

The Interaction Between Field Dependent / Independent Learning Styles and Learners' Linguality in Third Language Acquisition

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Abstract

Field Independent 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 3-D 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.

In the present study the interaction between the learners' learning styles and their linguality in language acquisition was investigated. Results of data analysis indicated that there is a significant difference between dependent and independent students in their English Achievement Test scores, while there is NO significant interaction between students' learning styles and gender in their English Achievement Test scores. It was also indicated that there is NO significant interaction between students' learning styles and their linguality in English Achievement Test scores.

Key words:

Dependent / Independent learner, Linguality, Language acquisition

Abstracto

Este estudio intenta hallar el comportamiento estratégico de lectura entre estudiantes femeninos y masculinos, mono/bi lingües de alta y baja estrategia de lectura en la lectura de cuentos cortos. Se encontró que los estudiantes que utilizan altas y bajas estrategias obtuvieron diferencias significativas en sus puntuaciones promedio de lectura y que los estudiantes bilingües obtuvieron a su vez promedios más altos de lectura que los monolingües. Sin embargo, el género de los estudiantes no marcó una diferencia significativa en las puntuaciones promedio de lectura. En adición, se encontró que la interacción entre la conciencia de las estrategias de lectura y la lengua no fue significativa, ya que los patrones en las puntuaciones de lectura fueron iguales entre estudiantes mono y bilingües, sin importar las estrategias de lectura de cada uno.

También se encontró que el efecto de la interacción entre estrategias de lectura y el género de los estudiantes no fue un factor significativo en el estudio, revelando de esta manera un patrón en las puntuaciones de estudiantes femeninos y masculinos, sin importar las estrategias de lectura de cada uno. Este hallazgo implica que para aumentar la habilidad de comprensión de lectura de cuentos cortos de estudiantes de ESL, se debe aumentar a su vez la conciencia de estrategias de lectura. En adición, los estudiantes monolingües, necesitan mayor andamiaje en cuanto a las actividades de lectura que les ofrecen sus maestros, en comparación con la que necesitan los estudiantes bilingües para la lectura de cuentos cortos.

Palabras clave:

lengua, lectura, estrategias de lectura de cuentos cortos, ESL.

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1. Introduction

Witkin (1973), a pioneer in learning styles, defined learning styles in terms of a process. He argued that learning styles are concerned with the form rather than the content of the learning activity. Learning style refers to individual differences in how we perceive, think, solve problems, and learn. Witkin spent a great part of his academic career developing measures of learning style.

His work concentrated on determining to what extent a person's perception of an item was influenced by the surrounding field in which the item appeared. He wanted to determine if “some people saw the tree, while others saw the forest”. According to him

whereas field-dependent people see the forest, field-independent learners see the tree within the forest.

In theory, there are as many learning styles as there are learners, and the practical implication of learning styles for teaching-learning interactions are numerous. Nevertheless, in recent years, only a few of the possible number of styles have received the attention of L2 researchers; one of the most well researched areas is “field independence” (FI) or “field dependence” (FD). FI / FD refers to how people perceive and memorize information (Chapelle, 1995).

Imagine you have just arrived to a foreign country whose language you neither speak nor read. You are at the airport and your contact person is not there to meet you. To make matters worse, your luggage is missing. It is 2 A.M. and airport staff is scarce, and those that are present do not speak English. What will you do? Your response to this question will depend largely on the “cognitive styles” you happen to bring to bear, your general predisposition towards processing new information or challenges in a particular way (Skehan, 1991). For instance, if you are “ambiguity tolerant,” your unfortunate circumstances will not easily fluster you. If you are “reflective,” you will exercise patience. If you are “field independent,” you will be able to focus on the relevant issue and not be distracted by unnecessary details (Brown, 1994).

Students can enhance their learning power by being aware of style areas in which they feel less comfortable, work on the development of these, and thus provide avenues to foster their intellectual growth (Eliason in Kang, 1999). Similarly, teachers can identify strong style patterns in their classes and make effective use of such information by

devising lesson plans, which accommodate individual learning style preferences. Robert Wyss (2002) has created the following learning styles checklist to enable teachers of EFL gauge their learners' tendencies towards FI/FD. This kind of assessment does indicate students' preferred general learning styles. Learners whose responses tend toward the right-hand side of the list, indicate a preference for FD, conversely, those who check more on the left show a preference for FI.

FIELD INDEPENDENT/DEPENDENT CHECKLIST

Instructions to L2 learners: Check one box in each item that best describes you. Boxes A and E would indicate that the sentence is very much like you. Boxes B and D would indicate that the sentence is more or less like you. Box C would indicate that you have no particular inclination one way or the other or a combination of both.

	Independent	A	B	C	D	E	Dependent
1	I have no problem concentrating amid noise and confusion.						I need a quiet environment in order to concentrate well.
2	I enjoy analyzing grammar structures						I find grammar analysis tedious and boring.
3	I feel I must understand every word of what I read or hear.						I don't mind reading or listening in the L2 without understanding every single word as long as I 'catch' the main idea.
4	I think classroom study is the key to effective language learning.						I think communication is the key to effective language learning.
5	I prefer working alone to working with other people.						I really enjoy working with other people in pairs or groups.

6	Receiving feedback from other people really doesn't affect my learning at all.						I find feedback useful as a means of understanding my problem areas.
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Cognitive tunnel vision limits learners with a strong FI tendency and prevents them from seeing the big picture. While they get “stuck” on unfamiliar vocabulary or ambiguous grammar structures, their FD counterparts will have already understood the gist of a written or spoken discourse - without, however, having caught the precise meaning of every word. Seen in this light, the FD learner has the advantage of overlooking problems in order to see the general configuration of a problem or idea.

Summerville (1999) referred to field dimensions of independence and field dependence as a global versus an articulated style that reflects the “degree to which an individual’s processing of information is affected by the contextual field” (p. 3). FI learners have been referred to as “analytical, competitive, individualistic, task oriented, internally referent, intrinsically motivated, hypothesis testing, self-structuring, linear, detail oriented, and visually perceptive” (Hall, 2000, p. 5) whereas FD learners have been referred to as “group-oriented, global sensitive to social interactions and criticism, extrinsically motivated, externally referential, not visually perceptive, non-verbal, and passive learners who prefer external information structures” (Hall, 2000, p. 6). Governor (1998) added that FD learners are in more need of social input and external help in interpreting clues embedded in a particular learning task. Hu (1998) observed that FI learners are more analytic and rely less on external clues than their FD counterparts. FI learners, it appears, are more able to generate and structure their own knowledge rather than accepting knowledge reprocessed by others. Hall (2000) pointed out that the

differences between FI and FD learners are more likely the result of “varying information processing skills such as selective attention, short-term memory encoding, and long-term recall at which field independent individuals are more accurate and efficient” (p. 72).

A number of studies have noted that the distinction between Field-Dependent and Field-Independent individuals is similar to that of differentiating Holists and Serialists (e.g., Jonassen & Grabowski, 1993; Riding & Cheerna, 1991). Field-Dependent individuals typically see the global picture, ignore the details, and approach a task more holistically. Field-Independent individuals tend to discern figures as being discrete from their background, to focus on details, and to be more serialistic in their approach to learning.

1.1. What Affects Field Dependence-Independence?

Thus far the discussion has focused on things that are affected by field dependence-independence. There are a few factors, however, that affect the degree to which we are each field dependent or independent.

a. Child Rearing Practices

Witkin (1973) believed that field dependence-independence tendencies result from child rearing practices that emphasize gaining independence from parental controls (Korchin, 1986). The early studies of child rearing done by Witkin (1973) showed that when there is strong emphasis on obedience to parental authority and external control of impulses, the child will likely become relatively field dependent. When there is

encouragement within the family for the child to develop separate, autonomous functioning, the child will become relatively field independent.

b. Gender

There is mixed evidence on the effect of gender on field dependence-independence. Studies of children have not found any differences at all. However, in studies of adults when differences between sexes and field dependence-independence are found, males always achieve scores that are indicative of greater field independence. The effect of gender on field dependence-independence is so small that this factor is practically insignificant.

c. Age

There appears to be some effect of age on field dependence-independence. Children are generally field dependent, but their field independence increases as they become adults. Adults (especially adult learners) are more field independent (Gurley, 1984). After that time, field independence gradually decreases throughout the remainder of life, with older people tending to be more field dependent than younger people. (Witkin, et al., 1973).

The present study, investigates the relation between the learning styles (dependent and independent styles) and linguality of the students in English language achievement by considering age and gender of the learners.

Therefore, the following hypotheses are formulated:

H1: There is a significant difference between dependent and independent students in their English achievement scores.

H2: There is a significant interaction between students' learning styles and gender in their English achievement scores

H3: There is a significant interaction between students' learning styles and linguality in their English achievement scores.

H4: There is a significant difference between bilingual and monolingual students in their learning styles scores.

H5: There is a significant difference in learning style scores between students with English and Kannada as medium of instruction.

2. Method

2.1. Participants:

High school students both male and female who have had 10 years of schooling (N=236) from private and governmental high schools with English or Kannada as medium in the city of Mysore comprised the sample of the present study. They were between 14 to 16 years of age. The high schools were randomly selected.

Through a background questionnaire three groups of students participated in this study:

Group A: 44 male and 65 female monolinguals who have selected English as medium of instruction;

Group B: 17 male and 28 female monolinguals who have selected Kannada as medium of instruction;

Group C: 36 male and 46 female bilinguals who have selected English as a medium of instruction.

In the present project monolinguals are those students who use just one language (except English) as home language and are not able to communicate with others by using

more than one language, while bilinguals use more than one language (except English) at home or in their daily communications.

In this study English has not been considered as an additional language for those subjects who were not capable of using it as a means of communication in their daily conversations whether inside or outside of the home.

Participants, in all groups were homogenous, in terms of

- a. Socio-educational context: socio economic level,
- b. Methodology used at schools,
- c. Number of hours devoted to the teaching of English, and
- d. Age of the participants.

2.2. Procedure:

During the months of February and March 2007 the investigator approached the high school authorities in Mysore. After getting consent of the authorities, the investigator conducted tests in the respective schools. As much as possible, the conditions for testing were strictly followed.

Instructions printed on the top of the first page of question papers were first read aloud by an authority of the school and then before the beginning of each test, the investigator cleared doubts, if any. The way of answering the questions was made clear to the participants and in case of any difficulty they were encouraged to ask question and, if so, help was provided. Administration of the test took 45 minutes, which was completed in two phases.

Phase I: The questionnaire and Grammatical Achievement Test (GAT), in 25 minutes; and

Phase II: Learning Style Test (LST) in 20 minutes.

Based on GEFT, Subject's scores range from 0 to 18. The higher the score above the group mean, the higher is the subject field-independent. Conversely, the lower the subjects' score below the group mean, the lower is the subject field-dependent. It must be stressed that learning styles are independent of intelligence. Field-dependence/field-independence is more related to the PROCESS of learning, not the APTITUDE for learning.

2.3. Instruments:

The instruments used in this study are as follows:

a. A background questionnaire:

In order to elicit information about participants, a background questionnaire was developed by the investigator. It covered issues such as the subjects' age, gender, linguality status, their parents' socio-educational background and occupation. The subjects were assured that the elicited information would be kept in full secrecy.

b. Learning Style Test:

A number of instruments have been developed to measure a person's learning style. One of the easiest to administer, especially in group situations, is the Group Embedded Figures Test (GEFT) (Witkin, Oltman, Raskin, and Karp, 1971). The GEFT is a perceptual test, which requires the subject to locate a figure within a larger complex

figure. The GEFT, which comprises of 18 complex figures, can be administered in 20 minutes and can be quickly scored using answer templates from the test distributor.

This test is designed to distinguish field-independent from field-dependent cognitive types; a rating which is claimed to be value-neutral. Field-independent people tend to be more autonomous when it comes to the development of restructuring skills; that is, those skills required during technical tasks with which the individual is not necessarily familiar. They are, however, less autonomous in the development of interpersonal skills.

c. Grammatical Achievement Test:

On the basis of the existing English textbook prescribed for high school students who have had 10 years of schooling, this test, along with a correction task, was developed by the investigator. Grammatical Achievement Test utilized as the pedestal for assessing the participant's level of achievement in English comprised of 30 multiple-choice vocabulary, grammar, and reading comprehension items. Choosing the number of items about the aforementioned topics has been done according to the syllabus of the participants' textbook.

It may be worth mentioning that the reliability of GAT estimated by Split Half Test at the level of 0.01 appeared to be .245, therefore the correlation between the tests was significant.

Prior to the administration of the test it was piloted with 10 high school students who have had 10 years of schooling with similar characteristics to those participants of this project. It was correlated with an achievement test developed by the ministry of education. For this level, the correlation coefficient calculated between these two tests

appeared to be 71. Hence, the Grammatical Achievement Test was found to be appropriate for the participant's proficiency level.

2.4. Result and Discussion:

On the basis of their scores from the Learning Style Test, the subjects were first divided into two groups, these are:

- a) Independent: Those subjects who scored 1 Standard deviation above the Mean (M+1SD), and;
- b) Dependent: Those subjects who scored 1 Standard deviation below the Mean (M-1SD).

Then on the basis of their answers to item 6 (Language or languages which are used at home) in the questionnaire (see the Appendix), they were divided into:

- a) Monolingual: if a subject spoke only one language at home, he/she was classified as a monolingual; and,
- b) Bilingual: if he /she spoke more than one language at home was classified as a bilingual.

After obtaining the data, 1-way ANOVA and T-test were employed to find out if there was significant difference between variables, as shown in the following tables.

Table 1
Group statistics

Learning Style	N	Mean	Std. Deviation	Std. Error mean
Achievement Dependent	48	8.8333	2.80830	.40534
Achievement Independent	45	11.0889	3.26707	.48703

Table 2
Independent Samples Test

	t-test for Equality of Means			
	t	df	Sig. (2-tailed)	Mean Difference
Learning Style	-3.577	91	.001	-2.2556

▲ Results of data analyses (T-test) indicates that (table 1 & 2) there is a significant difference between dependent and independent students in their English Achievement Test scores. ($t=3.577$; $P<.001$). In other words, independent subjects scored higher ($M=11.08$, $SD=3.26$) than dependent ones ($M=8.83$, $SD=2.80$) in English Achievement Test. Therefore, according to the results of data analyses, the first hypothesis formulated for English Achievement Test is accepted.

Table 3

Results of 1-way ANOVA for mean Achievement Test scores of male and female students with dependent/ independent learning styles

Variable	Source of Variation	Sum of Squares	df	Mean Square	f	sig
Achievement	Gender (A)	.078	1	.078	.008	.928
	Learning style (B)	107.267	1	107.267	11.368	.001
	Interaction (A×B)	.409	1	.409	.043	.836

▲ Having used a 1-way ANOVA in continuation to data analyses, indicates that there is NO significant interaction between students' learning styles and gender in their English Achievement Test scores ($F=.043$; $P<.836$). In other words, both male and female subjects' scores in English Achievement Test were basically the same, irrespective of their learning style backgrounds.

Table 4

Results of 1-way ANOVA for mean Achievement Test scores of dependent and independent students with different linguality

Variable	Source of Variation	Sum of Square	df	Mean Square	f	Sig
Achievement	Learning style(A)	86.910	1	89.910	9.393	.003
	Linguality (B)	1.250	1	1.250	1.135	.714
	Interaction (A×B)	15.598	1	15.5989	1.686	.198

▲ As table 4 indicates, there is NO significant interaction between students' learning styles and their linguality in English Achievement Test scores ($F=1.686$; $P<.198$). In other words, the scores of English Achievement Test were the same for both dependent and independent students irrespective of their linguality.

Therefore, the second and third hypotheses formulated in the present paper stand rejected.

Table 5

Group statistics

Linguality	N	Mean	Std. Deviation	Std. Error
Learning Style Bilingual	82	6.5122	4.00075	.44181
Monolingual	154	5.6558	4.01204	.32330

Table 6

Independent Samples Test

	t-test for Equality of Means			
	t	df	Sig.(2-tailed)	Mean Difference
Learning Style	1.536	234	.119	.8564

▲As indicated, in the process of analyzing (T-test), there is NO significant difference between bilingual and monolingual students in their learning styles scores. ($t = 1.563$; $P < .119$), therefore the fourth hypothesis is rejected.

▲Finally, the hypothesis formulated for subjects with different medium of instructions is also rejected, because, as data analysis (T-test) in tables 7 & 8 indicate, there is a significant difference between students with English and Kannada medium of instruction in their learning styles scores ($t = -3.26$; $P < .000$).

In other words subjects with English Medium of instruction scored higher ($M = 5.714$, $SD = 3.712$) than subjects with Kannada Medium of instruction ($M = 3.679$, $SD = 2.938$) in Learning Style Test.

It may be worth mentioning that the T-test indicates that there is no significant difference between subjects with English and Kannada medium of instructions ($t = .752$; $p < .455$). In other words, they are homogenous in Language Achievement Test scores.

Table 7

Group statistics

Medium of Instruction	N	Mean	Std. Deviation	Std. Error Mean
English	105	5.714	3.712	.362
Kannada	42	3.619	2.938	.453
Learning Style				

Table 8

Independent Samples Test

	t-test for Equality of Means			
	t	df	Sig. (2-tailed)	Mean Difference
Learning Style	-3.26	145	.007	-2.09

3. Conclusion

Data analysis indicates that there is a significant difference between dependent and independent students in their English Achievement scores. In other words, independent subjects score higher than dependent ones in English Achievement Test. Thus, the first hypothesis stating that there is a significant difference between dependent and independent students in their English Achievement Test scores is accepted. The result supports the finding of Robert Wyss's studies (2002), which demonstrated that the field independent learners excel in classroom learning, which involves analysis, attention to details, and mastering of exercises, drills, and other focused activities.

Similarly the result of the present study supports the findings of Simonson (1985), Yea-Ru Chuang (1999), and also Miller (1997). According to them, FI learners, are more proactive and usually have a strong self-concept, and tend to solve problems through intuition and use trial-and-error strategies, as opposed to FD learners, who perceive objects as a whole.

Although it appears that field dependence-independence is a field rich in research and writing, it is an area that will never be exhausted of new topics to explore. Field dependence-independence has implications for many practitioners and researchers. However, the conclusions and its implications in the field of education are most interesting to me. It appears that the knowledge of individual and group differences based on field dependence-independence is cemented in the realm of research and has not quite been exploited in the practical world. Teachers and teacher educators do not appear to be

testing students for field dependence-independence tendencies, and yet it is so critical to what goes on in the classroom. The student's behavior, ability to organize information, need for assistance and guidance, performance on certain types of tests, and ability to comprehend assignments are all affected by field dependence-independence skills.

Since a great many teachers have experienced academic success in learning environments that were instructor-centered and relied heavily on lecture, it is understandable that their preferred style of teaching, at least initially, would be to repeat, "what worked with them." Typically these teachers are field independent, that is, they are more content oriented and prefer to use more formal teaching methods. This style works especially well for field-dependent students who want to be told what they should learn and given the resources to acquire the specified body of knowledge or skills

Students can enhance their learning power by being aware of style areas in which they feel less comfortable and by working on the development of these, thus, providing avenues to foster their intellectual growth. Similarly, teachers can identify strong style patterns in their classes and make effective use of such information by devising lesson plans, which accommodate individual learning style preferences.

Consequently, teachers who are aware of their learning style, as well as the styles of their students, are better able to make sure that any differences between their learning styles will not impede learning. The key to teaching students with different learning styles is the identification of your own learning style as well as your student's styles.

The present researcher offers here a few of the most useful kind of assessments. These tests are especially helpful when taken first by the teacher, in order to determine his or her own profile. Thereby the teacher can guard against teaching in only that way and as a consequence making it very difficult for students who do not share a similar profile. It appears that the best use of this information is to help teachers broaden their array of teaching strategies so that students learn at least part of the time in ways they find comfortable, and at other times in ways that stretch them into new ways of thinking and learning.

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Appendix

Student Proforma

- 1-Name of the student:.....
- 2-Age:.....
- 3-Gender:.....
- 4- Class studying:.....
- 5-Medium of instruction:.....
- 6-Language or languages which are used at home (Home language):
 - a) Kannada
 - b) Urdu
 - c) Hindi
 - d) Telugu
 - e) Marathi
 - f) Others (specify)

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