Exploring Iranian EFL Learners’ Perceptual Learning Styles Preferences, Language Learning Strategy Uses and Self-Regulated Learning Strategies

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Abstract: The aims of this article were to investigate 204 Iranian EFL learners’ perceptual learning style preferences, language learning strategies and self-regulated learning strategies through the use of three scales: the Perceptual Learning Style Preference Questionnaire, Strategy Inventory for Language Learning (SILL) and the Motivated Strategies for Learning Questionnaire (MSLQ). The study also explored the perceptual learning styles that favoured by more and less self-regulated and autonomous learners. According to descriptive statistics, the results showed that Iranian EFL learners favoured all perceptual learning style preferences, i.e., auditory, visual, kinaesthetic and tactile, and they preferred to work individually rather than in groups. Among language learning strategies, cognitive and metacognitive strategies were mostly used by Iranian EFL learners, while affective strategies were the least-used strategies. Learners also used metacognitive self-regulation and time and study environment, more so than other self-regulated learning strategies. The study also revealed that more self-regulated learners were auditory and visual learners, while less self-regulated learners were more tactile and preferred group and individual learning. The results showed that learners with more language learning strategy uses favoured an auditory style.

Keywords: perceptual learning style, self-regulation, language learning strategies, autonomy

1. INTRODUCTION

Today, a teacher-centred approach has been replaced by a student-centred approach. In the latter, more attention is paid to the roles and responsibilities of individuals. One improvement of the student-centred approach is teaching language learning strategies that leads to learners’ independency and autonomy. Oxford (2003) declares that autonomy is self-regulation from sociocultural theory:

“Autonomy and self-regulation (a Latin-based equivalent) refer to the same condition of being self-ruled or capable of regulating one’s own thoughts, learning, and actions” (p. 80).

Different terms such as 'self-directness', 'self-control' and 'autonomy' are used for self-regulation (Bandura, 1991). Najeeb (2013) states that “learner independence or autonomy move into an area where learners can direct their own learning” (p. 1238). Teaching language learning strategies ultimately leads to self-regulation. “Learning style preferences influence the type of language learning strategies that one may employ in acquiring [a] second language “(Rossi-Le, 1989, p. 79); thus, self-regulation is also influenced by learning styles. In the student-centred approach, more attention is paid to individual differences such as learning style. Rossi-Le (1995) accentuated the role of perceptual learning style in the learning process, which is neglected especially in the English learning of adults. Not only has very few studies been conducted to identify Iranian learners’ learning styles (Bidabadi&Yamat, 2010), but no study to date has explored the perceptual learning style preferences of more and less autonomous learners.

1.1. Language Learning Strategies

Brown (2007) asserts that the first effort leading to some very careful defining of specific learning strategies came from research on poor and good learners, as well as from individual variations by Rubin and Stern in the mid-1970s. This starting point was followed by many
scholars who tried to shape different classifications of language learning strategies (Dörnyei, 1995; O’Malley &Chamot, 1990; Oxford, 1990). Through the emergence of language learning strategies, many scholars recommended teaching learners how to learn and stated that facilitating autonomy through strategy instruction should be the most important goal of language teaching (Brown, 2007).

Accordingly, different classifications of language learning strategies came into existence. Oxford (1990) classified general learning strategies into two main categories: direct (cognitive, memory and compensation) and indirect (metacognitive, affective, social).

1.2. Language Learning Strategies Vs. Self-Regulation

Language learning strategies have been the focus of many studies during the last decade (Banisaeid, 2013; Banisaeid & Huang, 2014; Chamot, 2004; Chen, 2009; El-dib, 2004; Gao, 2007; Griffiths, 2003, 2007; Griffiths & Oxford, 2014; Hong-Nam &Leavell, 2006 ; Macaro, 2006; Magogwe& Oliver, 2007; Oxford et al., 2014; Riazi et al., 2008).

Self-regulation is rooted in educational psychology and has been used as a substitute for language learning strategies (Banisaeid & Huang, 2014; Dörnyei, 2005). The reason for this substitution is definitional fuzziness and an unreliable instrument for measuring language learning strategies (Rose, 2011; Tseng et al., 2006).

A self-regulated learner is one who selects appropriate learning strategies based on the relevant standards and goals, and who monitors and evaluates their own learning. The difference between language learning strategies and self-regulation depends on the learner’s approach; this means that language learning strategies are means for language learning by which learners learn the language skills and components. In self-regulated learning, not only do learners acquire the skills and components of the language, but their learning is also influenced by motivation, self-efficacy and environment. A self-regulated learner directs their own language learning by receiving feedback from environment and through the use of cognitive and metacognitive strategies. Another difference between self-regulation and strategic learning is that the former is more process-oriented, while the latter is more product-oriented (Dörnyei, 2005).

Learners achieve small goals such as memorizing a word list through mnemonics or filling gaps in conversation by using compensation strategies. Bigger goals such as having a native-like accent and knowing how to write an essay in English can also be achieved by self-regulated learners.

Finally, language learning strategies with more emphasis on metacognition are part of self-regulated learning.

As stated above, one of the aspects of self-regulation is the environment in which the learning happens. One of the self-regulated learning strategies pertains to study environment, which should be organized, quiet and free from visual and auditory distractions.

Oxford and Ehrman (1995) used Strategy Inventory for Language Learning to investigate 268 highly educated people's learning strategies and the results showed that the most frequently used strategies were compensation- and social strategies.

Griffiths (2003) explored 348 learners from different countries and the results showed that those who used more language learning strategies had achieved a higher level of learning. “The relationship between strategy use and perceptual learning style has implications for creating instructional designs that are student-centred and that foster self-directed learning” (Rossi-Le, 1989, p.4). Zohoorian and Baghban (2012) found significant relationships between cognitive, metacognitive and affective strategies and kinaesthetic style. Pei-Shi (2012) found that learners with auditory learning styles used more social strategies than those with a visual learning style. Tabanlıoğlu (2003) studied 60 students’ perceptual learning style preferences and the results showed that:

- Auditory style had a significant relationship with memory, cognitive, affective and social strategies.
- Visual style had a significant relationship with affective strategies.
- Individual learning had a significant relationship with compensation strategies.
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1.3. Learning Style

Individual differences such as language aptitude, motivation, creativity, self-esteem, anxiety, and learning styles have an impact on second language acquisition (Dörnyei, 2005). In a more “student-centred approach, researchers have explored the relationship of learning style to second language acquisition” (Rossi-Le, 1989, p.1). Language learning strategy is closely linked to learning style (Brown, 2007). While research on learning style date back five decades, its true origins can be traced back much further (Cassidy, 2004).

Learning style has been defined as “cognitive, affective, and physiological traits that are relatively stable indicators of how learners perceive, interact with, and respond to the learning environment” (Keefe, 1979, p. 4). “Perceptual learning style preference refers to the perceptual channels through which students prefer to learn. These can be classified as (1) auditory (listening to lectures and tapes), visual (reading and studying charts), kinaesthetic (experiential, total physical involvement), tactile (hands-on, doing lab experiments) and interactive (group or individual learning)” (Reid, 1987, cited in Rossi-Le, 1989, p.8).

Naserieh and AnaniSarab (2013) explored perceptual styles among Iranian graduate students by using PLSQ. The questionnaire was translated into Persian and 138 students from diverse faculties participated in the study. The findings revealed that the participants favoured kinaesthetic and tactile modalities and a group learning style.

Park (1997) investigated 803 high school students’ perceptual learning styles. The students were Asian American (319 Anglos, 276 Korean, 98 Chinese, 60 Filipino and 50 Vietnamese). The results showed that combined learning style preferences were significantly affected by ethnicity.

Chen (2009) investigated the relationship between the perceptual learning styles of 390 junior high school students using PLPS. The results showed that Taiwanese students in grades 7 and 8 favoured kinaesthetic and group style preferences, while students in grade 9 favoured a group learning style.

Melton (1990) explored Chinese students’ perceptual learning styles and showed that they preferred kinaesthetic, tactile and individual learning styles. The findings also revealed that females preferred auditory and kinaesthetic learning styles, while males prefer tactile and individual learning styles.

Hyland (1993) examined 440 students’ perceptual learning styles at eight universities in Japan. The findings indicated that Japanese students preferred auditory, tactile, kinaesthetic and individual learning as minor styles. No major style was identified. The results also showed that female students demonstrated stronger preferences than males within each modality.


1.4. Research Objectives

The purpose of the present research is to answer the following questions:

- What are the perceptual learning styles of Iranian EFL learners?
- What are the most common language learning strategies used by Iranian EFL learners?
- What are the most common self-regulated learning strategies used by Iranian EFL learners?
- What kind of perceptual learning style do more self-regulated Iranian EFL learners have?
- What kind of perceptual learning style do more strategic Iranian EFL learners have?
2. **METHOD**

2.1. **Subjects**

The study included 204 Iranian EFL learners who studied English as their major at university. Their native tongue was Persian and their mean age was 26. They were chosen from both Masters and Bachelor degree programmes. Their majors were English translation and English literature.

2.2. **Instruments**

2.2.1. **Strategy Inventory for Language Learning (SILL)**

This questionnaire proposed by Oxford (1990) includes 50 items. These items are distributed in six parts, in which learners respond among the three choices of always, sometimes and never. The different parts of the questionnaire are memory, cognitive, compensatory, metacognitive, affective and social strategies, respectively.

2.2.2. **Motivated Strategies for Learning Questionnaire (MSLQ)**

This questionnaire includes 50 statements and was developed by Pintrich et al. (1991). The 50 items of the instrument were scored using a seven-point Likert scale and were redirected to reveal to what extent subjects regulated their own learning process through subparts of rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time study and environmental management, effort regulation, peer learning and help seeking. The seven answer choices ranged from (1) not at all true of me to (7) very true of me.

2.2.3. **Perceptual Learning Style Preference Questionnaire**

This scale was developed by Joy Reid in 1987, who designed the survey to study the learning styles of ESL learners. The survey helps students assess and determine their own preferred learning styles from among six main learning style preferences: visual, auditory, tactile, kinaesthetic, group and individual (Reid, 1987). The language of the scale was English, since the subjects were EFL learners at university. The questionnaire consists of 30 items designed to elicit the six perceptual learning style preferences. The questionnaire is a five-point Likert scale, through which learners respond from strongly disagree (1) to strongly agree (5). Subjects are asked to consider statements such as, “When the teacher tells me the instructions I understand better”; “When I do things in class, I learn better”; “When I read the instructions, I remember them better”; “When I work alone, I learn better”.

2.3. **Procedure**

The learners answered the questionnaires in a period of 45 minutes.

3. **RESULTS AND DISCUSSION**

3.1. **Reliability of the Questionnaires**

The reliability of the two questionnaires pertaining to language learning strategies and self-regulated learning strategies in this study were .884 and .906, respectively (Tables 1 and 2).

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.884</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.906</td>
<td>50</td>
</tr>
</tbody>
</table>

3.2. **Descriptive Statistics of Perceptual Learning Style, Language Learning Strategies and Self-regulated Learning Strategies**

In this part, three research questions are answered. Descriptive statistics for perceptual learning styles are shown in Table 3. Among the different perceptual learning styles, Iranian EFL learners mostly preferred auditory and visual learning. This finding contradicts a study by Naserieh and Anani Sarab (2013), who found that Iranian learners favoured kinaesthetic and tactile modalities, and a group learning style. The findings also contradict Vaseghi et al. (2013), who found
kinaesthetic and tactile approaches to be major perceptual learning style preferences, and the auditory, group, visual and individual styles to be less preferred. The findings of the present study is in line with research conducted by Shooshtari (2011), Jowkar (2012) and Gilakjani (2011), who found that EFL university students mostly favoured a visual learning style.

Table 3. Descriptive statistics for perceptual learning styles

<table>
<thead>
<tr>
<th>Style</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditory</td>
<td>206</td>
<td>10.00</td>
<td>25.00</td>
<td>19.0000</td>
<td>4.01704</td>
</tr>
<tr>
<td>Visual</td>
<td>206</td>
<td>9.00</td>
<td>25.00</td>
<td>18.8155</td>
<td>3.76569</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>206</td>
<td>5.00</td>
<td>25.00</td>
<td>18.2524</td>
<td>4.02363</td>
</tr>
<tr>
<td>Tactile</td>
<td>206</td>
<td>7.00</td>
<td>25.00</td>
<td>18.0194</td>
<td>4.24834</td>
</tr>
<tr>
<td>Group</td>
<td>206</td>
<td>5.00</td>
<td>25.00</td>
<td>16.4466</td>
<td>5.90614</td>
</tr>
<tr>
<td>Individual</td>
<td>206</td>
<td>5.00</td>
<td>25.00</td>
<td>17.4466</td>
<td>4.39895</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>206</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Descriptive statistics for language learning strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory strategy</td>
<td>206</td>
<td>17.00</td>
<td>45.00</td>
<td>27.4854</td>
<td>4.96989</td>
</tr>
<tr>
<td>Cognitive strategy</td>
<td>206</td>
<td>26.00</td>
<td>68.00</td>
<td>46.9223</td>
<td>7.64159</td>
</tr>
<tr>
<td>Compensation strategy</td>
<td>202</td>
<td>6.00</td>
<td>30.00</td>
<td>20.3663</td>
<td>4.60094</td>
</tr>
<tr>
<td>Metacognitive strategy</td>
<td>206</td>
<td>18.00</td>
<td>45.00</td>
<td>32.4757</td>
<td>6.28563</td>
</tr>
<tr>
<td>Affective strategy</td>
<td>206</td>
<td>8.00</td>
<td>29.00</td>
<td>17.5631</td>
<td>4.26825</td>
</tr>
<tr>
<td>Social strategy</td>
<td>206</td>
<td>8.00</td>
<td>30.00</td>
<td>19.5631</td>
<td>4.67410</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>202</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Descriptive statistics for self-regulated learning strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehearsal</td>
<td>206</td>
<td>9.00</td>
<td>28.00</td>
<td>19.1553</td>
<td>4.67428</td>
</tr>
<tr>
<td>Elaboration</td>
<td>206</td>
<td>15.00</td>
<td>42.00</td>
<td>28.7670</td>
<td>6.22066</td>
</tr>
<tr>
<td>Organization</td>
<td>206</td>
<td>5.00</td>
<td>28.00</td>
<td>18.4466</td>
<td>4.87248</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>206</td>
<td>7.00</td>
<td>35.00</td>
<td>21.9320</td>
<td>5.37431</td>
</tr>
<tr>
<td>Metacognitive self-regulation</td>
<td>204</td>
<td>29.00</td>
<td>84.00</td>
<td>53.7059</td>
<td>10.64667</td>
</tr>
<tr>
<td>Time and study environment</td>
<td>206</td>
<td>18.00</td>
<td>44.00</td>
<td>32.3010</td>
<td>5.81308</td>
</tr>
<tr>
<td>Effort regulation</td>
<td>206</td>
<td>8.00</td>
<td>27.00</td>
<td>17.3981</td>
<td>3.59767</td>
</tr>
<tr>
<td>Peer learning</td>
<td>206</td>
<td>3.00</td>
<td>21.00</td>
<td>11.4951</td>
<td>3.97031</td>
</tr>
<tr>
<td>Help seeking</td>
<td>206</td>
<td>9.00</td>
<td>28.00</td>
<td>18.7476</td>
<td>4.29797</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>204</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Among self-regulated learning strategies, metacognitive self-regulation was mostly used by learners and peer learning was found to be the least self-regulated learning strategy used by Iranian EFL learners (Table 5). These findings contradict that of Ghyasi et al. (2013), who found peer learning to be the least used strategy in self-regulation. The findings also contradict Mahmoodi et al. (2014), who found cognitive and metacognitive self-regulation to be the most used strategies in self-regulation.

3.3. Linear Regression

3.3.1. Self-Regulated Learning Strategies and Perceptual Learning Style Preferences

For answering the fourth research question, the researchers tested whether there was any statistical association between self-regulated learning and different types of perceptual learning style preferences.
First, descriptive statistics are presented in Table 6. In this phase, the researchers put learners into three groups (high, middle and low), based on the performance on self-regulated learning strategies scale (Table 7). Those who had scores higher than 242 belonged to the high group and those with scores lower than 202 belonged to the low group; the rest belonged to the middle group.

The researchers used linear regression to determine the perceptual learning style preferences most strongly correlated with self-regulation. Six categories of perceptual learning style preference (auditory, visual, kinaesthetic, tactile, individual and group learning) were specified as predictor variables, with self-regulation as the criterion variable.

**High group**

The analysis of linear regression (forward method) indicated that two independent variables (auditory and visual learning style) could predict changes in self-regulated learning strategies. That is to say, more self-regulated learners were auditory and visual learners. The analysis of linear regression (forward method) indicated that there was statistical association between self-regulated learning strategies and auditory and visual styles (F (1.54) =10.910, p = .002, R^2 = .168).

\[ R=284.853 + 2.017 \times \text{auditory} - 2.841 \times \text{visual} \]

When numbers of perceptual learning styles were predicted, it was found that auditory (β = 2.017, t=2.871, p<0.001) and visual (β = -2.841, t= -2.844, p<0.001) were significant predictors.

**Low group**

The analysis of linear regression (forward method) indicated that three independent variables (tactile, group and individual) could predict changes in self-regulated learning strategies. That is to say, less self-regulated learners were tactile learners and preferred both individual and group learning.

\[ F \text{ value on ANOVA} = df (3.52) =13.314, p< 0.001, R^2 = .434 \]

The numbers of perceptual learning styles could be predicted from self-regulated learning strategies by the following formula: \[ R=96.931+2.613 \times \text{tactile}+1.755 \times \text{group}+1.143 \times \text{individual} \]

When the number of perceptual learning styles were predicted, it was found that tactile (β = .437, t=4.130, p<0.001), group (β = .472, t= 4.143, p<0.001) and individual (β = .249, t = 2.16, p<0.005) styles were significant predictors.

**Middle group**

None of the perceptual learning style preferences could predict changes in self-regulated learning strategies. No significant relationships were found between the self-regulated learning strategies and any of the six perceptual learning style preferences.
3.3.2. Language Learning Strategy Uses and Perceptual Learning Style Preferences

For answering the fifth research question, the researchers tested whether there was any statistical association between language learning strategy uses and different types of perceptual learning style preferences.

**Table 8. Mean scores and standard deviations of language learning strategy by perceptual learning style preferences**

<table>
<thead>
<tr>
<th></th>
<th>Low n=64</th>
<th></th>
<th>Mid n=82</th>
<th></th>
<th>High n=56</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Auditory</td>
<td>17.1250</td>
<td>4.05322</td>
<td>19.9512</td>
<td>3.31812</td>
<td>20.3214</td>
<td>3.63872</td>
</tr>
<tr>
<td>Individual</td>
<td>17.1250</td>
<td>3.93398</td>
<td>17.1220</td>
<td>4.29869</td>
<td>18.5357</td>
<td>4.97618</td>
</tr>
<tr>
<td>Language learning strategies</td>
<td>140.1875</td>
<td>11.45436</td>
<td>163.4878</td>
<td>6.98542</td>
<td>194.0357</td>
<td>14.69071</td>
</tr>
</tbody>
</table>

The researchers put subjects into three categories (high, middle and low) based on their performance on the Strategy Inventory for Language Learning (Table 8). Those who had scores higher than 177 belonged to the high group and those who had scores lower than 153 belonged to the low group; the rest belonged to the middle group.

**High group**

The analysis of linear regression (forward method) indicated that there was statistical association between language learning strategy uses and auditory style (F (1.54) =10.910, p = .002, R^2 = .168). That is to say, learners who used more language learning strategies were auditory learners.

The number of perceptual learning styles could be predicted from language learning strategies by the following formula: R= (160.399+.655*auditory).

When the number of perceptual learning style were predicted, it was found that auditory style (β = .410, t = 3.303, p=0.202) was a significant predictor.

**Low group**

None of the perceptual learning style preferences were able to predict changes in language learning strategy uses.No significant relationships were found between the language learning strategies and any of six perceptual learning style preferences.

**Middle group**

None of the perceptual learning style preferences were able to predict changes in language learning strategy uses.No significant relationships were found between the language learning strategies and any of the six perceptual learning style preferences.

4. **Conclusion**

The purpose of the study was to investigate Iranian EFL learners’ perceptual learning style preferences and to discover what types of perceptual learning style preferences more autonomous and self-regulated learners used. All the participants studied English translation and English literature at the university level. Iranian EFL learners favoured all perceptual learning style preferences, i.e., auditory, visual, kinaesthetic and tactile, and preferred to work individually rather than in groups. Among language learning strategies, cognitive and metacognitive strategies were mostly used by Iranian EFL learners, while affective strategies were the least used strategy. Learners also used metacognitive self-regulation and time and study environment more than other self-regulated learning strategies.

The findings indicate that learners had good abilities in terms of controlling cognition like planning, monitoring and evaluating their own learning; they managed their time well and created a quiet environment free from distractions. The results of the study also show that more self-regulated learners were auditory and visual learners, while less self-regulated learners were more...
tactile and preferred group and individual learning. The results indicate that learners who apply more language learning strategy uses are more auditory.

Fig1. The overlapping part of self-regulation and language learning strategies

As self-regulation and language learning strategies are linked to autonomy, it can be concluded that learners who adopt an auditory style are more autonomous and self-regulated learners. Additionally, since auditory style can predict changes in self-regulated learning strategies and language learning strategies, and because the participants of the study used not only more metacognitive and cognitive strategies among language learning strategies, but also used more metacognitive self-regulation among self-regulated learning strategies (Fig.1), it can be deduced that most Iranian EFL learners favoured an auditory style, as shown by the results.

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