective strategies, the two groups were also found to be somehow in opposite. While, few high achievers reported choice of affective strategies such as laughing at oneself while speaking, imagining speaking fluently in their mind, speaking slowly to keep calm, consciously taking risk to speak even if one makes mistakes, low achievers did not imply any sort of these strategies in the interview. They reported that their fears of making mistakes often kept them from trying speaking.

The other difference between two groups was found in social strategies. High achievers were more interested in developing cultural understanding by speaking to native speakers, cooperating with teacher and peers. However, fewer numbers of low achievers were interested in these strategies as half of the low achievers favored individually practicing language rather than group work.

IV. DISCUSSION

Distinct as the two concepts of language learning styles and strategies are, they found to be interrelated concepts as suggested by a number of researchers in the field (Ehrman, 1996; Ehrman & Oxford 1989; Ehrman & Oxford, 1990), and corroborated by the findings of this study. Indeed, synoptic style significantly predicted memory, metacognitive, and social strategies, whereas ectenic style predicted less number of strategy categories, namely memory and metacognitive.

Therefore, the first null hypothesis of the study was rejected for synoptic style to be the predictor of memory, metacognitive, and social. In other words, synoptic style significantly predicted these strategies (though with small effect size or beta). However, the first null hypothesis of the study was maintained for synoptic style predicting cognitive, compensation, and affective strategies. In other words, synoptic style found not to be significant predictor for these strategies.

The first null hypothesis was also rejected for ectenic style predicting memory and metacognitive strategies. In other words, ectenic style found to be significant predictor for these strategies (again, though with small effect size or beta).

However, the first null hypothesis of the study was maintained for ectenic style predicting cognitive, compensation, social and affective strategies, or ectenic style found not to be significant predictor for these strategies.

Low predictive power of language learning styles for language learning strategies in this study could be due to taking generality (rather than specifity) aspect of styles. Future studies, focusing on detailed underneath styles could result in stronger predictability power as studies in the literature maintained.

Further, having non-significant equations (such as synoptic with affective strategies or ectenic with cognitive) could also indicate that some sort of mismatch existed between the styles and strategies of the students. In other words, since they were pre intermediate, not majoring in English, they were not expected to have good command of either styles or strategies.

The E & L construct theory (Ehrman & Leaver, 2003) characterized synoptics as people who subconsciously preferred to separate some aspect of experience to prioritize it, and showed responsiveness to the surrounding background. In this study, synoptics' preferences for metacognitive strategies by centering their learning in an efficient way, channeling their energy in the objectives and goals they set, indicated that synoptic learners were in a favorable position. Particularly, their preference for metacognitive strategies was in accordance with the characteristics of good language learners noted by O'Malley et al. (1985) and Oxford (1990). Besides, their application of social strategies by cooperation and empathizing with others indicated a great advantage for these students. They also employed memory strategies, though less than their ectenic counterparts, by creating mental linkages and applying images and sounds and employing action to be more strategic learner of the language.

With regard to Ehrman and Leaver's (ibid) account of ectenic learners, these learners tended to be systematic and focusing too much on details. The memory strategies adopted mostly by these groups of learners emphasized that they worked on particularities and could put pressure on themselves by consciously focusing on every details to the cost of losing the overall view. However, they were also users of metacognitive strategies, though less than memory strategies, by evaluating their learning and logical analysis of their language learning. Ecteninc learners, by means of metacognitive strategies, tended to construct a formal model of learning approach in their minds and created reflective and analytic general rules for English learning.

Concerning the second null hypothesis of the study, MANOVA found not to be significant, indicated no general differences for the two language learning styles groups on the interaction of the six subscales of SILL. That is, in general, the second null hypothesis of the study was maintained, indicating there found to be no significant difference between learners with either synoptic or ectenic dominant style in their application of language learning strategies. That is, both styles used strategies as frequently as each other. However, further analysis, applying univariate analyses of ANOVAs revealed significant detailed trends of differences in compensation and social strategies. Looking from this angle, synoptic style once more found to be in favorable position causing application of important strategies of compensation and social for communication of language. Compensation strategies could help synoptic learners to compensate for gaps in their knowledge of the target language through guessing or using circumlocution and synonyms. Social strategies could also serve them to seek opportunities to use language.

Qualitative differences between high achievers and low achievers in terms of their language learning style indicated high achievers to be synoptic driven, whereas low achievers were ectenic. Ehrman and Leaver (2003) also reported synoptics as the best language learners, because they were often both field independent and field sensitive; because they could see what was most important, and they could pick up language globally by being exposed to it.

Moody (1988) theorized that, because language is primarily symbolic, second language learning is more appealing to students who like variety, who dislike repetition, who are imaginative, and who are more adept at learning new concepts (synoptics in E & L Construct) than it is to students who rely on memorization as their foremost learning strategy, and who are more logical (ectenics in E & L Construct).

Qualitative differences between high achievers and low achievers in language learning strategies revealed outperformance of high achievers in all strategies in general and compensation strategies in particular. Chamot and Rubin (1994) maintained, "the good language learner cannot be described in terms of a single set of strategies but rather through the ability to understand and develop a personal set of effective strategies" (p. 372). In addition, Rubin (1987) identified successful language learners as the ones who employed compensation and social strategies because these strategies allowed the learners to remain in the conversation.

Finally, two key factors strengthening good language learners in this study found to be synoptic style, and general use of all strategies and specific use of compensation strategies. However, low achievers were mainly ectenic in style, and almost desperate candidates for compensation strategies.

V. CONCLUSION

The major findings presented in this study on the relationship between language learning styles and strategies are as follows:

1. Language learning styles provide some significant evidences for prediction of language learning strategy choices. Synoptic style positively predicts the use of more number of language learning strategies (memory, metacognitive, and social) than ectenic style (memory and metacognitive), thus turning out to be the more influential language learning style variable affecting learners' language learning strategy choices.

2. Although, there is no significant difference between students with either synoptic or ectenic dominant language learning style, in use of language learning strategies, there exist a trend, indicating synoptics apply more compensation and social language learning strategies.

3. High achievers contrast with low achievers in terms of language learning style, in that high achievers are more synoptic driven (tending to play their way through language learning, feel relaxed, and take risk in this process), whereas low achievers are more ectenic driven (tending to be meticulous about language learning, dislike ambiguity, and safeguard themselves by avoiding tentative steps).

4. High achievers contrast with low achievers in that high achievers are more frequent and sophisticated users of a large number of language learning strategies. They affectively compensate their shortcomings in language learning, whereas low achievers are good at memorization. In other words, low achievers are limited in the number and quality of their strategies use, and at the same time they are out of touch of affective and compensation strategies.

The results indicate that teachers could also help students discover and get familiar with their own learning styles in order to help them become self-aware learners. Strategy training based on learning styles would prepare instructors for dealing with learners of different learning styles. At the same time, teachers could also encourage students to experiment with extending their preferred styles by explicitly explaining to the students the importance of tapping strategies of other styles in order to help students work on the development of the style areas they feel less comfortable with. For instance, ectenic learners, who tend to concentrate on details and often avoid more free-flowing communicative activities, and are interested in rule-learning and dissecting words and sentences; could be encouraged to use compensation strategies like paraphrasing when they do not know a particular word, or to guess without looking up the information in the dictionary, or to have sufficient social conversational practice. In contrast, synoptic students, who use socially interactive, compensatory strategies, emphasizing the main idea over details, could be encouraged to notice to delicate details and grammatical accuracy.

Psychologically speaking, no one is entirely synoptic or ectenic in style. Students can access their less preferred style (and with them 'cross-type strategies'), just as they can use their less preferred hand (Ehrman & Oxford, 1990). Encountering students with complexity- the space between order and chaos- and shaping their zone of proximity or zone of learning would help in stretching or flexing their styles to be able to encounter different tasks in the classroom.

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