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Which One Speaks Better?
The Field-Dependent or the Field-Independent?

On the Effects of Field-Dependent/Field-Independent Cognitive Styles and Gender on Iranian EFL Learners' Speaking Performance

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Abstract

This study investigates the relationship between the field-dependence/independence (FD/I) cognitive styles and the speaking performance of Iranian EFL learners. It also examines the effects of gender and FD/I cognitive styles on the students' speaking performance.

Through Oxford Placement Test, 53 students (10 male and 43 female students) of English at Shiraz University were selected out of 72 initial participants. To measure the students' FD/I level the GEFT was administered. The means of the students' scores on the two courses of Oral Reproduction 1 & 2 taken in the second year were used to represent their speaking test performance. The results of Pearson Product-Moment Correlation revealed a negatively insignificant correlation between the FD/I cognitive styles and the speaking scores ($r = -.083$, $p > .05$). The two-way ANOVA analysis confirmed this insignificance;

i.e. the FD/I cognitive style, the gender, and the interaction of them did not have a significant effect on the speaking performance.

This study suggests some pedagogical implications that there may be no need for EFL teachers, advisers, test developers, and test users to consider test takers' cognitive styles and gender as sources of systematic variance in their speaking performance, and therefore, as sources of test bias.

Keywords: cognitive styles, field-dependence/independence, gender, speaking.

Introduction

The ability to speak a second/foreign language is widely assumed to be a distinct advantage for the speakers of that language. Particularly in an EFL context where there is no contact with native speakers, this skill has obtained higher prestige among the other skills. That is why there is a considerable amount of interest in the development of students' speaking proficiency. The oral skill has always been problematic for second language learners and this has been revealed in their speaking test performance. One of the potential sources of these problems in speaking test performance refers to differences in the cognitive characteristics of test takers.

Field dependence/independence

One of these cognitive characteristics is *field dependence/independence*. Brown (2000) defines field independence as the ability to perceive a particular relevant item in a field of distracting items. He defines field dependence as "the tendency to be 'dependent' on the total field so that the parts embedded within the field are not easily perceived, although that total field is perceived more clearly as a unified whole" (Brown, 2000, p. 115).

Field independence (FI) addresses the degree to which an individual focuses on some aspects of experience and separates it from its background (The word ''field' or ''ground'' is used for this kind of background; the term ''figure'' is sometimes used to indicate what receives focus and is thus pulled into the foreground.). Some extend the concept to refer to the ability to conduct abstract cognitive operations on the material that receives focus (Witkin et al., 1977).

Morgan (1997) describes findings that when the field is not clearly organized, individuals who tend to be field independent are relatively likely to impose their own structure on the material, whereas field dependent persons (FD) often accept it as it is.

Ehrman (1997) indicates that a field independent learner is adept at focusing a spotlight on data, distinguishing and focusing deeply on some specific aspect of the material being learned. Such a learner can look at the forest and pick out exactly the kind of tree in which she or he is interested. A field independent learner is likely to be relatively skilled at chunking information and working further with it.

The term ‘‘field dependence’’ is used in two ways in the literature: absence of the kind of discrimination referred to as field independent and awareness of the entire field. Since field dependence is always measured by tests of field independence, it can safely be defined only as absence of field independence. However, because learners need to be able to be aware of background activity as well as bring information into focus and reorganize it, there is a positive aspect to what is traditionally called ‘‘field dependence,’’ which can enhance functioning in complex social situations. Complex social situations are in turn often involved in real language use, so this kind of ‘field dependence’’ is likely to play a constructive role (Ehrman & Leaver, 2003).

Statement of the Problem

The oral skill has always been problematic for second language learners and this has been revealed in their speaking test performance. One of the potential sources of these problems in speaking test performance refers to differences in cognitive characteristics of the test takers. One of these cognitive characteristics is *field dependence/independence.*

The general hypothesis is that persons with a high degree of field independence would perform well on discrete-point tests, in which the items are unrelated to each other and to the overall context in which they occur. On the other hand, persons with low field independence might be expected to perform well on integrative tests such as speaking test, in which they are required to process the test in a global manner (Bachman, 1990). Therefore, this dimension of cognitive styles needs to be examined in order to see whether or not it has any effect on learners’ speaking performance.

Objective of the Study

This study investigates the effects of students’ degree of field dependence/independence (FD/I) and gender on their speaking performance. Particularly, the following research questions will be explored in this study:

1. Is there any relationship between Iranian EFL learners’ degree of field dependence/independence and their speaking performance?

2. Do FD/I cognitive styles, gender, or the interaction of them affect Iranian EFL learners’ speaking performance?

Significance of the Study

Today there is a considerable amount of interest in the development of students’ speaking proficiency. This is because the ability to speak a second/foreign language is widely assumed to be a distinct advantage for the speakers of that language. Particularly in an EFL context where there is no contact with native speakers, this skill has obtained higher prestige among the other skills.

The oral skill has always been problematic for second language learners and this has been revealed in their speaking test performance. One of the potential sources of these problems in speaking test performance refers to differences in cognitive characteristics of test takers.

One of these cognitive characteristics is *field dependence/independence*. So, since it is considered as one of the sources of problems in speaking performance, it needs to be examined carefully in order to find some remedies, both preventing test bias that would lessen the validity of speaking test as a measure of second language proficiency and also helping learners improve their speaking performance in the target language.

Literature Review

The concepts and methods derived from work on cognitive style over the past two-and-a-half decades are being applied at an ever increasing rate to research on problems of education. Among the cognitive styles identified to date, the field-dependence-independence dimension has been most extensively studied and has had the widest application to educational problems. While research on educational applications is still in its early stages, the evidence that research has already produced suggests that a cognitive style approach may be applied with profit to a variety of educational issues (Salmani-Nodoushan, 2006).

The first studies in field independence/dependence were conducted by Witkin (Witkin, 1969; Witkin and Goodenough, 1981 cited in Ehrman & Leaver, 2003). It has been among the most commonly used language learning style dimensions (e.g., Chapelle & Green, 1992; Ehrman, 1997; Jamieson, 1992). Early studies that applied this concept to foreign language learning, e.g., Stansfield and Hansen (1983) found that field independent learners were better at classroom learning, as tested by discrete item instruments. However, the construct has been little tested with communicative outcomes.

Field-independence, in particular, has been found to correlate positively and significantly with L2 learning in school settings where the target language is taught formally. Genesee and Hamayan (1980), in their study of first grade English-speaking students in a French immersion program in Canada, reported significant and positive correlations between FI and both general achievement in French and French listening comprehension skills.

In the USA, Hansen and Stanfield (1981) found that field independence played a major role in the acquisition of linguistic competence for American college students enrolled in a Spanish course. The same researchers also found a positive but rather modest link between field independence and satisfactory scores on cloze tests, with a similar group of adult learners.

Likewise, Hansen-Strain (1984) found a significant positive relationship between field-independence and scores on L2 tests, which was particularly noticeable in the case of the cloze test and dependent to a certain degree on the learners' cultural background and

gender. Finally, both Chapelle and Roberts (1986) and Carter (1988) found support for the correlation of field-independence with L2 learning in the case of college students.

Given the interesting relationship between field-independence and tutored L2 learning, Brown (1987) suggests that field-independence may be an advantage in classroom L2 learning. Conversely, he implies, field-dependence may be suitable in untutored naturalistic L2 acquisition from the environments in which language is being spoken around the subject. This may be because of the fact that naturalistic language acquisition involves natural communication in which field-dependent people may be more successful by virtue of their empathy, social outreach, and perception of other people.

In the same vein, Dulay, Burt, and Krashen (1982) indicate that more analytical field-independent characteristics are related to the conscious learning of metalinguistic skills, while field-dependence seems to serve the development of communication skills through subconscious acquisition. Thus, it is no wonder that Abraham (1983) discovered a significant positive relationship between Krashen's (1981) strategy of monitoring, which is part of conscious tutored learning and field-independence.

The study done by Alptekin and Atakan (1990) was designed to explore the relationship between L2 achievement and field-dependence versus field- independence and hemisphericity. The researchers reported that, as expected, the results of their study answered the first question (i.e. whether there was any relationship between L2 achievement and the field dependence/independence dimension of cognitive style) affirmatively.

A preliminary report on the relationship of field dependent/independent cognitive style to Spanish language achievement and proficiency has been provided by Carter (1988). A corollary question, according to Carter, concerns whether cognitive style and course orientation affects learners' perception of the process of learning a foreign language. Such perception may logically be assumed to influence choice of learning strategies, and thereby, perhaps the learners' degree of success. Carter found that field-dependent individuals were more advantageous for language learning.

Brown (1987) and Bialystok and Fröhlich (1978) postulated that field-independent learners may have the advantage in classroom foreign language learning because of the formal, or structure-oriented, nature of the classroom task, as opposed to a more natural or functional use of language for communication of meaning. The implication is that the supposed superiority of a field-independent cognitive style in classroom learning may be related to a distinction between the usual formal linguistic achievement orientation of classrooms and tests and functional language proficiency.

In their study, Naiman *et al.* (1978) also obtained significant correlations between field-independence and L2 learning for English speaking 12th grade Canadian learners of French. They concluded that field-independence is more important as a predictor of success in the higher stages of language learning than in the early stages. However, both in Carter's (1988) and in Hansen-Strain's (1984) studies field dependence/independence

was found to have a significant effect even at the very early stages of language learning. Most field-dependent subjects in Carter's study received an ACTFL rating of novice-mid or novice-high, indicating that they were still largely dependent on memorized words and phrases for whatever communication they found possible.

In brief, Carter's study has a good number of implications and conclusions.

First, field-independent cognitive skills were found advantageous in this study for both formal linguistic achievement and functional communicative proficiency. These findings make us question the hypothesis that field-dependence and field-independence may be differentially related to formal-linguistic and functional communicative foreign language tasks or situations.

Second, we must ask whether the apparent advantage of a field-independent cognitive style at an early level of proficiency holds true for other proficiency levels or not.

Third, if a field-independent cognitive style really affects both achievement and proficiency, educators should implement ways of drawing on this factor in formal language education.

Finally, field-dependence and field-independence should be in the focus of attention of testing specialists who claim to be striving for the development of objective measures of language proficiency (Salmani-Nodoushan, 2006).

In yet another study of the importance of field-(in) dependence, Abraham (1983) delved into the possible relationship between field-dependence/independence and the teaching of grammar. She claimed that her study provided insights into how students along one continuum of individual differences (i.e. that of cognitive style) internalize knowledge about one grammatical item in a second language.

Chapelle (1992) relates field dependence/independence to language testing by considering this issue as a source of variance in language tests. For the justification of her study, she claims that recent language testing research investigates factors other than language proficiency that may be responsible for variance in language test performance. There is some evidence indicating field-independence may be one variable, responsible for introducing systematic error into language test scores. In her study, Chapelle reports research investigating the relationship between field-independence and language measures. The results of her study indicate differential relationships of field-independence with cloze, dictation, and multiple-choice language tests. The relative strengths of these relationships also differed for native speakers in regular English classes, native speakers in remedial English classes, and nonnative speakers.

Other studies (Hansen-Strain, 1984; Hansen & Stanfield, 1981; Stanfield & Hansen, 1983) found relatively strong evidence in groups of adult second language learners of a relationship between FI and cloze test performance, which in some respects requires analytical abilities.

However, recently, Yang (2006) found that learning style is not the effective factor in influencing student achievement. Field-independent students do not differ significantly from field-dependent students in their achievements. He concluded that students with different learning styles and backgrounds learn equally well and do not differ much in their use of learning strategies.

Regarding all the above-mentioned studies on this dimension of cognitive styles, i.e. field dependence/independence, no specific study has been done on the relationship between this cognitive style and speaking performance. Therefore, the basic consideration in this study is whether success on a speaking test is solely a function of L2 competence in speaking skill, or other nonlinguistic factors affect the ability to speak appropriately.

Theoretically, in a speaking test a person needs to employ a large number of interrelated skills that comprise a language system (e.g., lexical, grammatical, phonological, contextual) in order to be able to speak accurately, fluently, and appropriately. This speaking performance is said to happen through some strategies based on one's internalized language competence (Stansfield & Hansen, 1983). If so, it could be related to the cognitive restructuring abilities fostered by a field-independent cognitive style. As a result, speaking performance may make cognitive demands which allow the field-independent person to speak more easily or accurately regardless of second language proficiency.

On the other hand, field-dependent persons may be at a disadvantage when taking this type of test, since they are not as likely to use the strategies helpful to the solution of L2 speaking problems. In this case, a cognitive style bias would be operating in speaking performance; a bias that would lessen the validity of speaking test as a measure of second language proficiency (Stansfield & Hansen, 1983).

Method

Participants

A convenient sample of both female and male students from English Department of Shiraz University has been chosen to participate in the study. The participants of the study were initially 72 (50 junior and 22 senior) students who studied English Literature in English Languages and Linguistics Department at Shiraz University College of Literature and Humanities. The age of the participants ranged from 21 to 27. After the scores of Oxford Placement Test were obtained, those students whose scores were within one SD minus and one SD plus the mean were selected (N=53) and the rest were excluded.

Instruments

- *Oxford Placement Test by Allen (1985) has been used for proficiency level.*

This test consists of 50 items, each with three alternative choices of which the testees have to choose the correct response. The first 20 items are meaning-wise independent of one another, the remaining 30 items, however, are sequential.

- *Group Embedded Figures Test (GEFT) has been used for FD/I cognitive styles determination.*

The GEFT (Oltman, Raskin, & Witkin, 1971 cited in Bosacki, Innerd, & Towson, 1997) is a group administered test that requires the subject to outline a simple geometric shape within a complex design. The subject must locate or separate the relevant information from the contextual field and restructure it to design the correct shape. In theory, this task discriminates the extent to which the person perceives analytically and is able to identify the relevant information within the organized field.

The GEFT includes three sections of increasingly complex geometric figures with the first or practice section containing seven figures, and the second and third sections, each containing nine figures. For each figure, students are requested to locate and trace a simple form embedded within the complex figure. Students were requested to trace as many of the simple forms as they can within a time limit of two minutes for the practice section and five minutes each for the second and third sections. Students received a score of 1 for each correct tracing of the simple form; the total test score was the number of simple forms correctly traced in the second and third sections combined, ranging from 0 (field dependent) to 18 (field independent).

Oltman et al. (1971 cited in Bosacki, Innerd, & Towson, 1997) obtained a test-retest reliability on the GEFT of .82 for both males (N=80) and females (N=97). Furthermore, the standardization of the GEFT had criterion validity coefficients of .82 (N=73) and .63 (N=63) for males and females, respectively (Bosacki, Innerd, & Towson, 1997).

- *Oral reproduction scores have been used for speaking performance.*

As for the participants' speaking, the mean of their scores on the two courses of Oral Reproduction 1 & 2 taken during two semesters in the second year has been used.

Procedures

a. Data Collection

In order to determine those students who are nearly at the same level of proficiency, Oxford Placement Test by Allen (1985) has been administered. Then the students' degree of field dependence/independence has been determined by the Group Embedded Figures Test (GEFT), based on which the students have been divided into two groups of field dependent and field independent styles. As for the participants' speaking performance, the mean of their scores on the two courses of Oral Reproduction 1 & 2 taken during two semesters in the second year has been used.

b. Data Analysis

First, the degree of the relationship between the FD/I cognitive styles and the speaking performance has been measured using simple Pearson Product-Moment Correlation. Then, to determine whether the students' degree of field dependence/independence and their gender affect the learners' speaking performance, a two-way ANOVA has been run.

Results and Discussions

Pearson Correlation and ANOVA were the main statistical analyses used in this study. Pearson Correlation is a statistical procedure in which scores on two or more variables are used to see whether or not there is any relationship between them. Moreover, ANOVA is a statistical procedure in which scores on one or more variables (i.e. independent variables) are used to show their effects on another variable (i.e. dependent variable). The scores of the speaking course are the dependent variable in this study, and the gender and FI/D (GEFT) scores are taken as the independent variables.

TABLE I presents the means and the standard deviations of the scores on the two variables.

TABLE I

DESCRIPTIVE STATISTICS: MEAN AND STANDARD DEVIATION OF THE TWO TESTS

Gender	Tests	Mean	SD
Male			
	Speaking	17.25	1.21
	Style (FD/I)	10.75	3.20
Female			
	Speaking	17.80	1.17
	Style (FD/I)	10.20	3.22

Speaking test scores are out of 20 and FD/I (GEFT) out of 18.

As TABLE I presents, the mean of the speaking test in males is 17.25 and in females 17.80. The standard deviations in the male and female scores are 1.21 and 1.17, respectively. Moreover, the mean of the style scores in males is 10.75 and in females equals 10.20; also, the standard deviations equal 3.20 and 3.22, respectively. So, on the one hand, the speaking mean score of the females are higher than that of the males, but on the other hand, the style mean score of the males is higher than that of the females. Therefore, it seems that the female learners are to some extent more FI-oriented than the male learners.

TABLE II presents the means and standard deviations of the speaking scores based on the style variables.

TABLE II

DESCRIPTIVE STATISTICS: MEAN AND STANDARD DEVIATION OF THE SPEAKING TEST BASED ON THE STYLES

Gender	Style	Mean	SD
Male			
	FD	17.37	.88
	FI	17.21	1.44
Female			
	FD	17.80	.86
	FI	17.80	1.26

Speaking test scores are out of 20.

TABLE II reveals that the speaking mean score of the FD males is 17.37 and that of the FI males equals 17.21. Furthermore, it shows that the speaking mean score of the FD and FI female students are the same, i.e. 17.80. Therefore, looking at this table carefully, one can take some hints that there is little difference between the FD and FI speaking mean scores, and even between the males and the females; the discrepancies lie in some decimal fractions, so that they may be ignorable. This can be better revealed through the following table.

TABLE III presents the relationship between the learners' speaking performance and their cognitive style through Pearson Correlation analysis, which is the first focus of the present study.

TABLE III

CORRELATIONS AMONG VARIABLES

	Style (FD/I)	Speaking	
Pearson Correlation			
Style (FD/I)		- .083	
Speaking Performance	- .083		
Sig. (two-tailed)			
Style (FD/I)		.554	.554
Speaking Performance	.554		
N	53	53	53

Level of Sig. is at .05.

As TABLE III illustrates, the correlation coefficient between the speaking test and the cognitive style (FD/I) is - .083 and the p-value is .554 and it is not significant ($r = - .083$, $p>.05$). Although the result of Pearson Correlation revealed that the students' scores on the GEFT correlated negatively with speaking grades, there is no significant relationship between these two variables; therefore, as far as the lack of significance is concerned, this negative correlation between the speaking scores and the cognitive styles (FD/I) is not meaningful.

Consequently, this lack of a meaningful relationship between these two variables, i.e. the speaking performance and the style (FD/I), will become more conspicuous through calculating ANOVA, assessing the effects of learners' FD/I styles along with their gender on their speaking performance, which is presented in TABLE IV.

TABLE IV

ANOVA: EFFECTS OF GENDER AND STYLE ON SPEAKING

Independent Variables	Mean Square	F	Sig.
Cognitive Style (FD/I)	.031	.020	.887
Gender	1.36	.90	.347
Interaction of Style & Gender	.033	.02	.883

Dependent Variable: Speaking Test. (Level of Sig. at .05).

Looking at the ANOVA table (TABLE IV), one can make sure that the independent variables (the cognitive style (FD/I) and the gender) have not significantly affect the variance in the dependent variable (the speaking performance) because on the basis of the significance level, that is, $p =.05$, the effect is not significant, i.e. $F = .020$, $p >.05$ for the cognitive style (FD/I) and $F = .90$, $p >.05$ for the gender.

Therefore, according to the results of this study, the insignificance of the cognitive style effect along with that of the gender on the learners' speaking performance, which is the answer to the second research question, confirms the answer to the first question of the study, i.e. the lack of significance in the relationship between the cognitive style (FD/I) and the speaking performance. In other words, there is no difference between the speaking performance of the field dependent and the field independent, male or female, Iranian EFL students.

Discussion

The insignificant effect of the learners' cognitive style (FD/I) as well as their gender on their speaking performance, which has been proved in Iranian EFL context and illustrated in ANOVA table (TABLE IV) in this study, reveals that, at least for this sample of Iranian collegians, the cognitive learning style (FD/I) may not be a strong factor in interpreting the learners' speaking performance. Besides, the learner's gender is also not a determining variable in their speaking performance. Furthermore, since the correlation between the GEFT scores and the speaking performance is not significant, one can conclude that not only do the cognitive style (FD/I) and the gender have insignificant effects on the speaking performance, but also there is no significant relationship among them at all.

Therefore, as far as the speaking test bias is concerned, it seems that the cognitive style and gender bias may not be operational in speaking solutions.

That is, the evidence in this study, which is in contrast with the results of almost all of the studies reviewed in the literature, assessing FD/I cognitive styles such as that of Witkin's (1969) in language learning, Bialystok's and Fröhlich's (1978) and Brown's (1987) in classroom foreign language learning, Dulay's, Burt's, and Krashen's (1982) in the conscious learning of metalinguistic skills, Stansfield's and Hansen's (1983) in classroom learning, Chapelle's and Roberts' (1986) and Carter's (1988) in L2 learning in the case of college students, Chapelle's (1992) in cloze, dictation, and multiple-choice language tests, and so on, indicates that field independent individuals do not perform better in their speaking test than do field dependent ones; or vice versa.

Based on this data, it appears that FD/I cognitive style does not explain L2 speaking performance.

However, the present finding is consistent with the findings of the most recent study done in this area by Yang (2006), who has found that learning style is not the effective factor influencing student achievement, and maintained that field-independent students do not differ significantly from field-dependent students in their achievements. He concluded that students with different learning styles and backgrounds learn equally well and do not differ much in their use of learning strategies.

With respect to the findings of this study, and the fact that it was found out that there is not a significant relationship between field-independence/dependence and second language speaking performance, it can be suggested that field-independence may not be an advantage in classroom L2 learning in contrast to Brown's (1987) findings. We can also conclude that in contrast to Carter (1988) who had found that field-dependent individuals were more advantageous for language learning, this might not be always true.

According to the findings of this study, we might be able to conclude that in contrast to what Chapelle (1992) concluded in her study that field dependence/independence is related to language testing and the fact that this issue is a source of variance in language tests, may not always hold true. And factors other than the FD/I cognitive style and gender may be responsible for variance in language test performance. Field-independence alone may not be the most influential variable, responsible for introducing systematic error into language test scores.

The differential performances of field dependent/independent students on language tests may have not been because of FD/I cognitive style. Other factors may be involved in this process which indicates much more research is needed to shed light on this issue and to show exactly whether or not FD/I cognitive style can be a source of systematic variance in second language speaking performance in other contexts, and therefore, whether or not to be considered as a source of test bias.

Conclusion

With regard to the obtained results and findings, the following conclusions can be drawn in relation to the research questions. With respect to the first question, whether there is a relationship between the FD/I cognitive style and the speaking performance of the Iranian EFL learners, it was found that there is no significant correlation between the students' cognitive style (FD/I) and their speaking performance. Regarding the second research question, i.e. the effect of the FD/I cognitive style, gender, and the interaction of them on speaking performance, results suggested that none of them had a significant effect on the students' speaking performance.

However, it is believed that the results of different research around the world are generally context-specific and contextually determined. Therefore, the findings of the current study refers to the Iranian EFL learners and Iran context, and may not be fully generalizable to all contexts around the world due to the social, cultural, and even political and economic discrepancies, which may easily lead to differences in biological, cognitive, and affective states or styles. For this reason, there is a great need for much more research in this area in order to cover different contexts throughout the world and show exactly whether or not FD/I cognitive style can be a source of systematic variance in second language speaking performance, so that it may be, then, generalized as a proved issue.

Pedagogical Implications

The lack of a significant correlation between FD/I cognitive styles and the speaking performance of the EFL learners, and also the insignificant effect of the two variables of the FD/I style and the gender on the speaking performance reveal some pedagogical implications for Iranian EFL teachers, test users, and test developers.

There is no need for teachers, at least in Iran context, to classify their students based on their FD/I cognitive styles and gender in order to teach the speaking skill to them more efficiently or systematically. In fact, the Iranian EFL teachers should take this into account that the learners' cognitive styles (FD/I) and gender are not considered as determining factors in the process of teaching and learning the speaking skill.

Therefore, it is recommended that the Iranian EFL teachers not focus on these two variables in teaching the speaking skill. Instead, they may search for the elements influencing EFL speaking performance other than FD/I cognitive styles and gender. They may do so either by going over some previously-done research on factors affecting speaking performance or by doing "action research" by themselves and mediating between the existing theories in terms of speaking and their own practices in the classrooms. This would help them to specify and recognize, through experience, those major factors which either help or interfere the learners' speaking performance.

Moreover, as far as the insignificance of the effect of these two variables (FD/I style and gender) is concerned, the EFL test developers and test users should know that FD/I cognitive styles and gender may not be considered as the influential variables, responsible for introducing systematic errors into EFL speaking test scores. The variance and the discrepancies in the scores of the field-dependent and field-independent, male or female, test takers on EFL speaking tests are not due to the type of cognitive style (FD/I) or gender they possess. Other factors may be involved in this process. This indicates that much more research is needed in order to show exactly what these factors are, and to what extent they can be considered as sources of the speaking test bias.

Limitations of the Study

This study, like many other studies, has a number of limitations. The number of the participants was relatively small (Nt = 53), especially the number of male ones (Nm = 10). This limitation may be due to the current economic condition of Iran, leading the males to join the working class of the society before getting admitted at universities, or may be due to the difficulty of the university entrance examinations in Iran. These factors will limit the generalizability of the results of this study to the other contexts and other populations. Therefore, the results of this study may be generalizable only to its immediate population; that is, those students who are studying English Literature at Shiraz University and not else where.

The other problem lies in the fact that this sample was a convenient sample and there was not any random selection. This will also limit the generalizability of the results of the study to other contexts.

Another limitation can be the effect of students' motivation on the results of this study because those who participated in this study were reluctant to take part in it as it did not have any advantages for them. In fact, they had to take part in this study because their professor had made them participate. As a result, they had low motivation to take the tests or to answer the questionnaire. Perhaps, this can be the cause of the relatively odd results of this study which seems to be in contrast to the results of many previous studies.

Suggestions for Further Research

Further research is needed in which all of the above-mentioned limitations would be taken into account. For example, future research can use a larger and random sample of students, with more male participants, to shed more light on the issue of test bias in general, and the factors that lead to the speaking test bias, in particular.

Moreover, one can take into account the possible effects of other factors that might be involved in creating such a result. For instance, another essential aspect that has been ignored in the past research efforts is the possible influence of other variables on the observed relationship between cognitive style and language learning. For example, the prevalence of field dependence differs between girls and boys; girls, on average, exhibiting greater field independence than boys (Cairns, Malone, Johnston, & Cammock, 1985; Witkin, 1979). Much more studies which take into consideration the students' gender seem to be needed in this area.

Furthermore, intelligence can also be taken into account in research on cognitive styles. Intelligence as a variable is of particular interest, since the superior performance of field-independent subjects in certain intellectual tasks has led some authors to suggest that cognitive style is nothing more than an alternative way of looking at dimensions of ability.

In this study, intelligence was not taken into account although numerous studies have reported a correlation between measures of FD/I and various types of ability; specifically general intelligence and spatial aptitudes (Bloom-Feshbach, 1980; Laosa, 1980; McKenna, 1983, 1984; McKenna, Duncan, & Brown, 1986). It seems increasingly clear that consideration of the possibility of overlap between these two variables, namely, intelligence and cognitive style, is essential in any study of field dependence-independence and intellectual variables. Further research can be conducted in which the effect of intelligence will be investigated along cognitive styles.

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