

The Relationship between Iranian EFL Learners' Cognitive Style and Their Listening Tasks Performance

Maryam Alimohammadi

Islamic Azad University, Garmsar Branch, Garmsar, Iran

Abstract: The present study was an attempt to explore the relationship between field-dependence and field-independence cognitive style and IELTS listening comprehension ability. To do the research as an experimental study, 90 Iranian female intermediate EFL Learners were selected to participate in the study. The instruments of the study were: a) General English Proficiency Test of PET to homogenize the learners. b) The E&L questionnaire was applied to classify the EFL learners into FI/FD groups. c) A pretest and a posttest of IELTS listening comprehension. In order to homogenize the participants, 180 learners were given a PET test. After homogenization, 90 learners were selected to participate in the research. Then, In order to classify the learners into FI/FD groups, the F&D questionnaire was given to the learners. As a result, the learners were divided into three groups: One control group and the two experimental groups (FD/FI groups). Each group consisted of 30 language learners. In order to investigate the three groups in listening comprehension, two standardized tests of IELTS listening comprehension were used as a pretest and a posttest. After administration of the tests, the ANCOVA test was used to analyze the collected data. The results indicated that field-independent participants were strongly better in the IELTS listening comprehension than field-dependent individuals.

Keywords: cognitive style, field dependence, field independence, listening performance

Introduction

Listening Skill

Listening skill had been neglected in English Language Teaching (ELT) for a long time. As Nunan claimed "listening is the Cinderella skill in second language learning. All too often it has been overlooked by its elder sister speaking" (Nunan, 2006, p.199). According to Bozorgian and Pillay (2013), listening is overlooked in Iran. Their findings indicate that in Iran, at school level, for the dominance of Grammar Translation Method (GTM) on school pedagogy, teachers pay more attention to reading and writing than listening. At university level, reading is the main skill. Listening is only taught in language institutes. Often, despite instruction of listening skill being specified in the syllabus of many English language institutes, teachers do not teach listening skills but test it in the EFL classrooms in Iran.

Vandergrift (2004) stated that listening plays a very important role in the learning of a second language. This is because it gives the learner information from which to build the knowledge necessary for using the language. Also, Rost (1990) points out that understanding spoken language is prerequisite for language acquisition.

Listening difficulties are defined as the internal and external characteristics that might interrupt text understanding and real-life processing problems directly related to cognitive procedures that take place at various stages of listening comprehension (Hayati, 2009; Goh, 2000). Listening is the most frequently used language skill in the classroom (Ferris, 1998). Both instructors and students acknowledge the importance of listening comprehension for success in academic settings. (Ferris, 1998; Hamouda, 2013)

"Having a good listening comprehension skill has always been the main concern of not only EFL students, but also their teachers who want to teach English as a Foreign Language in school, what comes to their minds after listening to the native speaker's speech is to comprehend all the speech which is heard". The lack of emphasis on listening skills has led to problems faced by students in comprehending listening texts (Othman et al, 2004). Anderson and Lynch (2000) stated that one of the reasons why the listener fails to process incoming speech is that the speech contains words or phrases that the listener can hear adequately but is unable to understand because of serious problems with the syntax or semantics of the language. This is a common problem faced by students as the topics that they have to listen to may often contain new or unfamiliar words. Lack of socio-cultural, factual and contextual knowledge of the target language can also present an obstacle to comprehension because language is used to express culture (Anderson & Lynch, 2000). This indicates that field knowledge plays an important role in interpreting meaning, as this forms a foundation for listeners to connect new information to their existing knowledge (Ehsandoust & Khodabandehlou, 2015).

Based on the importance of listening skill in the process of foreign /second language learning and teaching, the present research sought to investigate the effect of cognitive styles such as dependent and independent fields on listening skill of the Iranian EFL learners.

Cognitive Style

For the last four decades, cognitive perspective and its applications have been extensively explored in many education fields including applied linguistics (Bruning et al., 1999). According to Chamot and O'Malley (1994), language learning strategies in general and listening strategies in particular can be described within the cognitive model of learning. The cognitive model of learning indicates that learning is an active and dynamic process in which learners select information from their environment, organize the information, relate it to what they already know, retain what they consider to be important, use the information in appropriate contexts, and reflect on the success of their learning efforts. According to Chastain, (1988, p. 125), "the term cognitive style refers to the predispositions individuals have for using their intellect in specific ways to learn". Style refers to individuals' consistent preferences in learning situations which differentiates him/her from someone else. Hayes and Allinson (1998) define cognitive style as individuals' preferences in gathering, processing, and evaluating information in their environment.

Field Independence & Field Dependence

The cognitive style which has received the greatest attention in second/foreign language researches is field independence/dependence. Field independence (FI) hinges on the perceptual skill of seeing the forest for the trees. A person who can easily recognize the hidden castle or human face in 3D posters and a child who can spot the monkeys camouflaged within the trees and leaves of an exotic forest in coloring books tend toward a field independent style. The field may be perceptual or it may be abstract, such as a set of ideas, thoughts, or feelings from which the task is to perceive specific subsets. Field dependence is, conversely, the tendency to be dependent on the total field so that the parts embedded within the field are not easily perceived, though that total field is perceived most clearly as a unified whole (Wyss, 2002).

Field dependent individuals were viewed as more outgoing and more "emphatic and perceptive of the feelings and thoughts of others" (Brown, 1994, p.86). On the other hand, field independent individuals are viewed as cold and individualistic (Dulay, Burt, & Krashen, 1982). Witkin et al. (1977) stated that field dependent people are warm, tactful, considerate, socially outgoing and affectionate towards others. Witkin et al. (1977) also reported that field dependent people are more affected by criticism than field independent people. Moreover, they look more at the faces of others while talking to them (Rostampour & Niroomand, 2013).

Saracho (1997) defines characteristics of field dependence/ independence in the following way: field dependent persons tend to be analytical and they can solve problems, whose materials require structuring, they are able to abstract an item from the surrounding field. FD individuals are dependent on their own values and standards. On contrary, field-independent persons tend to be global and they spend long time to solve the same kind of problems. FI individuals use external source of information for self-definition. He summarizes that the field-independent individuals show greater skills in cognitive restructuring over a wide range of procedures while the field-dependent ones show greater interpersonal competences. According to Korchin (1986), Field-independent people are able to manipulate abstract concepts and field- dependent individuals are more at home with people in order to provide them support to judgment and action. Field- independent students are more interested in moving toward fields such as mathematics and the science. On the other hands, field-dependent students tend to select humanistic and social sciences and human-helping professions. Daniels (1996, p. 38) summarizes the general tendencies of field dependent and independent learners as follows:

Field-dependents cognitive styles:

- a) Rely on the surrounding perceptual field.
- b) Have difficulty attending to, extracting, and using non salient cues.
- c) Have difficulty providing structure to ambiguous information.
- d) Have difficulty restructuring new information and forging links with prior knowledge.
- e) Have difficulty retrieving information from long-term memory.

While, field-independents cognitive styles:

- a) Perceive objects as separate from the field.
- b) Can dissembled relevant items from non-relevant items within the field.
- c) Provide structure when it is not inherent in the presented information.
- d) Reorganize information to provide a context for prior knowledge.
- e) Tend to be more efficient at retrieving items from memory.

Related Studies

Salmani-Nodoushan (2007) examined the relationship between field-dependence/independence and EFL reading performance. Based on the results, cognitive styles had the strongest effect on test performance when

test takers were most proficient. The results also revealed that success with more holistic or more analytic reading tasks correlated with FD/I cognitive style. In fact, scores on holistic tasks correlated positively with FD style and negatively with FI styles. By contrast, scores on analytic tasks correlated positively with FI style and negatively with FD style.

Blanton (2004) investigated the influence of cognitive style on standardized reading tests. She found that cognitive style had more impact on students' performance on a standardized test of reading comprehension than did ethnicity or performance between field-dependent and independent students.

Salmanian (2002) studied the relationship between field-dependence/independence cognitive style and performance on global and local questions of listening comprehension and also listening comprehension in general. He concluded that there was no relationship between FD/I and the students' performance on global questions but there was a relation between FD/I and the students' performance on local questions. FI students answered local questions better than global ones but this difference did not exist among FD students.

Hsueh-Jui and Liu (2008) reported on the interrelationship between learners' listening strategy used across listening ability and cognitive style. Their findings indicated that both listening strategy deployment and learning styles could be a predictor for listening ability.

Genesee and Hamayan (1980) reported significant and positive correlation between FI and French listening comprehension skills. In another study, Richards, Fajen, Sullivan, and Gillespie (1997) suggested that FI and FD individuals apply different strategies in listening and reading comprehension. Ahmady (2002) also studied the effect of FD/ FI on the use of listening comprehension strategies and he concluded that FD and FI learners benefited from different strategies. Johnson, Prior, and Artuso (2000) found that FD people performed better on L2 communicative tasks rather than formal aspects of language proficiency.

Research Question and Hypothesis

RQ: Is there a significant relationship between field-dependence/independence cognitive style and performance on different listening tasks of the IELTS?

H0. There is no significant difference between field-dependence/ independence cognitive style and performance on different listening tasks of the IELTS.

Method

Participants

The total number of population of the present study was 180 Iranian female EFL learners who majored in English as a foreign language in Diplomat language institute of Pakdasht, Iran. Out of 180 participants, 90 EFL Learners were selected to participate in the research after the administration of the placement test. The EFL learners had few chances to talk with English native speakers. All of the participants were Persian native speakers. The EFL learners were in the range of 13 to 18 ages. The learners were at intermediate level and had studied English between two and three years in the institute. The homogenized learners were divided into three groups: One group acts as control group and the two groups act as experimental groups (i.e., FD/FI groups). Each group consisted of 30 language learners.

Instruments

First of all, General English Proficiency Test of PET (2004) was used as a placement test to select the homogenous the leaners. This test composed of reading, writing, speaking and listening parts. Second of all, E&L leaning styles questionnaire was applied to classify the EFL learners to the cognitive styles (FI/FD). This psychological test consists of 30 items and thirty minutes were given to the learners to complete the test. The students were asked to check a space from 1 to 9 according to their preferences. They were asked to mark in the space for each pair of items what they think they were like. As a direction, if you like bicycling much more than swimming, you might mark in space 2 (or even 1), like this:

I like riding a bicycle. I like swimming.
Most like this *Most like this*

Third of all, to investigate the EFL learners' listening comprehension, a pretest and a posttest which extracted of Complete IELTS (2012) were used. Each of these listening tests consists of 5 items. With regard to the pretest, the learners were told to write one and/or a number for each answer. And with respect the posttest, they were asked to write one word only for each answer. With respect to reliability of the pretest and the posttest of IELTS listening comprehension, the researcher measured Cronbach's alpha for ensuring stronger reliability of the tests. The reliability index reported for the pretest was 0.721 and for the posttest was 0.788.

Procedure

The present study was basically a quantitative and experimental study and it was applied to achieve the objectives of the study. This research was carried out through five stages, namely a placement test, a psychological test, a pretest, an instruction period and a posttest. First of all, in order to homogenize the participants of the study, 180 EFL learners were given a PET. After the administration of the test, the collected data was analyzed through descriptive statistics. Out of the whole participants, 90 learners were selected to take part in the study.

In order to classify the learners into FI/FD groups, the F&D questionnaire was given to the learners. In other words, all groups received F&D questionnaire in order to find out their types of personality (Field-dependent and Field-independent). All the learners were given The E&L learning style questionnaire, developed by Ehrman and Leaver (2002) that was translated into Persian by Maftoon and Rezaie (2012). This questionnaire consists of 30 items and the participants had 30 minutes to answer the questions. A lower score on the questionnaire translated into more field dependent learner while a higher score on the questionnaire test translated into more field-independent. The participants were divided into two groups of FD and FI. As a result, there were a total of 60 participants, 30 FD students and 30 FI students. After the psychological test, the experimental groups were divided into FI/FD learners. Each group consisted of 30 learners in accordance with their types of personality.

In order to measure EFL Iranian learners' listening comprehension, two standardized tests of IELTS listening comprehension were used as pretest and posttest (each one consists of 5 items). To understand the performance of the FI/FD participants on IELTS listening comprehension, the above mentioned pretest was administrated to the three groups simultaneously. Having administered the pretest, the researcher provided the learners in two experimental groups (FI and FD groups) with the predesigned instructional treatment. The whole instruction for both experimental groups took place in six sessions and each session lasted for 40 minutes. Having finished the instructional period, the three groups (the FI and FD groups and the control group) took part in the posttest of IELTS listening comprehension, and finally the scores were collected and analyzed.

Design

The researcher handled the independent variables (i.e., cognitive styles such as FI and FD) and evaluated any changes in the dependent variable i.e., listening comprehension. The investigator used pretest, posttest with a control group experimental design in the study. Therefore, the study was considered as an experimental research.

Results

In the following Table, the pretest and posttest scores of FI, FD and the control groups are shown respectively.

Table1: Descriptive Statistics for Experimental and Control Groups in Listening

Min	max	Std. deviation	mean	groups	tests
2.00	5.00	1.03	3.33	FI	Pre test
2.00	5.00	1.07	3.57	FD	
2.00	5.00	.94	3.53	CO	
2.00	5.00	.82	4.47	FI	Post test
2.00	5.00	.97	3.53	FD	
2.00	4.00	.69	3.00	CO	

According to the results of Table 1, the mean scores of FI group had significant increase in posttest in comparison with pretest stage but regarding the FD and the control groups, there was no considerable difference between the mean score at posttest and pretest stages. In other words, the mean scores of FD and control groups in pretest stage were less than posttest stage. Furthermore, mean scores of FD group was greater than the mean scores of FI group in posttest stage. In other words, FI individuals may have had a better performance on the IELTS listening comprehension.

Table 2: Checking Data Normality

Sig	Chi-Square		Statistics	tests
	df			
0.125	3		5.733	pretest of IELTS listening comprehension
0.184	3		4.844	posttest of IELTS listening comprehension

Based on the results of Table 2, the pretest and the posttest scores had a normal distribution.

Table 3: Regression Slope

Sig.	F	Mean Square	df	Type III Sum of Squares	
.000	11.244	7.538	5	37.688a	Corrected Model
.000	112.928	75.704	1	75.704	Intercept
.083	2.569	1.722	2	3.444	group * listeningpre
		.670	84	56.312	Error
			90	1304.000	Total
			89	94.000	Corrected Total

In order to prove the homogeneity of regression slope, the statistics F should not be meaningful, that is, $\text{sig} > 0.05$. So, the default of homogeneity of regression slope was observed. With respect to Table 3, as significance level of regression slope was greater than the error value ($\text{sig} > 0.05$), therefore, the statistics F was not meaningful.

Homogeneity of Variance Test (Levene)

Table 4: Levene's test

Sig	D2	D1	F
0.150	78	2	1.942

With regard to the Levene's test results, the significance level of the pretest and the posttest scores is greater than error value (0.05), it is concluded that groups' variances are homogenous.

ANCOVA Test

Table 5: The Mean of Posttest Variable

N	Std. Error	Mean	group
30	.81931	4.4667	FI
30	.97320	3.5333	FD
30	.69481	3.0000	CO
90	1.02771	3.6667	TOTAL

Table 6: The moderated mean of the posttest variable

N	Std. Error	Mean	group
30	.153	4.483a	FI
30	.152	3.523a	FD
30	.152	2.994a	CO
90	.153	4.483a	TOTAL

Based on the results shown in tables 5 and 6, if the effect of pretest variable is eliminated, the listening comprehension scores of the FI group are improved from 4.46 to 4.48. It means that this improvement was due to the elimination of the pretest variable in FI group. Also, if the effect of pretest variable is eliminated, the listening comprehension score of FD group is reduced from 3.53 to 3.52. It means that this decrease was due to the elimination of pretest variable in FD group. It should be noted that if the pretest variable is eliminated from the control group, the mean scores of listening comprehension of the control group is decreased from 3.00 to 2.99.

Table 7: Significance for Control and Experimental Groups' Difference

Partial Eta Squared	Sig.	F	Mean Square	df	Type III Sum of Squares	
.364	.000	16.428	11.415	3	34.244a	Corrected Model
.550	.000	105.079	73.012	1	73.012	Intercept
.019	.196	1.695	1.178	1	1.178	listeningpre
.362	.000	24.416	16.965	2	33.930	group
			.695	86	59.756	Error
				90	1304.000	Total
				89	94.000	Corrected Total

Based on the results indicated in Table 7, the level of F for the main effect (24.416) is meaningful because it is less than the error value (0.05). Correspondingly, there is significant difference between field-dependence/ independence cognitive style and performance on different listening tasks of the IELTS.

Discussions

Although many studies have targeted at shedding light on the effectiveness of cognitive styles on different skills of the language, to the best of the researcher's knowledge, no research study has studied the relationship between Iranian EFL learners' cognitive styles and their listening tasks performance. Accordingly, the results of statistical analysis of this study indicated that field-independent participants were strongly better in the IELTS listening comprehension than field-dependent individuals. In a similar study, Khodadady and Zeynali (2012) found that:

The results of participants' statistical analysis of this study indicated that although field-independent outperformed field-dependent ones in all of the tasks, they were strongly better in fill-in-the-gap questions (note completion, form completion and sentence completion) than FD individual. In fact, the most significant difference between FI and FD group is in fill-in-the-gap questions. According to the results of this study, field-dependent test takers are better in multiple choice and matching tasks than in fill-in-the-gap tasks (p. 628).

In another study in the field of the study, Kheirzadeh and Kassaian (2011) commented that "the results of the present study offered that field-dependence/independence did not affect listening comprehension in general and listening comprehension sub-skills in special"(p.194). The results of the different studies on the cognitive styles revealed that these learning style should be taken into consideration in teaching English.

Conclusions

The central purpose of the study was to explore the relationship between Iranian EFL learners' cognitive style and their listening tasks performance. The present study was an experimental and quantitative research. The present study was carried out on some Iranian intermediate female EFL learners, aiming at investigating the relationship between Iranian EFL learners' cognitive style and their listening tasks performance. As two important concepts in the field of teaching English as foreign or second language, individual differences and cognitive styles should be taken into consideration.

Field-dependence and field-independence have been investigated as a difference of cognitive style in foreign or second language learning. The former refers to a learning style in which a learner tends to look at the whole of a learning task which contains many items. The later refers to a learning style is one in which a learner is able to identify or focus on particular items and is not distracted by other items in the background or context. While the cognitive styles of learning a foreign or second language is not certainly identified, identification of these cognitive processes (e.g. field- dependent and field-independent) could be effective for language teachers and researchers to help EFL/ESL learners' language learning. In this research, the researcher found that field-independent participants were noticeably better in the IELTS listening comprehension than field-dependent individuals.

Implications

The main implication of this study is the importance of cognitive styles particularly FI/FD in foreign or second language learning. Over the last three decades, researchers in the field of English language teaching have focused on the importance of cognitive style as psychological construct. Therefore, the results of present research would be helpful for improving EFL/ESL learners' listening comprehension. Also, another implication

of the present research is for syllabus designers and material developers who use results of this research to design and develop materials which enable language learners to improve their listening comprehension by the use of effective cognitive styles. Language teachers could use of the findings of the study to identify his/her learners' cognitive styles to improve the processes of learning and teaching. The ultimate results of the study imply that pedagogical approaches to teaching listening comprehension in Iran need special attention. As the field of TEFL is significant for the present situation of our country, reforms are required to guarantee Iranian EFL learners' participation in listening activities. Language teachers should not play the role of a lecturer. Guiding, monitoring, helping and providing feedback are the duty of a language teacher. Also, they should not be the controller of the class; rather they should be parts of it. It is suggested that language teacher should be familiar with different types of cognitive styles and be able to classify language learners in accordance with their types of personality to improve the learners' English language learning in general and listening comprehension or the other skills of the language in particular. All the participants of the present study were female EFL learners and varied in age range from 13 to 18. Interested researchers could work on older and younger EFL/ESL learners and do the research on male EFL/ESL learners. The results of the study are significant and can help to draw conclusions as to how test takers with completely similar level of language proficiency perform differently on listening tests. The findings of the study is interesting for those who involved in L2 teaching and testing. As another implication of this research is the selection of a suitable language test in which language learners can show better performance. It should be noted that language learners who want to take an IELTS test should learn about their cognitive styles. And finally, the findings of the study are valuable for the test designers to make good tests which are appropriate for test takers of both cognitive styles.

Limitation of the Study

The researcher did her best to do the research perfectly but there were some limitations which affected the research's processes. At first, the whole populations of the research were female learners (13-18 years old) at intermediate level in Diplomat language institute in Pakdasht, so other proficiency levels, participants' social class, power and also intermediate male Iranian learners were not studied. In addition, lack of enough time to do the research procedures completely was another limitation of the study. Moreover, as the subordinate problems of the study, the researcher predicted some points. In some cases, the participants did not cooperate with the researcher. In order to encourage them to participate in the study, the researcher used some incentives or rewards.

The researcher had to collect information by observing the classes and interviewing EFL teachers. Some times because of the attendance of the observer, the teachers did not conduct their duties naturally, or did not cooperate with the researcher. Furthermore, the population of the experimental group is small, only ninety students and might not represent the majority of the students of the intermediate level. At last, due to the nature of the questionnaire, the participants did not reveal their real ambitions or attitudes towards achievement honestly. Therefore, the researcher was quite careful to elicit the fair data.

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