Beliefs about Language Learning and Strategy Use:

The Case of Iranian Non-English Majors

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Abstract

Beliefs about language learning and strategy use are important factors in the complex process of learning a foreign language. Although these variables have received much attention in past research, they have rarely been investigated in a general English context in an EFL setting. The present study aims to compare the frequency and pattern of strategy use and beliefs about language learning of students of Engineering, Agricultural Sciences and Theology majors. For this purpose, the BALLI (Beliefs about Language Learning Inventory) and SILL (Strategy Inventory for Language Learning) were given to 150 students. Two other variables, i.e., self-rated proficiency and length of time attending English classes were also included. The findings demonstrated that Engineering students use significantly higher number of strategies, are more motivated and find learning English easier ($P < 0.05$).

Keywords: Beliefs, Strategy, Engineering, Agricultural Sciences, Theology

1. Introduction

Nowadays, learning English has become a trend and need among students of all majors. Besides having a general English course at the university, students usually take extra classes to learn or improve their English. Therefore, learning English is not limited to students majoring in the English language.

Oxford (1990) defines language learning strategies (LLS) as “specific actions taken by language learners to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferrable to new situations” (p.8). Learning strategies can lead to learner autonomy and a more efficient learning experience. Additionally,beliefs are a key construct in every discipline which deals with education. Past research has revealed that learners bring to the learning environment a collection of attitudes, experiences, and expectations. Rifkin (2000) asserts that learners' beliefs about the learning process are "of critical importance to the success or failure of any student's efforts to master a foreign language" (p. 394). Furthermore, understanding learner beliefs about language learning is essential to understanding learner strategies and planning appropriate language instruction (Horwitz, 1999).

Inattention to LLS and beliefs about language learning can be a drawback in the facilitation of language learning. While learning a language may be a difficult process, taking into account factors such as the two mentioned can smooth the way and make the learning process easier and more effective.

2. Research questions

The present study focuses on the following research questions:

1) Are there any significant differences among Engineering, Agricultural Sciences and Theology majors in terms of LLS use?

2) Are there any significant differences among Engineering, Agricultural Sciences and Theology majors in terms of Beliefs about Language Learning?

3) Do learner variables such as self-rated proficiency and length of time learning English have a relationship with LLS use?

3. Empirical Framework

Much effort has gone into classifying the strategies that learners use (Rubin, 1981; O'Malley &Chamot, 1990; Oxford, 1990; Cohen, 1998). The most commonly cited are O`Malley and Chamot's classification (1990), based on a three-way distinction between cognitive, metacognitive, and socio-affective learning strategies and Oxford's (1990) taxonomy, with a general distinction made between direct and indirect strategies, each of which is then broken down into a number of subcategories.

According to Macaro (2001), studies in learner strategies fall into two basic categories: descriptive studies and intervention studies. Descriptive studies may define features of a good language learner and the total number of strategies that learners or group of learners use or compare strategy use between one group of learners and another group of learners. Intervention studies, on the other hand, deal with the process of learner training by teachers or researchers and see whether it is possible to bring about change in strategy use by learners. A number of factors, such as age, gender, motivation, attitude, cultural background and English proficiency may influence LLS use (Macaro, 2001).

Anugkakul (2011) compared strategy use by two groups of Thai and Chinese students. The relationship between the use of LLSs and variables – gender, nationality, and levels of English language proficiency was examined. it was found that gender and nationality had a significant effect on the students' use of overall LLSs, whereas levels of language proficiency had no significant effect on the strategy use Concerning strategy use by different disciplines, Oxford and Nyikos (1989) found a strong relationship between strategy use and academic major in a study of 1,200 university students in the U.S. Compared with technical majors and business majors, humanities/social science/education majors used *resourceful, independent strategies* significantly more often. These students also used *functional practice strategies* significantly more oftenthan technical majors, but not business majors. In another study done by Peacock and Ho (2003), English majors, for instance, reported much higher use of *cognitive*, *metacognitive*, and *social strategies* compared with the students from other disciplines, such as computer sciences, primary education and business.

In the area of language learning, different approaches for investigating learners' beliefs have been recognized, each using a different method. Ellis (2008, as cited in Ellis, 2002) categorizes these approaches into four groups, i.e., normative, metacognitive, contextual and metaphor analysis. The normative approach identifies beliefs by means of Likert-style questionnaires such as the Beliefs About Language Learning Inventory—BALLI (Horwitz, 1987).

The first to conduct a systematic research into the nature of language learning beliefs was Elaine Horwitz of the University of Texas at Austin. As part of her teaching program, Horwitz (1985) asked 25 language teachers to recall freely what they believed foreign language learning involved. They were specifically instructed to write down not only their own personal beliefs but also what they thought others believed about language learning. After the teachers' written answers were collected, she scrutinized them one by one, removed idiosyncratic opinions and kept 30 opinions as Beliefs about Language Learning Inventory (BALLI). Over the years, the BALLI has evolved into a 34-item questionnaire and has since been used to assess learners' beliefs by many researchers.

Sakui and Gaies (1999) conducted a study on the beliefs about language learning of Japanese university learners of English. The study found evidence that many of the respondents' beliefs about learning English correspond to the distinction which many teachers would make between traditional and contemporary approaches to language teaching and learning. Bernat and Lloyd (2007) investigated the relationship between beliefs about language learning and gender. They came to the conclusion that overall males and females had similar beliefs about language learning. Tanaka (2004) aimed to examine the changes in Japanese learners' of English belief systems over a 12 week period from the time they first arrived in New Zealand in the context of a study abroad programme. It also sought to examine the relationship between beliefs and language proficiency. She found that overall, the relationships between beliefs and proficiency measures were very weak. However, there were some changes in their beliefs. The learners became more balanced and realistic learners and recognized the importance of their own efforts and aptitude for learning English. Altan (2006) administered the BALLI to teacher education students and Turkish undergraduate students majoring in English, German, French, Japanese and Arabic at five universities.

Yang's (1999) study found that language learners' self-efficacy beliefs about learning English are strongly related to their use of all types of learning strategies, especially functional practice strategies. Also, learners' beliefs about the value and nature of learning spoken English are closely linked to their use of formal oral- practice strategies. Therefore, the results of the study suggested cyclical relationships between learners' beliefs and strategy use.

In another study by Chang and Shen (n.d.), the Beliefs about Language Learning Inventory (BALLI) and the Strategy Inventory for Language Learning (SILL) were used to investigate a sample of 250 Taiwanese remote junior high school EFL learners' language learning beliefs, their learning strategies, and the relationship between learners' beliefs and their

use of strategies. Additionally, the study examined if learner variables would influence learners' language learning beliefs and their language learning strategies. The results revealed that the participants in the study endorsed various beliefs and language learning strategies and a moderate correlation was found between them.

A number of studies have been conducted in the Iranian EFL context regarding strategy use and beliefs about language learning. Zare (2010) examined the pattern and frequency of strategy use among Iranian undergraduate students. The results showed that they are medium strategy users. Hashemi (2011) examined the role of gender in the strategy use of Iranian EFL students. His study revealed that female students use affective and compensatory strategies more than their male counterparts. The study done by Nikoopour, AminiFarsani and Neishabouri (2011) showed that Iranian MA TEFL students prefer to use metacognitive as the most frequently used language learning strategy.Regarding beliefs about language learning, Khodadady (2009) administered the BALLI to 418 undergraduate and graduate university students who majored in Teaching English as a Foreign Language, English Language and Literature and English Translation.

Overall, research on beliefs and language learning strategies has received much attention in ELT due to the focus on the characteristics of a good language learner (Rubin, 1975; Stern, 1975) and so a shift of interest from the teacher to the learner. Although as mentioned above, some studies have been conducted on Iranian EFL students, no study has been done on a sample of non-English major students majoring in fields other than English. Thus, the present research attempts to fill this gap by investigating Iranian students majoring in fields other than English.

4. Methodology

4.1 Instruments:

The instruments for data collection included the Strategy Inventory for Language Learning questionnaire (SILL) version 7.0 (Oxford, 1990) and the Beliefs about Language Learning Inventory (BALLI) (Horwitz, 1987) (see Appendix).

The ESL/EFL SILL (7.0 version) was used in this study to measure the strategy use of. The SILL is the most widely used instrument for identifying strategies and has tested and translated in many countries (Brown, 2001).The 50 items in the questionnaire are grouped into six categoriesof strategies: memory - storing and retrieving information (9 items), cognitive--understanding and producing the language (14 items), compensation -overcoming limitations in language learning (6 items), meta-cognitive -centering and directing learning (9 items), affective - controlling emotions, motivation (6 items), and social -cooperating with others in language learning (6 items). In this study, the SILL contained the 50 original items, plus an open-ended item added by the researcher, which was used for any additional strategies or comments by the participants. The Persian translated version of the SILL inventory which was validated for Iranian learners by Tahmasebi (1999) was used. What is different about the Persian version is that the items are scrambled so that no two items belonging to the same category are adjacent. Furthermore, in order to suit the Iranian EFL context, the items *I ask English speakers to correct me when I talk, I ask for help from English speakers*and*I watch English language TV shows spoken in English or go to movies spoken in English* have been changed to*I ask my teacher or those who know English to correct me when I talk, I ask for help from my teacher or those who know English* and *I watch English language TV shows or movies spoken in English*, respectively. Cronbach's alpha reliability of the Persian version used in this study was 0.91.

The items on the BALLI assessed learners' beliefs in five areas: 1) the difficulty of language learning (6items), 2) foreign language aptitude (9 items), 3) the nature of language learning (6 items), 4) learning and communication strategies (8 items), and 5) motivation and expectations (5 items). The BALLI was translated intoPersian by the researchers. The translated version was substantiated by two experts in the field. Cronbach's alpha reliability of the translatedversion of the BALLI was 0.68.Since the target language for all participants was English, some items of the inventory were modified. For example, belief five in Horwitz's BALLI (1988) reads, *the languageI am trying to learn is structured in the same way as English*. The clause *the language I am trying to learn* was changed to *English*. Also *English* was changed to *Persian*, because it was assumed to be the first language of most of the participants.For items # 30 & 33, the word *American* was changed to *Iranian*, since the study is carried out in Iran and all the participants are Iranian. An open-ended question was added in the end for further comments by the participants.In addition, students were required to answer questions regarding their field of study, self-rated English proficiency and length of time attending extracurricular English classes. It should be noted that self- rating of language proficiencyhas been used by many researchers (e.g. Ying &Liese, 1994; Duan, 2006; Smith &Baldauf Jr., 1982).

4.2 Participants

A total of 150 students (N=150), majoring in Theology (N=50), Engineering (N=50), and Agricultural Sciences (N=50) participated in the study. They were all students at Ferdowsi University of Mashhad (a city in northeastern Iran) and included both males and females. Most of them were freshmen and about the same age (20 years old).They were taking

a 3-credit "General English" Course at the university.

4.3 Procedure and Data Analysis

The translated versions of SILL and BALLI were administered to the participants during their General English course. The time allocated for responding each questionnaire were 20 and 15 minutes, respectively. The participants were asked to complete the questionnaires carefully due to their importance in the results of the research. Upon completion, the questionnaires were collected. The data was analyzed by using The Statistical Package for Social Sciences Version 17 with alpha set at 0.05.

They are put in the ranges of the frequency of the strategy use and categorized into three levels – high, medium, and low – which is based on Oxford's SILL average analysis (Oxford, 1990).

<Table 1 about here>

For analyzing the BALLI choice *strongly agree* was given 5 points, *agree* was given 4 points, *neither agree nor disagree* 3 points, *disagree*, 2 points and *strongly disagree*, 1 point. Thus, the Likert-scale was turned into an interval scale. Similarly, the Likert-scale in SILL was turned into an interval scale. Different statistics, such as Descriptive Statistics, Pearson Product Moment Correlation, and ANOVA were employed in order to obtain the results.

5. Results and Discussion

<Figure 1 about here>

The above figure demonstrates the frequency of strategy use among students of Engineering, Agricultural Sciences and Theology majors.

<Table 2 about here>

The results indicate differences in the pattern of strategy use in students of different fields of study. Based on Oxford's (1990) classification, students of all three majors are overall medium strategy users: Engineering (Mean= 2.91), Agricultural Sciences (Mean= 2.87) and Theology (Mean= 2.58).

Students of Engineering and Agricultural Sciences employ cognitive strategies the most, while students of Theology use more memory strategies. In all three groups, social and affective strategies are used the least.The results are contrary to those of studies done on students majoring in English Translation and Teaching English (Sadighi&Zarafshan, 2006), who were reported to use metacognitive, social, affective, and compensation strategies more frequently than memory and cognitive ones**.**

Regarding cognitive strategies, Iranian non-English major students spend more time on repeating, using formulas and patterns, translating, analyzing contrastively between English and Persian, and reasoning deductively. An important reason that accounts for the use of memory strategies is the students' educational background. During high school, students are required to memorize long lists of vocabulary and grammatical rules. Basically, the most commonly accepted techniques for language learning in the country are repetition and memorization.

Based on Oxford's (1990) classification, students of all three groups are low strategy users in terms of affective strategies: Engineering: (Mean= 2.19), Agricultural Sciences (Mean= 2.21) and Theology (Mean = 2.12). Unfortunately, it seems that students are not aware of affective strategies, such as self-encouragement, rewarding themselves, and writing in a language learning diary. Neither do they make much use of social and metacognitive strategies. Experts agree that the appropriate use of metacognitive strategies influences the learning process positively (Anderson, 2002; Livingston, 1997).

<Table 3 about here>

The results of ANOVA show that there is a significant difference in strategy use among the three majors, with Engineering students using the most. ($P< 0.05$). In order to locate the area of difference a post hoc test (Scheffe) was used.

<Table 4 about here>

The results of the post hoc comparison reveal that there is a significant difference in strategy use between Engineering and Theology students ($P=0.009$) with $p<0.05$, and a significant difference between Agricultural Science students and Theology majors ($p=0.022$), $P<0.05$.

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<Table 5 about here>

5.1 Beliefs about foreign language aptitude

The above table indicates that the difference in means for beliefs about foreign language aptitude among the three majors is not significant ($p > 0.05$). Concerning the item *It is easier for adults than children to learn a foreign language*, 75.3 percent of all the participants agreed. Moreover, 62 percent of the total population strongly agreed that *some people have a special ability for learning foreign languages.* Concerning the statement *it is easier for someone who already knows a foreign language to learn another one*, 76 percent either agreed or strongly agreed. The majority (57.7%) neither agreed nor disagreed that *Iranians are good at learning English*.However, there was great difference in the perception of the three groups regarding their aptitude in learning English. 90 percent of Engineering students agreed that they have a special ability for learning English, while the percentage for students of agricultural sciences and Theology was 45 and 32, respectively.

5.2 Nature of foreign language learning

The results of ANOVA also indicateno significant difference among the three groups concerning their beliefs about the nature of foreign language learning ($p > 0.05$). Concerning the statement *English is structured the same as Persian*, 47.7% disagreed. 44.7% believed that *for learning English, it is necessary to learn about speaking cultures*, and 45.4% agreed that *it is best to learn English in an English speaking country.*

5.3 Difficulty of language learning

The results of ANOVA show a significant difference between the three majors regarding their beliefs about the difficulty of learning English ($p < 0.05$). The percentage of students of Theology who believe that *it is easier to read and write English than to speak and understand it* is 50%, while for students of Engineering and agricultural sciences, it is 30% and 42%, respectively. Interestingly, only12.2% of Engineering students perceive learning English as difficult. A total of 18% of students majoring in agricultural sciences see learning the language as difficult or very difficult. Regarding the students of Theology, 42% conceive of the English language as difficult or very difficult to learn.

5.4 Communication

The results of ANOVA do not indicate a significant difference in this category between the three groups ($p > 0.05$). With respect to the statement *I use opportunities for speaking English*; the overall percentage of agreement was fairly low, with only 24% of the total population. This shows the reluctance of students of non-English majors to communicate in English. Likewise, a large percentage (78%) of the participants feels shy when speaking English in front of others.

5.5 Motivation and expectations

The results of ANOVA indicate a significant difference between the three groups regarding this category of beliefs ($p < 0.05$). Engineering students are more motivated to learn English. Regarding the statement *Learning English will have an impact on my future career*, 96% of Engineering students strongly agreed, whereas the percentage was 78% for students of agricultural sciences and only 30% for students of Theology.

<Table 6 about here>

The above table indicates that there is significant correlation between students' self-rated level of English proficiency and the period they have attended extra-curricular English classes. Thus, those students who have had the experience of participation in English classes other than high school or university think of themselves as more proficient.

<Table 7 about here>

The table shows that students, who perceive themselves as more proficient, use more strategies for language learning. Therefore, there is a positive relationship between perceived language proficiency and strategy use.

<Table 8 about here>

The findings also indicate that those students who attend extra classes use more LLS. Attending extra classes increases the students' self-confidence and awareness of their own role in the facilitation of the learning process. In the open-ended questions, students wrote that watching films in English is the most helpful strategy for improving their English. Some of the specific strategies that they reported using were: modifying the rhythm of English words to sound like Persian, translating words into English when reading Persian newspapers, paying attention to certain words when watching English movies (selective listening), learning grammar rules by looking at examples of sentence structure (inductive learning), listening to English music while walking, thinking in English, and reading lyrics of songs while listening to them. The participants' stated beliefs included: learning English should be consistent and for a long period, the General English courses held in the university are not adequate, learning English should be based on certain goals; English instruction should begin in elementary schools like many other countries and so everyone would have an equal chance of learning the language.

6. Conclusion

This study compared LLS use and beliefs about language learning in students majoring in fields other than English. As mentioned in the introduction, there is a research gap in this respect. The importance of learning English should be taken into account by everyone and even those who do not major in the field need to become aware of ways to facilitate the learning process.

The findings of the research show that cognitive and memory strategies are used the most in all three groups of Engineering, Theology and Agricultural Sciences, whereas, social and affective strategies are employed the least. There is a significant difference in strategy use between Engineering and Theology students, and also Agricultural Sciences and Theology students. Theology students use more memory strategies in comparison with students of the other two fields. Students of the three groups share similar views towards learning English as measured by BALLI except in the two categories of motivation and difficulty of language learning.

As to the other variables included in the study, i.e., self-rated proficiency and length of time attending extracurricular English classes, there is a significantly positive correlation among them, with strategy use, and beliefs about language learning. Furthermore, Engineering students have the highest level of self-rated proficiency, while students of Theology have the least.

An implication of this study is to raise non-English major students' consciousness in the area of strategy use in learning English. Indeed, strategies for language learning are not restricted to students of English majors. University professors teaching General English Courses can familiarize their students with the different types of strategy use, especially affective and social ones, since they are not used much. They can ask them to use these strategies in classrooms, in order to promote direct attention to their importance. Another implication is to make use of Engineering students' higher level of motivation and perceived need for learning the language, and to pay more attention to their General English Courses.

This study had some limitations. First of all, only students from Ferdowsi University were included. Secondly, only three fields of study were taken into account. However, it should be noted that the fields were general, included subbranches, and had different natures. Other studies should be done with larger and more representative samples to make the results more generalizable.

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Table 1. Levels for frequency of the strategy used

High	4.5-5.0	Always or almost always used
	3.5-4.4	Often used
Medium	2.5-3.4	Sometimes used
Low	1.5-2.4	Seldom used
	1.0-1.4	Never or almost never used

Table 2. Difference in LLS use among the three groups

Strategy group	Engineering		Science		Theology		F	df	P-value
	Mean	SD	Mean	SD	Mean	SD			
Cognitive	3.36	.767	3.58	.784	2.98	.754	6.272	2	.003
Memory	3.14	.803	2.74	.563	3.27	.710	5.978	2	.003
Compensation	2.90	.832	2.97	.630	2.47	.650	5.812	2	.004
Metacognitive	2.94	.577	3.05	.642	2.87	.509	.993	2	.374
Social	2.63	.680	2.55	.906	2.25	.663	2.757	2	.068
Affective	2.19	.506	2.21	.393	2.12	.664	.306	2	.737

Table 3. Difference in overall strategy use among the three majors

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.539	2	1.269	5.976	.003
Within Groups	24.428	115	.212		
Total	26.967	117			

Table4. Area of difference in strategy use among the three majors

Multiple Comparisons

Scheffe						
(I) major	(J) major	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Science	Engineering	-.03910	.10440	.932	-.2980	.2198
	Theology	.28899*	.10306	.022	.0334	.5446
Engineering	Science	.03910	.10440	.932	-.2198	.2980
	Theology	.32809*	.10440	.009	.0692	.5870
Theology	Science	-.28899*	.10306	.022	-.5446	-.0334
	Engineering	-.32809*	.10440	.009	-.5870	-.0692

*. The mean difference is significant at the 0.05 level.

Table 5. Difference in components of BALLI among the three majors

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Communication	Between Groups	1.535	2	.768	1.278	.282
	Within Groups	88.294	147	.601		
	Total	89.830	149			
Nature	Between Groups	1.309	2	.655	1.946	.147
	Within Groups	49.456	147	.336		
	Total	50.765	149			
Aptitude	Between Groups	.329	2	.164	.843	.433
	Within Groups	28.684	147	.195		
	Total	29.013	149			
Difficulty	Between Groups	1.594	2	.797	4.461	.013
	Within Groups	26.264	147	.179		
	Total	27.858	149			
Motivation	Between Groups	5.967	2	2.983	3.218	.043
	Within Groups	136.297	147	.927		
	Total	142.264	149			

Table 6. Relationship between self-rated proficiency and attendance of extra classes

Correlations

		Proficiency	Extra Classes
Proficiency	Pearson Correlation	1	.513**
	Sig. (2-tailed)		.000
	N	150	150
Extra Classes	Pearson Correlation	.513**	1
	Sig. (2-tailed)	.000	
	N	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

Table 7. Relationship between self-rated proficiency and strategy use

Correlations

		Proficiency	Strategy
Proficiency	Pearson Correlation	1	.450**
	Sig. (2-tailed)		.000
	N	141	141
Strategy	Pearson Correlation	.450**	1
	Sig. (2-tailed)	.000	
	N	141	150

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8. Relationship between strategy use and attendance of extra classes

Correlations

		Strategy	Extra Classes
Strategy	Pearson Correlation	1	.374**
	Sig. (2-tailed)		.000
	N	150	136
Extra Classes	Pearson Correlation	.374**	1
	Sig. (2-tailed)	.000	
	N	136	136

**. Correlation is significant at the 0.01 level (2-tailed).

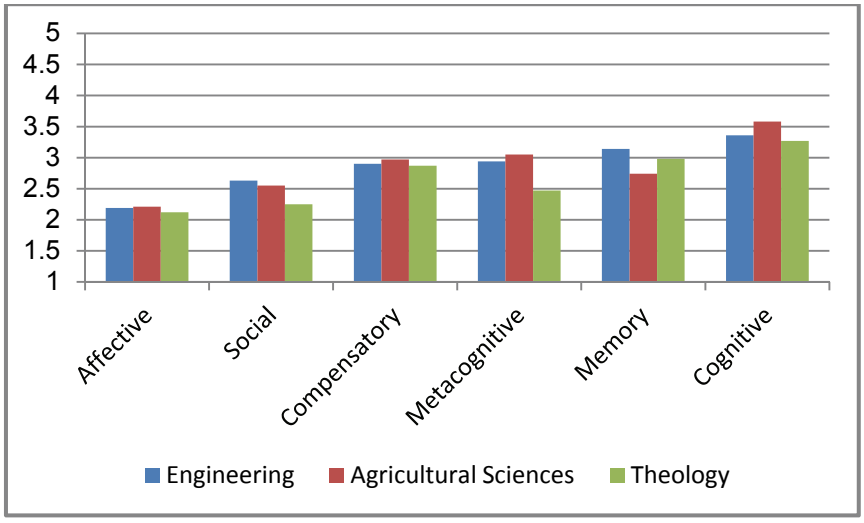

Figure 1. Frequency of strategy use among the three groups