

## CHAPTER FOUR

### RESULTS

This chapter is composed of four sections. The first section reports the relationship between students' FI/FD cognitive styles and students' English performance in the listening, reading and writing test. The second section demonstrates the relationship between teachers' FI/FD cognitive styles and students' English performance in the listening, reading and writing test. The following section deals with the relationship between student-teacher FI/FD match/mismatch and students' English performance in the listening, reading and writing test. The final section illustrates the interview with FI/FD students and teachers.

#### 4.1 Relationship between Students' FI/FD Cognitive Styles and Students' English Performance

This section is presented to answer the first research question: Is there any significant correlation between students' field independent-dependence and students' English performance in the listening, reading and writing test? As shown in Table 3, the means of the listening, reading and writing test all indicate that FI students scored higher than FD students in the listening, reading and writing test as well as the average score. Table 4 further shows that a significant correlation was found between FI students and students' performance in the listening, reading and writing test. The correlation reveals that FI students displayed a statistically significant higher level of English performance in the listening test ( $r = .300, p < 0.01$ ), the reading test ( $r = .341, p < 0.01$ ) and the writing test ( $r = .249, p < 0.01$ ) as well as the average score of the three tests ( $r = .311, p < 0.01$ ).

Table 3  
GEPT Results for FI/FD Students

		N	Mean	Std. Deviation
Listening test	FI students	112	76.07	25.643
	FD students	130	68.03	23.193
Reading test	FI students	112	72.24	28.498
	FD students	130	60.78	28.61
Writing test	FI students	112	55.88	34.16
	FD students	130	46.55	41.618
Average score	FI students	112	68.06	27.61
	FD students	130	58.45	29.14

Note: N means the number of FI/FD student participants.

Table 4  
Correlations between FI/FD Students and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
FI/FD Students	.300 **	.341**	.249**	.311**

Note \*\* Correlation is significant at the 0.01 level (2-tailed).

#### 4.2 Relationship between Teachers' FI/FD Cognitive Styles and Students' English Performance

This section deals with the second research question: Is there any significant correlation between teachers' field independent-dependent and students' English performance in the listening, reading and writing test? As Table 5 shows, the means of the tests indicates that students with FI teachers performed better than those with FD teachers in the listening test, the reading test, the writing test as well as the average score of the three tests. However, when Pearson product-moment correlation

was used to detect if any significant relationship existed, Table 6 illustrates that students with FI/FD teachers reflected no significant correlation with students' English performance in the listening, reading and writing test.

Table 5  
GEPT Results for Students with FI/FD Teachers

	FI/FD Teachers	N	Mean	Std. Deviation
Listening test	FI	124	73.94	25.25
	FD	118	69.46	23.86
Reading test	FI	124	69.04	28.91
	FD	118	62.98	29.03
Writing test	FI	124	54.27	41.00
	FD	118	47.29	35.62
Average score	FI	124	65.75	29.37
	FD	118	59.91	27.97

Note: N means the number of the students with FI/FD teachers.

Table 6  
Correlations between Students with FI/FD Teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
Students with FI/FD Teachers	.092	.099	.101	.105

Note \*\* Correlation is significant at the 0.01 level (2-tailed).

For better understanding of the relationship between teachers' FI/FD cognitive styles and students' English performance, students were divided into the female groups and the male groups, and the data were re-tested.

In Table 7, the means of the tests shows that female students with FI teachers

performed better than those with FD teachers in the listening test, reading test, writing test as well as the average score of the three tests. As shown in Table 8, female students with FI teachers were significantly correlated with better performance in the listening test ( $r = .182$ ,  $p < 0.05$ ), though not in the reading and writing test.

Table 7  
GEPT Results for Female Students with FI/FD teachers

	FI/FD Teachers	N	Mean	Std. Deviation
Listening Test	FI	62	80.19	24.97
	FD	62	71.48	23.22
Reading Test	FI	62	75.55	28.72
	FD	62	67.04	26.97
Writing Test	FI	62	59.14	40.33
	FD	62	50.73	33.26
Average Score	FI	62	71.63	28.95
	FD	62	63.08	26.48

Note: N means the number of female students with FI/FD teachers.

Table 8  
Correlations between Female Students with FI/FD Teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
Female Students with				
FI/FD Teachers	.182*	.156	.133	.164

Note \*Correlation is significant at the 0.05 level (2-tailed).

As for the male groups, the means presented in Table 9 exhibit better

performance of male students with FI teachers than those with FD teachers in the listening test, the reading test, the writing test as well as the average score.

Nevertheless, Table 10 shows that no significant correlation existed between male students with FI/FD teachers and male students' English performance in the listening, reading and writing test.

Table 9  
GEPT Results for Male Students with FI/FD Teachers

	FI/FD Teachers	N	Mean	Std. Deviation
Listening Test	FI	62	67.68	24.14
	FD	56	67.21	24.57
Reading Test	FI	62	62.53	27.84
	FD	56	58.49	30.78
Writing Test	FI	62	49.41	41.41
	FD	56	43.48	38.00
Average Score	FI	62	59.87	28.82
	FD	56	56.39	29.36

Note: N means the number of male students with FI/FD teachers.

Table 10  
Correlations between Male Students with FI/FD Teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
Male Students with FI/FD Teachers	.012	.058	.080	.059

Note \*\*Correlation is significant at the 0.01 level (2-tailed).

### 4.3 Relationship between Student-Teacher FI/FD Match/Mismatch and Students' English Performance

This section presents results related to the third research question: Is there any significant correlation between student-teacher field independence-dependence match/mismatch and students' English performance in the listening, reading and writing test? In Table 11, the means of student-teacher FI/FD match and FI/FD mismatch groups show that FI/FD mismatch groups outperformed FI/FD match groups in the listening, reading and writing test as well as the average score of the three tests. Table 12 reveals that there was no significant correlation between FI/FD match/mismatch groups and students' English performance in the listening, reading and writing test.

Table 11  
GEPT Results for FI/FD Match and FI/FD Mismatch Groups

	Group	N	Mean	Std. Deviation
Listening Test	match	104	69.19	24.13
	mismatch	138	73.68	24.92
Reading Test	match	104	64.60	28.94
	mismatch	138	67.21	29.22
Writing Test	match	104	45.69	34.02
	mismatch	138	54.77	41.33
Average Score	match	104	59.83	26.96
	mismatch	138	65.22	29.97

Note: N means the number of FI/FD match and FI/FD mismatch groups.

Table 12

## Correlations between FI/FD Match Groups/Mismatch Groups and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
Match/Mismatch	-.090	-.045	-.117	-.093.

Note \*\*Correlation is significant at the 0.01 level (2-tailed).

To get a deeper look at student-teacher FI/FD match and mismatch groups, Pearson product-moment correlation was employed to find out any notable relationship between FI match/mismatch groups and students' English performance, and between FD match/mismatch groups and students' English performance. The FI match groups included FI students with FI teachers, and the FI mismatch groups included FD students with FI teachers as well as FI students with FD teachers; the FD match groups included FD students with FD teachers, and the FD mismatch groups included FD students with FI teachers as well as FI students with FD teachers. Table 13 illustrates student-teacher FI/FD match and mismatch groups.

Table 13

## Student-Teacher FI/FD Match and Mismatch Groups

Match group	Mismatch group
FI students with FI teachers	FD students with FI teachers FI students with FD teachers
FD students with FD teachers	FD students with FI teachers FI students with FD teachers

For the relationship between FI match/mismatch groups and students' English performance, the means of GEPT presented in Table 14 displays that FI students with FI teachers scored higher than both FD students with FI teachers and FI students with FD teachers in the listening test, reading test and the overall score. As for the writing test, though FI match students did not score higher than FI students with FD teachers, they still scored better than FD students with FI teachers. However, as shown in Tables 15 and 16, there was no significant correlation between FI/FD students with FI teachers and students' English performance and neither was there between FI students with FI/FD teachers and students' English performance.

Table 14  
GEPT Results for FI Match Groups and FI Mismatch Groups

	Group	N	Mean	Std. Deviation
Listening Test	FI students with FI teachers	49	76.73	26.24
	FD students with FI teachers	75	72.11	24.60
	FI students with FD teachers	63	75.56	25.37
Reading Test	FI students with FI teachers	49	75.28	27.54
	FD students with FI teachers	75	64.96	29.23
	FI students with FD teachers	63	69.88	29.22
Writing Test	FI students with FI teachers	49	55.41	32.65
	FD students with FI teachers	75	53.53	45.84
	FI students with FD teachers	63	56.24	35.54
Average Score	FI students with FI teachers	49	69.14	26.43
	FD students with FI teachers	75	63.53	31.11
	FI students with FD teachers	63	67.23	28.67

Note: N means the number of FI match/mismatch groups.

Table 15

Correlations between FI/FD students with FI teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
FI students with FI teachers/ FD students with FI teachers	.090	.175	.022	.094

Table 16

Correlations between FI students with FI/D teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
FI students with FI teachers/ FI students with FD teachers	.023	.094	-.012	.035

As for the relationship between FD match/mismatch groups and students' English performance, the means of GEPT presented in Table 17 demonstrate that FD students with FD teachers benefited the least of all. Tables 18 and 19 further demonstrate that FD mismatch groups showed a significant correlation with better performance both in the listening test ( $r = -.206, p < 0.05$ ;  $r = -.275, p < 0.01$ ) and the writing test ( $r = -.197, p < 0.05$ ;  $r = -.270, p < 0.01$ ). Although there was no notable relationship between FD students with FD teachers/FD students with FI teachers and the reading test, a significant correlation, as shown in Table 19, still existed between FD students with FD teachers/FI students with FD teachers and the reading test; that is, there is a significant and positive relationship between FI students with FD teachers and the reading test ( $r = -.255, p < 0.01$ ). Accordingly, the match theory is not likely to apply to the FD match groups – FD students with FD teachers statistically.

Table 17  
 GEPT Results for FD Match and FD Mismatch Groups

	Group	N	Mean	Std. Deviation
Listening Test	FD students with FD teachers	55	62.47	20.04
	FD students with FI teachers	75	72.11	24.60
	FI students with FD teachers	63	75.56	25.37
Reading Test	FD students with FD teachers	55	55.08	26.97
	FD students with FI teachers	75	64.96	29.23
	FI students with FD teachers	63	69.88	29.22
Writing Test	FD students with FD teachers	55	37.03	33.14
	FD students with FI teachers	75	53.53	45.84
	FI students with FD teachers	63	56.24	35.54
Average Score	FD students with FD teachers	55	51.53	24.83
	FD students with FI teachers	75	63.53	31.11
	FI students with FD teachers	63	67.23	28.67

Note: N means the number of FD match and mismatch groups.

Table 18  
 Correlations between FD students with FD/FI teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
FD students with FD teachers/ FD students with FI teachers	-.206*	-.171	-.197*	-.204*

\* Correlation is significant at the 0.05 level (2-tailed).

Table 19

## Correlations between FD/FI students with FD teachers and GEPT

	Listening Test	Reading Test	Writing Test	Average Score
FD students with FD teachers/ FI students with FD teachers	-.275**	-.255**	-.270**	-.281**

\*\*Correlation is significant at the 0.01 level (2-tailed).

#### 4.4 Interview with FI/FD Students and Teachers

A further understanding of the relationship between student-teacher FI/FD cognitive styles and students' English performance was achieved by means of interview, where FI/FD students and teachers could articulate their beliefs to a further extent, thus providing an in-depth explanation for the study.

##### 4.4.1 Interview with FI/FD Students

30 FI and 30 FD student participants were interviewed for the present study. Topics about how they learned vocabulary, listening, grammar, reading and writing were included in the interview.

First, how the student subjects learned vocabulary was queried. FI students tended to memorize vocabulary with the help of syllables and phonetic symbols. Sentences with the new vocabulary, synonyms and antonyms were also helpful in memorization of the new words. One FI students described, "I like to know how the new word is used in a sentence. I also like to learn its grammatical use, such as its tense form." Another FI student said, "I enjoy memorizing vocabulary in a sentence better than with a picture." As for FD students, some of them also enjoyed the way how FI students memorize vocabulary, but still more voices were heard that they memorized the new words more effectively by means of association. One FD students

described, “I think I would learn better if I hear some jokes or stories about the vocabulary, which help me remember the word for a longer time. Also, pictures are welcomed to help me memorize new words.”

In listening comprehension training, both FI and FD students enjoyed the same way of learning; that is to say, some of the FI/FD students enjoyed listening the content first and then answering the listening questions and check from the teachers’ given answers; others would like to know some background information before listening. But it seemed that more FD students preferred to listen without knowing any clues than FI students did. One FD student explained, “I tend to listen to the conversation first before knowing any background information; I like to get a general picture of conversation by myself and later to check my listening comprehension by the teacher’s explanation.” As for FI students, they tended to find some key words which could facilitate them to piece up the whole listening content. One FI student described, “When I listen, I would listen for some key words, such as a leading role, the action, the time, etc. And then I may get a broad outline of the listening material.”

With regard to the learning of grammatical rules, most of both FI and FD students liked to learn grammatical rules deductively. One FI subjects stated, “When I learn a new grammatical rule, I always use a sentence to reinforce my understanding of how the rule functions in the sentence. Then, I would do a lot of repetitive exercises based on the grammatical rules, such as sentence making, sentence combination or translation practices to reinforce my grammatical skills.” One FD students mentioned, “It’s too time-consuming to find a grammatical rule from many different sentences. It’s not very effective. I prefer to learn the grammatical form first and then do a lot of exercises.” But one thing that differed FI students from FD students was how they liked the grammatical rules being presented. Most FI students described that they preferred to learn the grammatical rules before a reading article

was introduced, so that they could learn the reading more clearly and systematically. FI students were likely to enjoy analytic learning with abstract ideas better. On the other hand, most FD students were apt to learn the grammatical rules after a reading article was presented, so that they could get the general idea of how the grammatical rules were used in sentences. Thus, FD students seemed to prefer global learning to analytic learning.

When asked how they did the reading comprehension exercise, most FD students said that they preferred to read the reading roughly before answering the questions; as for FI students, some of them enjoyed reading the article first before answering the questions while others enjoyed browsing the questions first before reading the article. Generally speaking, FI and FD students differed in problem-solving strategies; FI relied on clues out of the field, while FD students relied on clues from the field.

In the training of composition writing, FI students enjoyed using pictures to inspire their writing and they also tended to make outlines to organize the writing. For FD students, some students liked to learn how to write with an example composition so that they could learn by following the form of writing, while others liked to use pictures to write as FI students did but they tended not to make any outlines to organize the writing; instead, they wrote as what they thought of. Accordingly, FI students learned to write by generating organization or structure on their own, which was more like internally directed learning, while FD students learned to write through accepting the structure, which was more like externally directed learning.

From the interview, it could be concluded that FI and FD students indeed possessed different approaches to processing the learning information. FI individuals tended to apply internal referents in processing information and were more oriented to structure an analytic task without relying too much on the surrounding perceptual field, whereas FD individuals tended to focus on external referents and were better in

a context which was already structured and analyzed for them (Saracho, 2003).

#### 4.4.2 Interview with FI/FD Teachers

Two FI and two FD teacher participants were interviewed in terms of how they taught English. Questions about how they taught vocabulary, listening, grammar, reading, and writing were inquired.

In vocabulary teaching, the ways how FI and FD teachers taught new words were with no or little difference. For example, phonetic rules were used by FI and FD teachers to teach students to memorize the sounds of the words; sentences, phrases, synonyms, and antonyms were provided to enhance students' memorization of the word.

In listening teaching, both FI and FD teachers tended to train students' listening by providing students with background information or some key points before students listened, and later questions were asked as the after-listening activity.

In grammar teaching, both FI and FD teachers favored teaching grammar deductively, that is, the grammatical structure was always exhibited first by the teachers and followed by lots of mechanical drills and exercises. Both FI and FD teachers claimed that deductive learning was more effective than inductive learning and it was also the easiest and fastest way to teach and to learn. They added that they preferred a lecture to a discussion for such an authoritative way of instruction could make the class under control and prevent chaotic learning atmosphere. Though they didn't discard the discussion method, more time was used to instruct with the lecture method. Since the goal of the school was academic-oriented instead of social-oriented, they would rather spend more time on giving students with more repetitive exercises on the subject.

As for teaching reading, FI teachers tended to teach grammatical rules first

before teaching reading, which was very different from the practice of FD teachers who preferred to introduce the meaning of the reading before grammatical rules were explained.

In writing instruction, both FI and FD teachers used to provide an example composition for the students to deduce their own compositions by following its frame; FI and FD teachers also elicited students' writing by providing them with some guiding questions or some key points, such as who, what, when, where, how, and why.

In general, there was no conspicuous difference between FI and FD teachers in the language teaching in which the lecture method was used for the most part. Both FI and FD teachers possessed the same viewpoints of teaching vocabulary, listening, grammar, and writing, while in reading, there was only a slight difference in presenting the reading.

#### 4.4.3 FI/FD Students' Satisfaction with FI/FD Teachers

In order to disclose students' perception toward their teachers, the researcher asked how the subjects perceived their teachers with regard to the satisfaction with the teacher's teaching method, teaching effectiveness, and the teacher's personality. The interview was adapted from a study by Renninger and Snyder (1983), who studied the effects of cognitive style on perceived satisfaction and performance among students and teachers.

As for the satisfaction with teacher's teaching method, FI students with FI teachers reported higher satisfaction than FD students with FD teachers. Most FI students with FI teachers reported that they liked the way their teachers presented the language and their teachers' teaching was very clear and accessible. The teaching material was also quite challenging to them. On the other hand, according to FD

students with FD teachers, the teachers' instruction couldn't help them to absorb the learning materials comprehensibly, thinking that there was still room for the teachers to make deeper explanation of the language; they expected their teachers to supply with some stimulation which could meet their learning needs. It was thus concluded that the match theory applied only to the FI students with FI teachers but not to the FD students with FD teachers in the aspect of teachers' teaching method.

When it comes to the satisfaction with the teacher's teaching effectiveness, most FI students offered higher satisfaction with their FI or FD teachers than most FD students did with their FD teachers. Most FI students with either FI or FD teachers all declared that the teachers' teaching was very effective and agreed that their teachers' instruction could help them score higher grades in the tests. As to FD students, they explained that their FD teachers' teaching wasn't effective enough; rather, they had to look for comprehensible explanations from their classmates or cram school teachers. For FD students with FI teachers, some of them claimed that their teachers too much emphasized grammatical analyses and exercises which they agreed to be effective in learning but might bore the class easily. Apparently, FI students were likely to provide higher degree of satisfaction with teaching effectiveness than FD students.

As regards the teacher personality, it appeared that FD teachers were most favored by either FI students or FD students. One FD student reported, "Although my teacher's teaching isn't very effective to me and neither do I like her teaching method, as to her personality, I 100% care for it." One FI student also talked about her FD teacher, saying "She is a teacher who I like to get close to; she is indeed a heartwarming teacher. I feel at ease and unthreatened when I have her class." As for FI teachers, only FI students give higher appraisal to the teacher personality than FD students did. One FD students said, "I think my teacher teaches very well, but she is sometimes very strict to us. And I don't feel like asking her questions; instead, I

would ask my classmates for help.” In conclusion, the personality of FD teachers seemed to be favored by most of the students because of their sociable and gregarious characteristics while FI teachers seemed to maintain a social distance from the students, which might hold back the intimacy of the students.