

# Variation of learning Styles among Iranian EFL Learners: Effects of Culture, Language Background and Gender

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## *Abstract*

The overall aim of the present study was to investigate the learning style preferences of Iranian EFL learners majoring in English with two different cultural backgrounds. To do so, the web-based version of Felder and Solomon (1997) Index of Learning Style (ILS) was administered to evaluate the respondents' preferences on four scales of the Index. The total sample of the subjects included 260 EFL learners, 160 Kurdish and 100 Persian native speakers, who studied English at Ilam University and Ilam Azad University, Ilam branch. Descriptive statistics analysis showed certain differences between learning style preferences of the subjects. Kurdish students appeared to have more preference for Sensing, Sequential, and Reflective dimensions, whereas Persian students had more preference for Active, Intuitive, Visual, Verbal, and Global dimensions. Yet, The results of the Chi-square statistics indicated that only the differences in the Sensing/Intuitive scale and Sequential/Global scale were significant at ( $p < 0.05$ ) and ( $P < 0.01$ ) respectively. The study also indicated that both groups represented different gender-bound variations in preference for the given dimensions. Female Kurdish students showed more preferences on all dimensions of the Index (Active, Reflective, Sensing, Intuitive, Verbal, and Sequential) except for the Visual and Global ones. On the contrary, in the Persian group male students represented stronger preferences on all dimensions (Active, Reflective, Sensing, Intuitive, Visual, Verbal, and Global) except for the Sequential one

**Key Words:** Learning styles, Cultural learning styles, Learning Style Index, gender-bound learning style

## **1. Introduction**

Claxton and Murrell (1987) maintain that learning is the most important concept which demands

attention in education. It is also true that people take in and comprehend information in different manners. The idea that people learn differently is venerable and has probably its origin with Ancient Greeks (Wratcher, Morison, Rieley, & Schierston, 1997). Accordingly, educators have for many years noticed that some students prefer certain methods of learning over others. Some like to see and others like to hear. Some prefer to learn individually, independent of others, while others enjoy interaction and relationship with their peers (Riazi & Riasati, 2007). These dispositions, referred to as learning styles, form a student unique learning preference and aid teachers in the planning of small group and individualized instruction (Kemp, Morison, & Ross, 1998, p.40).

As Riazi and Riasati (2007) maintain, in recent years with the shift of attention from an instructional approach to a learner oriented approach, understanding how people learn is highly important. It is also the key to educational improvement.

Learning styles have been extensively discussed in the educational psychology literature (Claxton & Murrell, 1987; Schemeck, 1998) and specifically in the context of language learning by Oxford and her colleagues (Oxford, 1990; Oxford, Erhman & Lavine, 1991; Wallace & Oxford, 1992; Oxford & Erhman, 1993). Still, a number of studies have also attempted to identify the learning style preferences across different cultures. The intended purpose of the present study is to determine the learning style preferences of Iranian EFL students with Kurdish and Persian sub-cultures to see if a difference can be observed in their preferences. In addition, the relationship between gender and learning styles will be brought under investigation.

## **2. Review of the Related Literature**

Research on learning styles comes from several disciplines, contributing to the disjointed, inconsistent and often contradictory information regarding what learning styles are and how they can be measured (Heillberg & Tharp, 2002). According

to De Bello (1990), there are nearly as many definitions of learning styles as there are theories. The most recent definitions are those proposed by Dybvig (2004) and Vester (2005). Dybvig defines the learning style as the way a person processes, internalizes, and studies new and challenging materials. For Vester, a learning style is the more or less consistent way in which a person perceives, conceptualizes, organizes, and recalls information. What these definitions have in common is that learning styles are individual preferences in a learning situation which are characterized by their relative consistency.

### 2.1 Learning Style Models

There is no agreement on the number or variety of learning styles. This is why a good numbers of learning style models can be found in the research on this subject. Felder-Silverman's (1993) learning style model upon which the present study is based, is one of the most popular learning style models in the area of information processing, a brief discussion of which follows.

Richard Felder and Linda Silverman formulated this learning style model in 1988. The proposed model was a five dimension dichotomy that was related to the information transfer to an individual. However, in 1993, Felder made two significant changes in the model. He dropped out the inductive/deductive dimension and changed the visual/auditory to visual/verbal. Hence, the 1993 version is a four dimension learning style model that assesses preferences on one category or the other in each of the following four dimensions:

- Sensing/intuitive
- Visual/verbal
- Active/reflective
- Sequential/Global

Felder (1993) describes the characteristics of these learning preferences as follows.

- Sensing /intuitive learners: sensors tend to be concrete and methodical, intuitors to be abstract and imaginative. Sensors like facts, data, and experimentations; intuitors are bored by detail and welcome complications.
- Visual/verbal learners: visual learners prefer the information to be presented visually. Verbal learners prefer spoken or written explanations to visual presentations.
- Active/reflective learners: active learners have a natural tendency toward active experimentation while reflective learners toward reflective observation.
- Sequential/global learners: Sequential learners absorb information and acquire understanding of material in small connected chunks. Global learners take in information in seemingly unconnected

fragments and achieve understanding in large holistic leaps.

### 2.2 Cultural Learning Styles

The concept of cultural learning styles finds its basis in learning style theory. Learning style theory, as Irvin and York (1995) note, maintains that students prefer one way or style of learning over another. The concept of cultural learning style goes a step further by suggesting that cultural upbringing plays a decisive role in determining a student's learning style (Heredia, 1999). That is, a cultural group values and traditional life style may, through child rearing practices, influence learning styles that individual will develop (Worthley, 1999).

Both quantitative and qualitative studies in cross-cultural settings support a relationship between culture and learning (e. g., Cole, Gay, Glick, & Sharp, 1971; Cooper, 1980; Reynolds & Skillbeck, 1976; Swisher & Deyhle, 1989; Vyas, 1988; Yu & Brain, 1985). This perspective is not new and has been discussed in scholarly research works for decades. To Heredia (1999), Cultural learning styles are those learning styles of an individual that are the product of his or her cultural background and upbringing. Hays and Allison (1988) maintain that the culture of a country is one of the powerful socialization agents that have great impact upon the development of learning styles. Hofstede (1997) argues that a country's culture shapes its people preferred modes of learning through their socialization practices. With reference to his comparative study of self-conceptions between Chinese and Western societies, Pratt (1991) also claims that learning styles may be distinguishable across cultures. More recently, De Vita (2001) suggests that there is little room for doubt about cultural effects upon the development of learning styles. Earlier, Hofstede (1980) considered individualism-collectivism dimension as one of the most important learning style dimensions which differentiates cultures. Individualism-collectivism refers to the fact that some cultures place primary emphasis upon the individual and the self, while others consider the group as the central focus of society. For instance, Russia and its newly independent states remain cultures closer to the collective dimension rather than the individual dimension. The emphasis on the group rather than the individual holds true for many other cultures and stands in contrast to those cultures as the British or French, which emphasize individualism or reliance upon one's self rather than adherence to one's group (Gudykust, Hofstede 1980; Stewart, & Ting-Toomey, 1985; Triandis, 1995; Gudykust, 1998).

### 2.3 Studies on Culture and Learning Styles

Numerous studies have attempted to identify learning style preferences among students from a variety of cultures. To be brief, a chronological representation of the most recent works is discussed. Park (2000) investigated the basic perceptual learning style preferences (auditory, visual, kinesthetic, and tactile) and preferences for group and individual learning of Cambodian, Hmong, Lao, and Vietnamese students and compared them with those of White students. He found significant ethnic group differences in the learning style preferences of Southeast Asian and White students as well as significant differences within diverse Southeast Asian groups. He also investigated the learning styles of English learners (Armenia, Hmong, Korean, Mexican, and Vietnamese) in secondary schools. As he maintains, for statistical analyses a multivariate analysis of variance (MANOVA) and post hoc multiple comparisons of means tests (Scheffé tests) were used. A sample of 587 cases collected from 20 high schools in California found significant ethnic group differences as well as achievement level differences in basic learning preferences. Students in this study favored a variety of instructional strategies. They exhibited either major or minor preferences for all four basic perceptual learning styles but significant ethnic group differences in preferences for group and individual learning. All students exhibited tactile learning. Hmong, Mexican, and Vietnamese students preferred group learning while Armenian and Korean students did not. Nevertheless, all five ethnic groups showed either major or minor preferences for visual learning

Wintergerst, Decapua, and Marline (2003) tried to explore the learning style preferences of three different populations; Russian EFL students, Russian ESL students, and Asian EFL students. Findings revealed that these three groups of learners preferred group activity above individual work, with the Russian EFL and Asian ESL students favoring group work and project work.

Caldwell, Workman, and Lee, (2005) examined perceptual modality preferences of students from South Korea, Swaziland, and United States who were enrolled in fashion design and merchandising classes. The research indicated that perceptual modality preferences are influenced by cultural differences in family socialization, language, educational experiences, traditions, values, and beliefs. Students from South Korea, Swaziland, and the United States differed significantly in six of the seven perceptual modalities: Print, Interactive, Visual, Haptic, Kinesthetic, and Olfactory. For instance, Swaziland students indicated strongest preference for the print modality.

Studies have also been done on Iranian EFL students' learning styles. The most recent research is conducted by Riazi and Riasati (2007). In their study on learning style preferences of Iranian EFL learners, they found that these students preferred to be actively engaged in class activities. They tended to have interactions with other students in the class. Nevertheless, the idea of Cultural learning style has not been investigated in our country. Reviewing this literature, the present study was conducted with the aim of investigating the learning style preferences of Iranian EFL learners majoring in English with two subcultures, Kurdish and Persian.

### 3. Statement of the Problem

It has been the researchers' experience both as instructors and as language learners that much of the boredom, lack of success and frustration students experience at college can be due to students' unconsciousness of their learning style preferences and instructors' unawareness of their students' preferred learning styles. Considering this problem and because of the important role that culture plays in shaping the learning preferences and learning styles of the students (Anderson, 1988; Longstreet, 1994), the current study attempted to identify the learning style preferences of Iranian EFL learners majoring in English with Kurdish and Persian sub-cultures and to report any similarity or difference between the two.

### 4. Research Questions

In line with the above mentioned intent, the following questions were addressed in the study:

1. What are the learning style preferences of Iranian Kurdish EFL learners as measured by Felder-Solomon (1997) Index of Learning Style?
2. What are the learning style preferences of Iranian Persian EFL learners as measured by Felder-Solomon (1997) Index of Learning Style?
3. Is there a significant difference between the learning style preferences of Kurdish EFL learners and Persian EFL learners as measured by Felder-Solomon (1997) Index of Learning Style?
4. Does participants' gender play any role in their tendency for the given dimensions?

### 5. Research Hypothesis

H01: There is no significant difference between the learning style preferences of Kurdish and Persian EFL learners as measured by Felder-Solomon (1997) Learning Style Index.

H02. EFL learners show no gender-bound preference for learning styles.

## 6. Methodology

### 6.1 Participants

The population from which the sample was selected included all EFL students majoring in English at Ilam University and Ilam Azad University, Ilam branch. 320 students participated in the study out of which 160 Kurdish and 100 Persian EFL learners constituted the final sample of the study. The remainders were Arab, Lurish, and Turkish EFL learners who were eliminated due to the intended purpose of the study. A non-probability convenience sampling method was adopted simply because it was the only possibility for carrying out the research. Table 1 represents subjects' number, years of study, and gender.

Table 1. Kurdish and Persian Participants by Gender and Level.

	<b>Females</b>	<b>Number</b>	<b>Total</b>	<b>Percent</b>
<b>Kurdish</b>	First Year	20	97	60.63
	Second Year	24		
	Third Year	26		
	Fourth Year	27		
	<b>Males</b>		63	39.37
	First Year	23		
	Second Year	19		
	Third Year	14		
Fourth Year	7			
<b>Persian</b>	<b>Females</b>		60	60
	First Year	12		
	Second Year	23		
	Third Year	16		
	Fourth Year	9		
	<b>Males</b>		40	40
	First Year	11		
	Second Year	11		
Third Year	10			
Fourth Year	8			

### 6.2 Instrument

The instrument used in this study was Felder-Solomon (1997) Index of Learning Style (ILS). It is a 44 question instrument designed to assess preferences on four dimensions of the Felder-Silverman model. An initial version was created in 1991 by Richard Felder and Barbara Solomon of North Carolina State University. In 1993, several hundred sets of responses to version 1 were collected and subjected to factor analysis, and items that did not load significantly on single factors were discarded and replaced by new items to create the current version. A pencil-and-paper version of the instrument was put on the World Wide Web in 1996 and an Online version was added in 1997 (Felder & Spurlin, 2005). When someone submits a completed

ILS questionnaire Online, a profile is immediately returned with score on all four dimensions, brief explanation of their meanings, and links to references that provide more detail about how the scores should and should not be interpreted. The rationale behind adopting this index was threefold. First, the reliability and validity of the Index are satisfactory. Second, it is one of the most widely used learning style instruments for determining the learning style preferences of college and university level students (Devita, 2001; Livesay, Dee, Numan, & Hites, 2002; Zywno, 2003, among others). Finally, it is Online, free, and easy to access.

### 6.3 Procedure

The required data were collected through administering the Persian translation of ILS questionnaire. The questionnaire was given to students during their regular class sessions. Instruction as how to complete the questionnaire was given in Persian. The participants were reminded that the questionnaire was only a self-report instrument with no negative effect on their final exams. After collecting the completed questionnaires, the researchers gave an identification number to each questionnaire and submitted the responses online. After a few seconds, the learning style result for each student and the description on how to interpret them was returned to the researchers. A copy of the result for one participant is provided as appendix A.

## 7. Results and Discussion

To fulfill the requirements of the study, the frequency distributions were calculated for both groups under investigations. Table 2 provides the results for the Kurdish group.

Table2. Frequency Distribution of Learning Styles for Kurdish Students. (n =160)

	<b>Balanced</b>	<b>Moderate</b>	<b>Strong</b>
<b>Style Dimension</b>	<b>1-3</b>	<b>5-7</b>	<b>9-11</b>
Active	49	36	5
Reflective	54	15	1
Sensing	46	60	25
Intuitive	24	5	—
Visual	34	61	29
Verbal	41	5	—
Sequential	58	34	18
Global	52	7	—

As the results indicate, the majority of Kurdish students (64.37 %) were well-balanced on the two dimensions of the Active/Reflective scale. 22.50 % had moderate preference and only 3.12% of them expressed their strong preference for Active dimension. This is while, 9.37 % of Kurdish students showed a moderate preference for reflective and only one person (0.62 %) showed his/her strong preference for this dimension. So, it can be concluded that Kurdish students are more active than reflective with a moderate preference for active dimension.

Regarding the sensing/Intuitive scale, 43.75% of Kurdish students were well-balanced on the two dimensions of this scale. 37.5% showed a moderate and 15.62% a strong preference for sensing. In contrast, only 3.12% of the students showed a moderate preference for intuitive dimension, and nobody showed strong preference for this dimension. So, it seems that Kurdish students are more sensory than intuitive learners with a moderate preference for sensing.

In the Visual/Verbal scale of the ILS Index, 46.62% of Kurdish students were well-balanced on the two dimensions of this scale. 38.12% expressed their moderate preference and 18% showed their very strong preference for visual dimension. Whereas, 3.12% of Kurdish students were moderately and no one was strongly verbal. Thus, it can be understood that Kurdish students are likely to prefer to learn visually than verbally.

Considering the Sequential/Global scale, most of Kurdish students (68.30%) were well-balanced on the two dimensions of this scale. 21.25% had moderate preference and 11.25% expressed very strong preference for sequential, and only 4.37% showed their moderate preference for global dimension. therefore, it seems that Kurdish students are more sequential than global learners. This means that they prefer to have information presented linearly and in an orderly manner.

Table 3. Frequency Distribution of Learning Styles for Persian Students.

	Balanced	Moderate	Strong
Dimension	1-3	5-7	9-11
Active	22	20	6
Reflective	44	5	3
Sensing	23	14	25
Intuitive	27	6	5

Visual	22	34	22
Verbal	16	4	2
Sequential	38	14	5
Global	25	12	6

The results for the Persian group are provided in Table 3. Considering the data shown above, one can interpret that the majority of Persian students (66%) were well-balanced on the Active/Reflective scale. 20% showed a moderate preference and a small percentage of them (6%) had a very strong preference for Active dimension. As for their preferences for the Reflective dimension, only 5% showed moderate preference and 3%, a very strong preference. This implies that Persian students are more Active than Reflective with a moderate preference for Active dimension.

As the results in table 3 indicate, 50% of Persian students were well-balanced on the two dimensions of the Sensing/Intuitive scale. 14% expressed their moderate preference and 25% showed their very strong preference for sensing dimension. In the intuitive dimension, 6% had moderate preference and 5% had strong preference. Thus it can be concluded that Persian students are more Sensing than Intuitive with a strong preference for Sensing. Considering the Visual/Verbal scale, 38% of Persian students were well-balanced on the two dimensions of this scale. 34% had moderate preference, and 22% showed very strong preference for Visual dimension. This is while, only 4% of the students expressed their moderate and 2% their very strong preference for Verbal dimension. Therefore, it can be inferred that Persian students are strongly Visual learners.

In the Sequential/Global scale, 63% of Persian students were well-balanced on the two dimensions of this scale. 14% had moderate preference, and 5% showed very strong preference for Sequential dimension. On the contrary, 12% of the students showed a moderate preference and 6% a very strong preference for Global dimension. It can be understood that with a little difference between the two dimensions, Persian students prefer to learn Sequentially than Globally

In the second phase of the study and in order to answer the third question of the study, strengths of preferences of Kurdish and Persian students were compared. Summary of the results are presented in Table 4.

Table 4. Strengths of Preferences of Kurdish and Persian Students.

Scale	Strengths	Kurdish	Persian
<i>Active</i>	<i>Mod-Str</i>	25.62	26
<i>Reflective</i>	<i>Mod-Str</i>	9.9	8
<i>Sensing</i>	<i>Mod-Str</i>	53.12	39
<i>intuitive</i>	<i>Mod-Str</i>	3.12	11
<i>Visual</i>	<i>Mod-Str</i>	56.12	66
<i>Verbal</i>	<i>Mod-Str</i>	3.12	6
<i>sequential</i>	<i>Mod-Str</i>	32.50	20
<i>Global</i>	<i>Mod-Str</i>	4.37	18

Note Mod-Str=moderate-strong

As the results in table 4 indicate, Kurdish students had more preference for Sensing (53.12% as opposed to 39%), Sequential, (32.50% as opposed to 20%), and Reflective (16% as opposed to 8%) dimensions of Felder-Solomon Index of Learning Style. Persian students showed more preferences for other dimensions: 26% as opposed to 25% in the case of Active dimension, 66% as opposed to 56.2% in the Visual dimension, 11% as opposed to 3.12% in the case of Intuitive dimension, 6% as opposed to 3.12% in the Verbal dimension, and finally, 18% as opposed to 4.37% in the case of Global dimension.

In order to check the significance of the difference between these preferences, the obtained data were subjected to Chi-square computation. Tables 5 to 8 represent the Chi-square results for four scales of the Index of Learning Style

• **Active/Reflective scale**

Table 5 represents the Chi-square results for Active/Reflective scale.

Table 5. Chi-square Results for Active-Reflective Scale.

	Scale	Observed	Expected	Chi-square
Kurdish	Active	41	41.96	0.11
	Reflective	26	25.03	
Persian	Active	16	15.03	
	Reflective	8	8.96	

The calculated Chi-square value in the study is 0.11. Since the critical Chi-square value ( $\chi= 3.84$ ,  $p<0.05$ ) is greater than the calculated value, the null-hypothesis is accepted in the Active/Reflective scale. This implies that there is no significant

difference between learning style preferences of Kurdish and Persian students in the Active/Reflective scale.

• **Sensing-Intuitive Scale:**

Table 6 displays the Chi-square results for Sensing/Intuitive scale.

Table 6. Chi-square Results for Sensing/Intuitive Scale.

	Scale	Observed	Expected	Chi-square
Kurdish	Sensing	85	79.71	8.85
	Intuitive	39	44.28	
Persian	Sensing	5	10.28	
	Intuitive	11	5.71	

Because the observed Chi-square exceeds the critical value ( $\chi= 7.87$ ) at  $p< 0.005$  level, we can reject the null hypothesis in the Sensing/Intuitive scale at this level. Therefore, it is true to say that there is a significant difference between learning style preferences of Kurdish and Persian students in Sensing/Intuitive scale and that Kurdish students are more Sensing than Persian student.

• **Visual/Verbal scale:**

Table 7 displays the Chi-square results for Visual/Verbal scale.

Table7. Chi-square Results for Visual/Verbal Scale.

	Scale	Observed	Expected	Chi-square
Kurdish	Visual	90	88.74	1.86
	Verbal	66	64.25	
Persian	Visual	5	6.25	
	Verbal	6	4.74	

As can be seen from the table, the Chi-square value obtained is less than the critical value ( $\chi=3.84$ ) at  $p<0.01$  level. Thus, the null hypothesis in the

Visual/Verbal Scale cannot be rejected. In other words, there is no significant difference between learning style preferences of Kurdish and Persian students in the Visual/Verbal Scale.

**• Sequential/Global scale:**

Table 8 shows the Chi-square results for Sequential/Global scale.

Scale	Females (%)	Males (%)
Active	16.66	40
Reflective	6.66	10
Sensing	18.23	45
Intuitive	3.33	27
Visual	43.32	75
Verbal	0	5
Sequential	21.66	12.5
Global	11.66	22.5

Table 8. Chi-square Results for Sequential/Global Scale.

	Scale	Observed	Expected	Chi-square
Kurdish	Sequential	54	45.59	15.98
	Global	20	28.40	
Persian	Sequential	7	15.40	
	Global	18	9.59	

Because the calculated  $\chi$  value is greater than the critical value ( $\chi= 7.78$ ) at  $p<0.001$  level, we can reject the null hypothesis for the Sequential/Global scale at this level. Accordingly, it can be inferred that there is a significant difference between learning style preferences of Kurdish and Persian students in the Sequential/Global scale of the ILS questionnaire.

To answer the fourth question of the study and in order to see whether the students' gender had any influence on their preferences the data were further explored. A comparison of male and female students' preferences revealed some gender differences in the learning styles of Kurdish and Persian students (See table 9 & 10 in this regard).

Table 9. Persian Students' Preferences by Gender.

As table 9 shows, Persian male students had more preferences for Active, Sensing, and Visual dimensions of the Index. The only exception in this regard is the Global dimension in which the females exceeded males. In the Kurdish sample, as table 10 indicates, female students demonstrated more preferences for Active, Sensing and Sequential dimensions. In contrast, the male students exceeded females in the Visual and Global dimensions.

Table 10. Kurdish Students' Preferences by Gender.

Scale	Females (%)	Males (%)
Active	28.86	21.58
Reflective	12.37	6.66
Sensing	56.69	47.61
Intuitive	4.12	0
Visual	46.32	71.41
Verbal	5.15	0
Sequential	21.66	12.5
Global	11.66	22.5

**8. Conclusion**

As was previously mentioned, the intended purpose of the present study was to compare the learning style preferences of Iranian EFL learners majoring in English with two different cultural backgrounds. With reference to the descriptive statistics, it can be concluded that there are some differences in learning style preferences of Kurdish and Persian students as measured by Felder-Solomon's (1997) Index of Learning style (ILS). On the whole, Kurdish students appeared more Reflective, Sensing, and Sequential. That is, they do much of their information processing introspectively; they like facts and observations more than concepts and interpretations, and they solve problems using well-established procedures. Additionally, they tend to absorb information and acquire understanding of material in small connected chunks. And finally, they can solve problems with incomplete understanding of the material and their solutions are

generally orderly and easy to follow.

In contrast, Persian students appeared more Active, Intuitive, Visual, Verbal, and Global. That is, they tend to retain and understand information best by doing something active with it, discussing, applying, or explaining it to others. They are often more comfortable with abstractions and mathematical formulations, they prefer either visual or verbal representation of materials, and they learn in large jumps. Nevertheless, as the results of Chi-square indicate, only the differences in the Sensing/Intuitive and Sequential/Global scales are significant.

As far as the gender is considered, in the Kurdish group, female students showed more preferences on all dimensions of the Index (Active, Reflective, Sensing, Intuitive, Verbal, and Sequential) except in the Visual and Global scales. Nevertheless, in the Persian group the male students showed more preferences on all dimensions (Active, Reflective, Sensing, Intuitive, Verbal, and Global) except for the Sequential one.

The findings of this study may inspire several implications. First of all, it adds something new to the field of learning styles and especially to the relationship between students' cultural background and their learning preferences by indicating that Iranian students with different cultural backgrounds exhibit different learning style preferences. Second, it makes the teachers aware of the diversity of learning style preferences among students from different subcultures. This awareness is of great importance because as Riazi and Riasati (2007) note, most teachers are not aware of their students' learning style preferences. This awareness is, in turn, expected to motivate them to modify the teaching instructions to meet the students' preferences. The findings can also be helpful to students in that it can give them an awareness of their learning style preferences. And finally, the findings can help material and syllabus designers to see which activities and approaches are most appropriate for students from different sub-cultures.

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**Appendix A: Sample Learning Style Result.**

**Learning Styles Results**

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Results for: Masome Ahmadi

ACT		X		REF
11	9	7	5 3 1	1 3 5 7 9 11
			<-- -->	
SEN		X		INT
11	9	7	5 3 1	1 3 5 7 9 11
			<-- -->	
VIS		X		VRB
11	9	7	5 3 1	1 3 5 7 9 11
			<-- -->	
SEQ		X		GLO
11	9	7	5 3 1	1 3 5 7 9 11

<-- -->

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- If your score on a scale is 1-3, you are fairly well balanced on the two dimensions of that scale.
- If your score on a scale is 5-7, you have a moderate preference for one dimension of the scale and will learn more easily in a teaching environment which favors that dimension.
- If your score on a scale is 9-11, you have a very strong preference for one dimension of the scale. You may have real difficulty learning in an environment which does not support that preference.