CHAPTER IV

FINDINGS

This study attempts to answer the following research question:

How does imitation contribute to a child's second language development in terms of content, syntax and lexicon?

Thus, the findings in this study would be focused on the above three areas respectively.

This chapter presents only the findings of the study whereas the discussion of these findings would be further elaborated in the subsequent chapter (refer to Chapter V).

Following the research question, the first part of this chapter would deal with content analysis whereas the second part would present the results on syntax analysis and the final part is findings on lexical analysis (refer to *method of analysis* section in Chapter III).

The data obtained on content and syntax were analysed quantitatively whereas data on lexicon were analysed qualitatively. This qualitative analysis on lexical item (refer to section C of *method of analysis* in Chapter III) was considered the most appropriate due to the single subject used in this case study. Moreover, since the focus on lexical item was only on similarities on nouns used in

adult's transcript and in the child's post-description transcript, therefore, qualitative analysis was sufficient to see noun acquisition (refer to part C *in method of analysis* in Chapter III).

A) Content analysis

As mentioned previously in chapter III (refer to part A, *method of analysis* section), the content in the post-description transcript was scored as to find out the extent to which the child's imitation was accompanied by comprehension. The content score would indicate the degree of similarities between meaning suggested by adult as in the actual description transcript and the meaning presented by the child as in subject's post-description transcript (refer to Chapter V for further details).

In analysing the content, Table 1 was constructed to show the rating of content using the child's post-description transcripts based on Homzie et al.'s (1975) rating of content (refer to part A in *method of analysis* section in Chapter III). The content of the child's pre-description transcript was not rated because Homzie et al.'s rating of content can only be used for a reproduced story. If other rating of content instrument is employed in rating the content of the child's pre-description transcript, the comparison of the content scores between the child's transcripts for pre- and post-description could be questionable. Hence, only the content of the child's post-description transcript was rated. It is also important to

note that Table 1 was analysed based on the assumption that the content for each picture in adult's actual description transcript was considered as a 5-point score.

TABLE 1

Content Rating Scores

Picture	Actual description	Post-description
1	5	5
2	5	4
3	5	5
4	5	5
5	5	4
6	5	4
7	5	5
8	5	5
9	5	4
10	5	4
11	5	5
12	5	4
13	5	5
14	5	4
15	5	4
16	5	4
17	5	4
18	5	3
19	5	4
20	5	4
21	5	1
22	5	2
23	5	5

Based on the rating of content as presented in Table 1, 52.3% of the child's reproduction of the descriptions scored 4 points (picture 2, 5, 6, 9, 10, 12, 15, 14, 16, 17, 19 and 20) indicating that subject made some substitution in his post-descriptions. The substitution, however, was still related to the original content as suggested in the actual description transcript. Nevertheless, the child had somehow deleted certain important segment of the actual description.

Table 1 also indicated that as many as eight pictures representing 35% of the entire description scored 5 points (picture 1, 3, 4, 7, 8,11, 13 and 23). This suggested that the child was able to preserve the relations in the story and the relevant contexts for approximately one third of the description as appeared in his post-description transcript, even though some changes in wording occurred.

Besides scores of 4 and 5, the subject's post-description of one picture scored 3 points (picture 18). This picture which represented 4.3% of the whole description indicated that the child made some unrelated substitution but he did not completely alter the original meaning in the modelled description.

A score of 2 points which was 4.3%, was attributed to picture 22 showing that the child had deleted a major portion of the actual description and the meaning suggested as in the actual description transcript was substantially altered .

Comparatively, the lowest score of 1 point was given to picture 21 which was also 4.3 % of the overall description indicating the child's inability to describe this particular picture without asking questions to his mother. He could finally

describe the picture briefly with the acceptable content (refer to chapter V for further details) with some leading questions from his mother.

Even though initially the content analysis was decided to be done quantitatively but at this point, it was realised that a qualitative analysis is equally important due to the relevance to include the child's pre-description in comparing the content of his pre-description transcript and his post-description transcript which was expected to show a significant content development. This qualitative analysis is inevitable due to the reason previously mentioned regarding the unsuitability to use Homzie et al.'s (1975) rating of content for the child's pre-description (refer to section A, Chapter III).

In conducting this qualitative analysis of content, the child's pre-description transcript was compared to his post-description transcript. In order to show the difference in the content of these two transcripts, some instances were selected from the two transcripts to illustrate the differences.

The first instance could be seen in picture 1 (refer to Appendix 2) which illustrates a boy and a girl playing on swings with a dog watching them. For this picture, the child's pre-description transcript could be considered to have substantially deviated from the actual event presented by the pictures. A listener who did not see the picture would imagine a different illustration based on the child's description. In some cases the child's description was not self-explanatory at all.

Instance 1

excerpt from description of picture 1

Child's pre-description script

.....and the boy ride this one and this one... later not ride this.

The boy pointed to the object 'swing' every time he uttered the phrase 'this one' or 'this', which could be due to the absence of lexicon 'swing' in his lexical system (refer to Chapter V, section C for further explanation).

Child's post-description script

The girl and the boy ride swing. The dog look at the girl play swing.

After getting the appropriate input from his mother, the child's content in his post-description transcript for this particular picture became perfectly intelligible upon the acquisition of the needed lexical item. This indicated that the development of lexical system played an important role in content presentation.

Instance 2

Excerpt from description of picture 2

Child's pre-description script

..... *and the boy and the girl ride this one ...the boy ride this...the girl ride this one.*

The child pointed to the see-saw when saying 'this one', the way he did when describing picture 1, again due to lack of the needed noun.

Child's post-description script

The girl and the boy ride 'saw-sion'.

Even though the word 'see-saw' was phonologically twisted to 'saw-sion' a listener could possibly guess what the child was trying to describe especially with leading questions which could aid the child to retrieve the word 'see-saw'. Since phonological aspect is not part of the focus in this study, the twisted pronunciation in this particular description would not be discussed further except to show the intelligibility of the child's post-description.

The next instance shows how the child resorted to creating his own description to cover his inability to describe the actual event in the picture due to the absence of needed vocabulary.

Instance 3

Excerpt from description of picture 4

Child's pre-description script

The boy take at the boat. The boy is going to catch the fish. The girl want to take the dog ride on the boat. The girl and the dog want to ride this boat.

Picture 4 (refer to Appendix 2) illustrates a boy who seemed to be talking to a girl and he was pointing to a fish in the water. The dog was standing quite far from them and it seemed to be barking.

Due to the non existence of the word 'barking' in the child's lexical system, the child created his own description as shown above. The child's post-description script seemed to be more accurate in comparison to the actual description script for this picture as shown below.

Excerpt from child's post-description of picture 4

The boy want to catch the fish. The dog barking.

Actual description script for picture 4

The boy is talking to the girl. The boy is pointing to a fish in the water. The dog is barking.

Even though the child concluded that the boy in picture 4 wanted to catch the fish, the content he conveyed in his post-description was the implication of the boy's act of pointing to a fish in the water and was therefore still in line with the content presented in the actual description script for this picture.

On the whole, the child was able to reproduce 87.3% of primarily correct and intelligible description based on his descriptions that scored 4 and 5 points. The other 12.7% of the content of his post-description script comprising picture 18, 21 and 22 indicated that the child was still able to produce intelligible descriptions even though he altered the original meaning of the description for instance in picture 18 due to his inability to recall the term 'fruit seller'. In picture 18 he substituted 'fruit seller' with the word 'daddy' and he also substituted the fruit seller's act of selling to '*daddy want to buy red apples*' (refer to Appendix 2 for illustration of pictures used). The same case occurred in the child's post-description transcript of picture 22 where the child was describing the act of the

receivers instead of the doers in the pictures (refer to Appendix 1 for description and Appendix 2 for illustration). Even though his description for this picture was intelligible, he had deviated from the content suggested in the actual description script. The lowest score given to picture 21 was due to the nature of the rating of content instrument (refer to part A in method of analysis in Chapter III) used in this study which considered the child as unable to reproduce the description when leading questions were involved in the reproduction process, even though in the end the child was able to reproduce correct and intelligible description. Otherwise, the child could obtain 4 points for his post-description for picture 21 (refer to Appendix 1 for full transcript).

B) Syntax analysis

In the attempt to see whether or not there was syntax development due to imitation from adult's description, Table 2 involving the calculation of MLUs was, therefore, constructed. MLU would indicate imitation on sentence length and complexity.

Table 2 presented subject's MLU for every picture which was calculated using Cazden's (1965) calculation of MLU (refer to part B, *method of analysis* in Chapter III). The target MLU represented the adult's MLU which was calculated based on the actual description transcript, while child's MLU was calculated based on the child's post-description transcript (refer to Appendix 1). The relative MLU was calculated in order to give a clearer picture of the actual amount of similarities

between the child's post-description transcript and the actual description transcript in terms of MLU. The relative MLU also indicated the percentage of the child's achievement in terms of MLU calculation in comparison to the target MLU.

TABLE 2

Child's Performance in terms of MLU

Picture	Target MLU	Child's MLU (post-description)	Relative MLU
1	7.0	7.5	1.10
2	10.0	6.0	0.60
3	8.0	7.0	0.88
4	7.0	5.0	0.71
5	6.3	5.0	0.79
6	7.0	5.8	0.83
7	9.0	9.0	1.00
8	11.0	8.0	0.73
9	7.3	7.0	0.99
10	9.7	7.0	0.72
11	13.0	9.0	0.69
12	8.0	5.7	0.71
13	7.0	5.3	0.76
14	10.0	6.3	0.63
15	8.0	15.0	1.88
16	7.0	7.5	1.07
17	9.0	12.0	1.33
18	7.7	11.0	1.43
19	7.7	5.0	0.65
20	8.0	7.5	0.94
21	9.7	10.0	1.03
22	10.5	8.3	0.79
23	7.8	8.4	1.08

Based on Table 2, the child's MLU for pictures 2, 3, 4, 5, 6, 8, 9, 10, 11,12,13, 14,19, 20 and 22 as in the post-description transcript seemed to be lower than the target MLU. However, the child's MLU for pictures 15, 16, 17, 18, 21 and 23 indicated that subject's MLUs were higher than the target MLUs (refer to Chapter V for detail explanation).

The relative MLU calculated in Table 2 indicated that the child was able to produce more than 60 percent of the target MLU (refer to chapter V for a detailed explanation). The relative MLU for picture 7 which was 1.00 was due to the child's elaborated description, his own perceptual addition, which was not part of the adult's description as presented in the actual description transcript. The same reason caused the child's relative MLU to be higher than adult's MLU for picture 17.

In the continuation of relative MLU findings, Table 2 also showed that pictures' 1, 15, 16, 17, 18, 21 and 23, the relative MLU exceeded the target MLU. For picture 1 the relative MLU exceeded the target MLU due to the repitition of the phrase 'the girl play swing' instead of using pronoun 'them' as used in the actual description transcript.

For picture 15 the relative MLU which was 1.88 was due to the child's usage of conjunction 'and' which resulted in the child producing only one sentence, whereas for the same description the adult used several sentences. This collapsing of sentences by the child in his post-description transcript affected his

MLU calculation. Moreover, the child deleted one third of the adult's descriptions which caused the adult's MLU to be lower than the child's MLU for this particular picture. The same reason caused the child's MLU to be higher than adult's for pictures 16, 18 and 21.

The child 's excessive MLU for picture 23 was due to his elaborated description as well as the inclusion of direct speech as shown in his post-description transcript.

The child's 100 percent relative MLU for picture 7 was due to his MLU for this picture which was exactly the same as the target MLU even though when his post-description transcript for this picture was compared to the actual description transcript of the same picture, it was obvious that the child's post-description was not an exact replication of his mother's description as in the actual description transcript (refer to Chapter V for further explanation). In fact, the child's description as presented in the post-description transcript, on the whole, when compared to the actual description transcript showed that his post-description was not an exact copying of the actual description.

Nevertheless, there were similarities in the child's surface structure when his post-description transcript was compared to the actual description transcript. Among the examples illustrating this point, is the description of picture 3.

Instance 1

Excerpt form description of picture 3

actual description

The boy and the girl are at the beach. The boy is climbing onto the back of a boat.

child's post-description

The boy and the girl at the beach. The boy climb on the boat.

Instance 2

Excerpt from description of picture 8

actual description

The boy and the girl are playing with a toy train.

Child's post-description

The girl and the boy play toy train.

Instance 3

Excerpt from description of picture 13

actual description

Father is driving the car. The girl is sitting in front. The boy is sitting at the back of the car.

child's post-description

The boy sit at the back. The girl sit in front. The daddy drive the car.

The difference between adult's and the child's surface structure in the above examples was due to the omission of auxiliary verb such as 'are' and 'is'. The same case appeared in pictures 11, 16 and 19.This was further indicated in Table 3.

Table 3 was a verb substitution table showing the verb used by the adult as in the actual description transcript, as well as verbs used by the child in his post-description transcript. The comparison of adult's verbs and subject's verbs showed that in terms of the wordings used in his post-description transcript, the child seemed to be using only a base form of words for most of the verbs in his post-description transcript. The child seemed to have substituted most of the adult's

verbs with the verbs which he felt were synonymous. Table 3 also indicated that the child focused on contentives whereas functors such as mentioned above (e.g., is and are) were mostly omitted. This omission of functors also resulted in the child's lower post-description MLU as shown in Table 2. Table 3 was only used in syntax analysis and not in lexical analysis because the verbs used by the child were primarily his own verbs. In other words, the child did not imitate the adult's verbs as presented in the actual description transcript.

TABLE 3

Verb Substitution

Picture	Model Verb	Child's Verb
1	are playing	ride
	is watching	look
2	are playing	ride
3	is climbing	climb
4	is barking	barking
5	is laughing	laughing
6	is handing	give
7	are watching	see
8	are playing	play
9	are watching	see
10	is taking	take
11	is handing	give
12	is washing	wash
13	is sitting	sit
14	is driving	drive
	is getting	get
15	is passing	give
16	is eating	eat
17	are picking	take
18	buy	buy (no substitution)
	is attending	(model verb was not used at all)
19	is jumping	jump
	are playing	play
20	are carrying	carry
21	want	want (no substitution)
22	is passing	give

Apart from looking at the MLU and verb substitution, syntax development was also analysed by comparing the child's frequency of incomplete sentence production in both the pre- and post-description transcripts. The calculated frequency of incomplete sentence production was tabulated in Table 4.

The frequency of incomplete sentences (refer to section B, *method of analysis* in Chapter III) was calculated in both the child's pre- and post-description transcript in order to see if there was any improvement in the latency to full sentence production when the frequencies derived from the two transcripts were compared . This would also indicate the child's possible improvement in terms of fluency in the post-description.

In Table 4, each picture was categorised either as a short description picture (S) or a long description picture (L). The rationale of grouping the pictures into these two categories was to see whether or not the child's latency to full sentence production and fluency in both the pre-description transcript and the post-description transcript were influenced by sentence length and complexity. The actual description transcript was used as a basis in determining the short description picture and the long description pictures. A picture would be categorised as a short description picture if it comprised two or fewer sentences whereas the long description pictures are those pictures which description required more than two sentences.

TABLE 4

Frequency of Incomplete Sentence Utterances

Picture	Category*	Pre-description	Post-description
1	S	2	0
2	S	1	0
3	S	3	0
4	S	1	1
5	L	1	0
6	L	0	0
7	S	0	1
8	S	3	0
9	L	0	0
10	L	1	1
11	S	1	0
12	L	1	0
13	L	0	0
14	L	0	1
15	L	1	0
16	L	1	0
17	S	1	0
18	L	0	0
19	L	0	0
20	S	0	0
21	L	0	1
22	S	1	0
23	L	1	0
Total		23	5
Mean		1.00	0.22

* S - Short-description picture L - Long-description picture

Table 4 showed that the child's mean for frequency of incomplete sentences in the pre-description transcript was significantly higher than his mean for frequency of incomplete sentences in his post-description transcript.

Table 4 also indicated that the child produced incomplete sentences when describing both the short description pictures and the long description pictures. However, most of the child's incomplete sentences occurred when he was describing long picture description category as in the post-description transcript. Based on Table 4, the child produced three incomplete sentences under long description picture category and two incomplete sentences under short description picture category in the post-description transcript. On the contrary, in the pre-description transcript, the child produced more incomplete sentences under short description picture category (13) compared to 10 incomplete sentences which occurred when the child was describing long description picture category.

In order to further study the effect of imitation on the child's latency to full sentence production and fluency, the child's frequency of repetitive phrasal utterances was counted and tabulated in Table 5.

TABLE 5

Frequency of Repetitive Phrasal Utterance

Picture	* Category	Pre-description	Post-description
1	S	1	0
2	S	1	0
3	S	4	2
4	S	5	1
5	L	**10**	1
6	L	2	**6**
7	S	2	2
8	S	1	3
9	L	2	2
10	L	1	2
11	S	2	0
12	L	6	1
13	L	1	1
14	L	0	1
15	L	3	0
16	L	1	0
17	S	2	0
18	L	6	2
19	L	6	0
20	S	6	2
21	L	5	4
22	S	1	3
23	L	1	3
Total		69	36
Mean		3.0	1.6

- S- short description pictures L-long description pictures

The frequency of the child's repetitive phrasal utterances (refer to section B, *method of analysis* in Chapter III) in the pre-description transcript and the post-description transcript was counted and tabulated under the pre-description and the post-description headings respectively as shown in Table 5. The same rationale was used in categorising the pictures into two categories as explained earlier for Table 4.

Based on Table 5, the total frequency of phrasal utterances in the post-description transcript went down approximately 50 percent in comparison to total frequency of phrasal utterances in the pre-description transcript.

The highest frequency of phrasal repitition in the pre-description occurred when the child was describing picture 5 and the highest frequency of phrasal utterances in the post-description occurred when the child was describing picture 6. Contrary to the finding for incomplete sentence occurrence mentioned previously for Table 4, the highest frequency in both the pre- and post-description for frequency of phrasal utterance occurred when the child was describing long description pictures.

Table 5 also pointed that the mean frequency of phrasal utterance in the post-description transcript was significantly lower than the mean frequency of phrasal utterance in the pre-description transcript. This indicated that the child's frequency of phrasal utterance in the post-description was two times lower. On the average, the subject repeated himself once in describing every picture as suggested

in the post-description transcript. In fact, the child did not repeat himself at all when describing eight of the pictures namely picture 1, 2, 11, 13, 15, 16, 17 and 19 in the post-description transcript.

In the attempt to further see the contribution of imitation to syntax acquisition in second language development, the child's and adult's frequencies of article usage, verb usage and noun usage were obtained from the child's pre- and post-description transcript as well as from the adult's actual description transcript. The frequency of article, verb and noun were counted considering the nature of the description of the pictures involving primarily the usage of articles, verbs and nouns for almost all pictures used in this study.

Table 6 was also constructed in order to test whether or not the findings obtained from Table 6 would support Vygotsky's (1978) theory concerning the adult's function as a language model to children through language imitation. The correlation coefficient was calculated based on both the child's pre- and post-description transcript in relation to adult's actual description transcript. This is to see whether or not the child's post-description transcript has a stronger relationship with the actual description transcript compared to the relationship between the pre-description transcript and actual description transcript.

The mean for frequency of article, verb and noun was calculated based on the three transcripts. The actual description frequency mean for each grammatical item serves as a basis in determining the child's syntax development by comparing the child's frequency mean for article, noun and verb in the pre- and post-

description transcript to frequency mean in the actual description transcript. To give a clearer view on mean comparison, the relative frequency mean was calculated and compared in the same manner in comparing the frequency mean.

TABLE 6

Frequency of article, verb and noun usage

	Pre-description			Model description			Post-description		
	fA_{se}	fV_{se}	fN_{se}	fA_m	fV_m	fN_m	fA_{st}	fV_{st}	fN_{st}
mean	3.762	3.429	4.048	4.259	4.060	5.524	4.167	3.905	4.246
%mean	0.883	0.845	0.733				0.978	0.962	0.769
r	0.256	0.356	0.424				0.345	0.436	0.496
AD*	1.286	0.333	1.143				0.905	0.429	0.762

AD* - average deviation

In addition, the average deviation was also calculated in order to see the extent to which the child had deviated from the model description as in the actual description transcript.

Table 6 shows that the mean for fA_{st} (4.167) is much closer to the mean of fA_m (4.259). In terms of relative mean, the child's relative mean for fA_{st} is 0.978 whereas the child's fA_{sc} relative mean is 0.883 indicating a significantly higher relative frequency of article mean in the child's post-description.

Subject's fV_{st} mean is also significantly higher than his fV_{se} mean resulting in a higher relative mean for fV_{st} (0.962) compared to his fV_{se} mean (0.845). The child's fN_{st} mean is also significantly closer to fN_{m} compared to fN_{se} mean. The relative fN_{st} mean shows 0.767, a higher approximation to fN_{m} whereas approximation of fN_{se} to fN_{m} is only 0.733.

The correlation coefficient r, which was re-presented in Table 6.1, for fA_{st} (0.345) ,fV_{st} (0.436) and fN_{st} (0.496) are all significantly higher than the correlation coefficient for fA_{se} (0.256), fV_{se} (0.356) and fN_{se} (0.424) The average deviation of fA_{st} (0.905) and fN_{st} (0.762) is significantly lower than the average deviation of fA_{se} (1.286) and fN_{se} (1.143) indicating greater similarity between subject's post-description transcript and model transcript. The average deviation of fV_{st} (0.429) is however higher than the average deviation of fV_{se} (0.333) because the child primarily used his own verbs in the post-description transcript.

TABLE 6.1

Correlation coefficient for frequency of article, verb and noun

frequency of article		frequency of verb		frequency of noun	
pre-	post-	pre-	post-	pre-	post-
0.256	0.345	0.356	0.436	0.424	0.496

C) Lexical analysis

Analysis on lexicon was done qualitatively. As mentioned previously, this section of the study focused on the acquisition of nouns (refer to section C, *method of analysis* in Chapter III). Lexical development was analysed by looking at the emergence of new nouns in the post-description transcript. This was done by comparing the pre- and the post-description transcripts with the actual description transcript. If a new noun appeared in the post-description transcript which is similar to the noun used in the actual description transcript for the same picture whereby this noun did not appear in the child's pre-description transcript, the child is concluded to have acquired that particular noun through imitation.

When the above comparison was made, some new lexicon seemed to have been successfully imitated by the child based on the appearance of those nouns in the child's post-description transcript. For instance in picture 1, the child was able to reproduce the word 'swing' in the post-description as used by adult in this study.

Picture 1

Pre-description transcript

The boy ride this one and this one.

Actual description transcript

A boy and a girl are playing on swings.

Post-description transcript

*The girl and the boy ride the **swing**.*

With reference to Picture 4 in Appendix 2, the emergence of the word 'barking' in the post-description was also an indication of lexical development through imitation. This lexical item was not in the child's pre-description. The absence of vocabulary 'bark' in the child's repertoire forced him to create a false description in describing the dog's action. This could be seen in the following excerpt:

Picture 4

Pre-description transcript

The dog want to ride this boat.

Actual description transcript

*The dog **is barking**.*

Post-description transcript

*The dog **barking**.*

Despite the omission of the auxiliary verb, the child was able to reproduce the word 'barking' as used by the adult in the actual description.

The reproduction of the word 'carrot' in the post-description transcript of picture 16 (refer to Appendix 2) in replacement of the word 'chilly' in the pre-description could also be seen in the following script extract.

Excerpt from description of picture 16

pre-description transcript

*The rabbit run. He want to eat this biscuit and the **chilly**.*

actual description transcript

*The girl is feeding the rabbit with **carrot** and water.*

Post-description transcript

*The girl want to give **carrot** and water to rabbit.*

The noun 'water' was not considered as a new lexical item because the child had already known the word even though he did not use it in his pre-description transcript for this picture.

The term 'soccer' also appeared in the child's post-description transcript for picture 19 (refer to Appendix 2 for illustration of picture) which was parallel

to adult's usage of the word in the actual description transcript for the same picture as illustrated in the following example.

Excerpt from description of picture 19

pre-description transcript

.....the girl and the boy, they are going to play the ball.

actual description transcript

*Some boys are playing **soccer**.*

Post-description transcript

*The boy play the **soccer**.*

All findings in this chapter and their implications are discussed in detail in chapter V.