Chapter 4

Result

In this chapter, subjects' talk in book reading will be compared in terms of two aspects. First, the interactional strategies of mothers and children of the two groups will first be discussed in 4.1. Then the information carried in book reading activity will be presented in 4.2. Finally, a brief summary will be made in 4.3.

4.1 Interactional Strategies

In this section, the strategies mothers and children used during book reading activity will be discussed separately in 4.1.1 and 4.1.2.

4.1.1 Mother's Interactional Strategies

First the proportion and raw frequencies of maternal talks in upper-middle and low-income mothers are presented in Table 1.

Table 1. Distribution of maternal interactional strategies.

| Variable | Upper-middle (n = 16) | | Low-income (n = 16) | | |
	M	SD	M	SD	t
Request for information	.28 (49.5)	.13 (37.72)	.15 (32.75)	.12 (35.85)	2.93**
Provision of information	.26 (42.44)	.16 (32.37)	.38 (57.81)	.20 (34.22)	-1.84
Request for evaluation	.02 (4.13)	.02 (3.69)	.01 (3.44)	.02 (1.94)	.42
Provision of evaluation	.05 (8.81)	.03 (8.04)	.07 (11.81)	.07 (10.03)	.33
No response	.001 (.31)	.005 (1.25)	.0003 (.06)	.0001 (.25)	.69
Request for attention	.03 (4.63)	.04 (4.54)	.09 (20.63)	.05 (24.09)	-4.26**
Provision of attention	.17 (26)	.11 (16.10)	.08 (18.3)	.06 (23.09)	3.07**
Request for clarification	.005 (.63)	.008 (.96)	.007 (1.69)	.009 (3.26)	-.53
Provision of clarification	0 (0)	0 (0)	.0002 (.06)	.0007 (.25)	-1.0
Feedback	.03 (5.06)	.03 (5.37)	.03 (7.94)	.03 (11.43)	-.262
Approval	.03 (3.56)	.03 (3.76)	.02 (4.19)	.02 (6.09)	.73
Correction	.006 (1.38)	.02 (4.21)	.01 (3.50)	.02 (6.69)	-1.48
Response	.0003 (.13)	.001 (.50)	.0006 (.25)	.002 (.77)	-.72
Associative talk	.06 (14.2)	.08 (20.4)	.05 (10.9)	.06 (14.9)	.76
Task oriented	.05 (7.56)	.05 (11.4)	.05 (10.9)	.07 (9.03)	-.60
Off-topic talk	.02 (3)	.02 (3.71)	.01 (2.75)	.02 (6.74)	.73
Unclassifiable	.01 (2)	.01 (2.07)	.05 (8.38)	.03 (7.93)	-3.79**

*p ≤ .05, **p ≤ .01

Note. Actual frequencies are given in parentheses.

As Table 1 shows, the three most common strategies in upper-middle mothers'

talk were requests for information (28%), provision of information (26%), and

provision of attention (17%). The three most commonly used strategies in low-income

mothers' talk were provision of information (38%), requests for information (15%),

and requests for attention (9%). The result shows that upper-middle and low-income

mothers spent most of their time requesting and providing information, and in talks

about attention. They both had relatively small amount of talk about evaluation, task,

clarification, and feedback.

Results of comparison between each strategy upper-middle and low-income

mothers used show that mothers in the two groups had similar proportion in using less

frequent strategies but differed in the proportion of commonly used ones. Mothers

from both groups had no statistical significance in requesting for evaluation (t (30)

= .42, p > .05), in providing evaluation (t (19.59) = -1.0, p > .05), in requesting for

clarification (t (30) = -.53, p > .05), in providing clarification (t (15) = -1, p > .05), in

associative talk (t (30) = .76, p > .05), and in talk about the task (t (30) = .60, p > .05).

There was also no significant difference in providing feedback (t (30) = -.26, p > .05)

and subcategories of feedback, including approval (t (30) = .73, p > .05), correction (t

(30) = -1.48, p > .05), and response to previous feedback (t (30) = -.72, p > .05).

However, upper-middle and low-income mothers had significant difference in

the proportion of more frequent strategies, such as requesting and providing attention,

and requesting information. Due to the complex coding hierarchy of these strategies,

detailed discussion will be presented as follows.

Requests and Provision of Attention

As Table 1 displays, upper-middle and low-income mothers had different

strategies in requesting and providing attention. Among all upper-middle mothers'

utterances, 17% were providing attention, and 3% were requesting for attention.

Almost 20% of their talk were about attention. In low-income mothers' utterances, the

proportion of talks about attention was similar (17% in total). Despite the similar

proportion of talk about attention in total, mothers in both groups differed in the

proportion of its subcategories: provision of attention (8%) and requests for attention

(9%). As to requests for attention, low-income mothers (9%) did more than

upper-middle mothers (3%), and the contrast is striking and significant (t (30) = -4.26,

p ≤ .01). On the other hand, upper-middle mothers (17%) provided more attention

than low-income mothers (8%). The difference also reaches significance (t (30) = 3.07,

p ≤ .01). These results imply that low-income mothers checked their children's

attention more than the other group, but upper-middle mothers paid attention to what

their children said more often than low-income mothers, as in the Example 42 and 43.

Example 42 (Low-income, child Eric, 3;8, male)
Mother: 牠　把　牛奶　吸　乾淨　有　沒有?
　　　　ta　ba　niunai　xi　ganjing　you　meiyou
　　　　3sg　BA　milk　suck　clean　exist　not-exist
　　　　He cleans up all the milk, doesn't he?
Child: 有.

you

exist

Yes.

Mother: 有　沒有? (request for attention)

you　meiyou

exist　not-exist

Does he?

Child:　有.

you

exist

Yes.

Mother: 有　喔? (request attention)

you　o

exist　PAR

Does he?

Example 43 (Upper-middle SES, child Lily, 3;7, female)

Mother: 然後　呢?

ranhou　ne

then　Q

What happens next?

Child: 卡兒　把　地　　上　　舔　乾淨.

Ka'er　ba　di　　shang　tian　ganjin

Carl　BA　ground　up　　lick　clean

Carl licks [the milk] on the ground.

Mother: 舔　乾淨　了　　哦. (provide attention)

tian　ganjin　le　o

lick　clean　PFV　PAR

[Carl] licks the ground.

In Example 42, Eric and Lily's mother read the same page, but their reading

strategies were different. Eric's mother in Example 42 demonstrates how low-income

mothers requested children's attention by tag questions or by questioning children's

response. It is possible that low-income mothers dominated the activity, and they only

asked their children to show signs of attention. On the other hand, the upper-middle

mother, in Example 43, gave her child the opportunity to read the story and also paid

attention to what their children said. This finding implies that upper-middle mothers

expected their children to contribute more to the interaction, but low-income mothers

tended to asked only for attention.

Requests for Information

In Table 1, it is obvious that upper-middle mothers (28%) requested more

information from their children than low-income mothers (15%) and the contrast

between groups reaches significance (t (30) = 2.93, p ≤ .01). Details about the content

and the question forms mothers used in requesting information are shown in Table 2.

Table 2. Distribution of maternal requests for information.

Variable	Upper-middle (n = 16)		Low-income (n = 16)		t
	M	SD	M	SD	
Elaboration	.24 (41.13)	.11 (29.0)	.13 (25.13)	.10 (25.53)	3.05**
Open-ended	.22 (37.50)	.10 (25.41)	.11 (21.63)	.09 (19.95)	3.17**
Yes/No	.02 (3.63)	.02 (4.33)	.01 (3.50)	.02 (7.0)	.73
Repetition	.04 (8.38)	.03 (9.53)	.03 (7.63)	.03 (12.90)	1.28
Open-ended	.04 (7.94)	.03 (9.26)	.02 (5.94)	.02 (9.07)	1.68
Yes/No	.002 (.44)	.004 (.73)	.005 (1.69)	.007 (4.21)	-1.14

**p ≤ .01

Note. Actual frequencies are given in parentheses.

In Table 2, it is obvious that upper-middle mothers requested more elaborate information (24%) than repetitive information (4%). Among all the questions upper-middle mothers asked, 22% (out of 24%) are open-ended questions requesting for new information. When asking repetitive information, upper-middle mothers mostly used open-ended questions (4% out of 4%) instead of yes/no questions (0.2% out of 4%). Low-income mothers also asked more questions about elaborate information (13%) than repetitive information (3%), but only 11% of their questions (13%) are open-ended questions. They also used more open-ended questions (2% out of 3%) in requesting repetitive information than yes/no questions (0.5% out of 3%).

In comparison, upper-middle mothers (24%) apparently asked more elaborate information than low-income mothers (13%), and the difference is statistically significant (t (30) = 3.05, p ≤ .01). As for requesting for repetitive information, although upper-middle mothers (4%) seem to request more repetitive information than low-income mothers (3%), the difference is not significant (t (30) = 1.28, p > .05). The results suggest that upper-middle mothers encouraged their children to provide new and ungiven information by asking them questions more than low-income mothers did. It appears that upper-middle mothers tried to invite their children to take part in the preschool literate activity, but low-income mothers seldom did so.

Example 44 illustrates how upper-middle mothers requested elaborate

information from children.

Example 44 (Upper-middle SES, child Qi-qi, 3:6, female)
    Mother: <u>這　　狗狗　　在　　　做　什麼　啊?</u> (elaborate)
              zhe　　gougou　zai　　　zuo　sheme　a
              DEM　doggie　DUR　do　　what　Q
              What's the doggie doing?
    Child: 狗狗　　　在　　　抓　　他的　　衣服.
              gougou　zai　　zhua　tade　　yifu
              doggie　DUR　grab　his　　　clothes
              The doggie is holding his clothes
    Mother: 衣服.
              yifu
              clothes
              His clothes.
    Mother: <u>為什麼　　要　　抓　　他的　　衣服　　呢?</u> (elaborate)
              weisheme　yao　zhua　tade　　yifu　　ne
              why　　　　want　grab　his　　　clothes　Q
              Why does the doggie want to hold his clothes?
    Child: 因為　　怕　　他　沉　　下去.
              yinwei　　pa　　ta　　chen　xiaqu
              because　fear　3sg　sink　down-go
              Because [the doggie] fears that he may sink.

Example 44 shows a common pattern in upper-middle mother-child dyads: (1)

the mother asked a question about the storyline, (2) the child answered, (3) the mother

gave attention or feedback, and (4) the mother elaborated or expanded the child's

answer. It appears that upper-middle mothers provided scaffolding for children to

elaborate more. While upper-middle mothers used questions to elaborate children's

information, this pattern rarely occurred in low-income mother-child dyads. Example

45 shows the strategies one of the low-income mothers used when she was narrating

the same page as the mother in Example 44.

Example 45 (Low-income, child David, 3;11, male)

Mother: 這　　個　　狗狗　　就　　咬　住　他的　這　邊　　衣服
zhe　　ge　　gougou　jiu　　yao　zhu　tade　zhe　bian　yifu
DEM　CL　doggie　then　bite　RVC　his　　CL　side　clothes
背　　後　　　背　　上　　的　　衣服.
bei　　hou　　bei　　shang　de　　yifu
back　behind　back　up　　NOM　clothes
The doggie bites this part of his clothes, the clothes on his back.

Mother: 對　　不對?
dui　　budui
right　not-right
Doesn't he?

Mother: 這　　樣子　才　　不會　沈　下去　　淹　　死　喔.
zhe　　yangzi　cai　　buhui　shen　xiaqu　　yan　　si　o
DEM　way　　only　won't　sink　down-go　drown　die　PAR
[The baby] won't sink this way.

Mother: 對　　不對?
dui　　budui
right　　not-right
Will he?

Unlike the upper-middle mother in Example 44, David's mother in Example 45

narrated the story on her own, instead of asking David to participate in the reading.

She merely used tag questions to make sure her child was listening to her reading.

As to question types, a striking difference in mothers' use of open-ended

questions requesting for new information was that upper-middle mothers (22%) used

open-ended questions twice as much as low-income mothers (11%), and the group

difference reaches statistical significance (t (30) = 3.17, p ≤ .01). However, the

difference was not significant in the use of yes/no questions requesting for elaborate

information (t (30) = .73, p > .05). For children, open-ended questions are more

difficult than yes/no questions. It seems that upper-middle mothers tended to provide

more challenges on children, like high-demand mothers in Haden et al. (1996).

Requesting for repetitive information is more like checking children's attention.

Mothers from the two groups had no significant difference in using open-ended

questions (t (30) = 1.68, p > .05) and yes/no questions in this part (t (30) = -1.14, p

> .05). The result indicates that social class does not influence question forms mothers

used in requesting repetitive information.

Provision of Information

In mother-child book reading, mothers and children's narration about the

storyline is the most important part of the interaction. Both upper-middle (38%) and

low-income mothers (26%) provided large proportion of information. Although both

of them provided large amount of information, the difference between them does not

reach significance (t (30) = -1.835, p > .05) (Table 1). In general, mothers from the

two groups had no difference in the proportion of provision of information, but the

forms and the content they used need further examination. The result is presented in

Table 3.

Table 3. Distribution of maternal provision of information.

Variable	Upper-middle (n = 16)		Low-income (n = 16)		
	M	SD	M	SD	t
Elaboration	.25 (40.13)	.15 (29.36)	.34 (48.0)	.21 (25.52)	-1.34
With tag	.06 (8.69)	.05 (7.66)	.03 (6.13)	.03 (6.67)	1.78
Without tag	.19 (31.44)	.14 (28.99)	.31 (41.88)	.22 (24.25)	-1.73
Repetition	.01 (2.31)	.01 (3.53)	.04 (9.81)	.03 (12.12)	-3.36**
With tag	.004 (.63)	.005 (.72)	.009 (1.69)	.02 (2.55)	-1.24
Without tag	.008 (1.69)	.01 (3.30)	.03 (8.13)	.02 (11.22)	-3.95**

**p ≤ .01

Note. Actual frequencies are given in parentheses.

As Table 3 displays, upper-middle mothers provided elaborate information

(25%) more often than repetitive information (1%), and so did low-income mothers

(34% and 4%). When providing information, no matter it was new or given,

upper-middle and low-income mothers used sentences without tag questions more

than those with tag questions.

In comparison, although low-income mothers (34%) seem to provide more

elaborate information than upper-middle mothers (25%), the difference is not

significant (t (30) = -1.34, p > .05). However, in providing repetitive information,

low-income mothers (4%) did more than upper-middle mothers (1%), and the contrast

is significant (t (18.60) = -3.36, p ≤ .01). It suggests that low-income mothers repeated

given information more frequently than upper-middle mothers. One of the purposes of

repetition may be that they wanted to check children's attention and comprehension.

Another possibility might be that they want to ease the difficulty in comprehension so

that they repeated again and again instead of moving on to new information. There

might be another possible reason that low-income mothers did not know how to

continue the story, so they could only repeat given information. Qiang's mother in

Example 46 might repeat given information due to the above three possible reasons.

Example 46 (Low-income, child Qiang, 3;2, male)
```
Mother:  叫    狗狗    看    著 #    小    寶寶.
         jiao  gougou  kan   zhe #   xiao  baobao
         ask   doggie  watch DUR # little  baby
         [Mother] asks the doggie to watch the little baby.
Child:   +^ 弟弟.
         +^ didi
         +^ little brother
         The little brother.
Mother:  對    看    著    弟弟.
         dui  kan   zhe   didi
         yes  watch DUR   little brother
         Yes, to watch the little brother.
Mother:  <我  很    快    就    回來> ["].
         <wo  hen   kuai  jiu   huilai> ["]
         <I   very  soon  then  return-come> ["]
         <I'll be back soon> ["].
Mother:  媽媽    說  <我  很    快    就    回來> ["].
         mama   shuo <wo  hen   kuai  jiu   huilai> ["]
         mommy  say  <I   very  soon  then  return-come> ["]
```

Mommy says, "I'll be back soon."

Mother: 叫　狗狗　　看　　著　　弟弟.

jiao　gougou　kan　　zhe　　didi

ask　doggie　　watch　DUR　little brother

[Mother] asks the doggie to watch the little brother.

Mother: 是　　不是?

shi　　bushi

right　not-right

Does she?

Another point about the strategies of information provision in book reading is the form mothers used. It has been noted in Chapter 3 that Chinese adults tend to use A-not-A constructions or tag questions when talking to young children (Erbaugh, 1992). Chinese parents usually have a preselected answer, usually positive *shi* 'yes', *dui* 'right', or *mm*, in mind before they ask these questions. If children do not provide the expected answer, adults usually insist that they should try again until children speak out the expected answer. If children provide the expected answer, mothers move on, as in the following example.

Example 47 (Low-income, child Qiang, 3;2, male)

Mother: 媽媽　　要　　出去　　了　　啊　　是　不是?

mama　　yao　　chuqu　le　　a　　shi　bushi

mommy　want　exit-go　CRS　PAR　be　not-be

The mommy wants to go out.

Mother: 是　不是　這　　樣?

shi　bushi　zhe　　yang

be　not-be　DEM　way

Is that so?

Child: 不是.

bushi

not-be

No.

Mother: 是　啦.

shi　la

be　PAR

It is!

Child: 是.

be

shi

It is.

Chen and He (2001) proposed that tag questions that occur at the end of a tone

constructional unit serve as a basic marker to intensify the message conveyed in main

clause. Based on the claim, Qiang's mother in Example 47 may intend to confirm her

child's comprehension of the main clause.

Table 3 also exhibits mothers' proportion and raw frequencies of tag question

use. Both upper-middle and low-income mothers tended to provide elaborate and

repetitive information without using tag questions, and few sentences with tag

questions. Although upper-middle (6%) and low-income mothers (3%) had difference

in using tag questions in providing elaborate information, the difference is not

statistically significant (t (22.31) = 1.78, p > .05). They did not have difference in the

proportion of tag questions in providing repetitive information (t (18.35) = -1.24, p

> .05). The results indicate that social class does not influence the proportion of

maternal usage of tag questions in providing information.

To summarize, upper-middle mothers' larger proportion of requests for elaborate information shows that they tended to demand higher to children than low-income mothers. They also tended to pay more attention to children's talk. In general, they not only interacted more with children but also provided scaffolding for children to elaborate more. On the other hand, low-income mothers requested less information but more attention from children. It may be that low-income mothers demanded their children less and supported them less.

4.1.2 Children's Interactional Strategies

First, the basic measures of children's language abilities were computed. The mean length of utterance of upper-middle children was 3.328, and that of low-income children was 2.243. Type-token ratio of upper-middle children was .05, and that of low-income children .048. It seems that upper-middle children could produce longer utterances than low-income children, but their vocabulary size were similar.

Upper-middle and low-income children's interactional strategies are listed in Table 4.

Table 4. Distribution of children's interactional strategies.

| Variable | Upper-middle (n = 16) | | Low-income (n = 16) | | |
	M	SD	M	SD	t
Request for information	.02 (1.56)	.02(1.26)	.03 (1.50)	.07 (2.80)	-.38
Provision of information	.52 (36.50)	.18 (21.93)	.30 (30.13)	.17 (34.31)	3.51**
Request for evaluation	.0003 (.06)	.001 (.25)	0 (0)	0 (0)	1
Provision of evaluation	.07 (4)	.04 (3.08)	.05 (4.38)	.04 (4.40)	.95
No response	.04 (2.25)	.05 (3.02)	.02 (2.63)	.03 (5.20)	1.15
Request for attention	.01 (.63)	.02 (1.09)	.05 (1.0)	.01 (2.85)	.91
Provision of attention	.14 (12.0)	.14 (14.31)	.31 (21.56)	.23 (21.95)	-2.62*
Request for clarification	0 (0)	0 (0)	.0006 (.25)	.003 (1.0)	-1
Provision of clarification	.001 (.13)	.004 (.50)	.01 (.88)	.03 (1.36)	-1.64
Feedback	.006 (.88)	.02 (2.55)	.02 (2.31)	.02 (5.29)	-1.59
Approval	0 (0)	0 (0)	.0004 (.06)	.001 (.25)	-1
Correction	.005 (.75)	.01 (2.52)	.003 (.94)	.009 (3.26)	.42
Response	.001 (.13)	.003 (.34)	.01 (1.31)	.02 (2.27)	-2.47*
Associative talk	.07 (5.56)	.06 (5.43)	.10 (6.25)	.13 (7.30)	-.71
Task oriented	.05 (3.75)	.06 (6.55)	.02 (1.63)	.03 (2.25)	1.72
Off-topic talk	.02 (1.63)	.02 (3.28)	.01 (1.0)	.02 (1.90)	.58
Unclassifiable	.06 (4.5)	.04 (3.76)	.12 (11.13)	.10 (17.06)	-2.13*

*p ≤ .05, **p ≤ .01

Note. Actual frequencies are given in parentheses.

In children's talk, the top four most frequently used strategies in upper-middle children were providing information (52%), providing attention (14%), talking about related topics (7%) and providing evaluation (7%). It appears that upper-middle

children provided large proportion of information in their talk. They had

comparatively smaller proportion in requesting evaluation (.03%), requesting

attention (1%), talking about the task (5%), and talking about non-relevant topics

(2%). On the other hand, the three most frequently occurred strategies in low-income

children's talk were provision of attention (31%), provision of information (30%), and

unclassifiable talk (12%). Like upper-middle children, low-income children spent

most of their time providing information and attention, but low-income children's

unclassifiable talk (12%) was twice as much as that of upper-middle counterparts

(6%). Their large amount of unclassifiable talk may reflect their limited ability in

pronunciation or syntactic structure so that many of their utterances were obscure and

uninterpretable.

Comparison of the proportion of children's strategies shows similarities and

differences in the proportion of each strategy they used in book reading. They are

similar in the proportion of requesting information (t (30) = -.38, p > .05), requesting

evaluation (t (30) = .95, p > .05), providing evaluation (t (30) = .95, p > .05),

providing feedback (t (26.62) = -1.59, p > .05), in talk about related topics (t (21.21) =

-.71, p > .05), and in talk about the task (t (20.71) = 1.72, p > .05), but they differed in

the proportion of response to feedback (t (30) = -2.47, p ≤ .05). Other major strategies,

such as provision and requests for attention, as well as provision and requests for

information, will be presented as follows.

Requests and Provision of Attention

As Table 4 shows, upper-middle (14%) and low-income children (31%) both

had large proportion of provision of attention, but low-income children obviously had

larger amount of utterances regarding provision of attention. The contrast between

groups reaches significance (t (30) = -2.62, p ≤ .05). As for requests for attention, the

difference in proportion of upper-middle (1%) and low-income children (5%) does not

reach significance (t (30) = .91, p > .05). The results show that children from both

groups did not differ significantly in the proportion of requesting attention, but

low-income children significantly provided more attention than upper-middle children.

The result that children from the two groups did not differ in the proportion of

requests for attention may result from mothers' dominance in book reading.

Three-year-old children did not have to ask mothers' attention because mothers were

the main narrator of the story. However, the difference in children's proportion of

provision of attention may be explained by low-income mothers' frequent checking

on children's attention. It may also suggest that low-income children were easily

distracted.

Requests for Information

Both upper-middle and low-income children requested for information less than

their mothers. As Table 4 displays, only 2% of upper-middle children's talk were

requests for information, and only 3% in low-income children's talk. The difference

between children's requests for information is not statistically significant (t (30) = -.38,

p > .05). Results of comparison in the forms and content of children's requests is

shown in Table 5.

Table 5. Distribution of children's requests for information.

	Upper-middle		*Low-income*		
	(n = 16)		(n = 16)		
Variable	*M*	*SD*	*M*	*SD*	*t*
Elaboration	.02 (1.31)	.02 (1.01)	.03 (1.44)	.07 (2.58)	-.52
Open-ended	.02 (1.19)	.02 (.91)	.03 (1.38)	.05 (2.53)	-.42
Yes/No	.0009 (.13)	.003 (.34)	.004 (.06)	.02 (.25)	-.77
Repetition	.003 (.25)	.01 (.77)	.0002 (.06)	.0006 (.25)	1.08
Open-ended	.003 (.25)	.01 (.77)	.0002 (.06)	.0006 (.25)	1.08
Yes/No	0 (0)	0 (0)	0 (0)	0 (0)	NA

Note. Actual frequencies are given in parentheses.

As Table 5 shows, only 2% of all upper-middle children's utterances were used

to request elaborate information. There was even fewer in requesting repetitive

information (0.3%). The distribution is similar in low-income children's utterances;

3% were requests for elaborate information, and .002% were requests for repetitive

information. Due to the relative small amount of requests they produced, there is no

difference in children's requests for information.

Provision of Information

As Table 4 shows, upper-middle children (52%) obviously provided more

information than low-income children (30%). The contrast between group is

significant (t (30) = 3.51, p ≤ .01). Children's content and forms in providing

information is listed in Table 6.

Table 6. Distribution of children's provision of information.

Variable	*Upper-middle* (n = 16)		*Low-income* (n = 16)		
	M	*SD*	*M*	*SD*	*t*
Elaboration	.49 (34.31)	.18 (20.89)	.21 (22.13)	.14 (26.0)	4.72**
With tag	.001 (.13)	.003 (.34)	0 (0)	0 (0)	1.40
Without tag	.49 (34.19)	.19 (20.83)	.21 (22.13)	.14 (26.01)	4.68*
Repetition	.03 (2.19)	.03 (2.59)	.09 (8.0)	.11 (10.40)	-2.06
With tag	0 (0)	0 (0)	0 (0)	0 (0)	NA
Without tag	.03 (2.19)	.03 (2.59)	.09 (8.0)	.11 (10.40)	-2.06

*p ≤ .05, **p ≤ .01
Note. Actual frequencies are given in parentheses.

Table 6 shows that 49% of upper-middle children's utterances were provision of

elaborate information, but only 3% were repetitive information. Upper-middle

children seldom used tag questions, no matter when they were providing elaborate or

repetitive information. As to low-income children, 21% of their utterances were

elaborate information, and 9% were repetitive information. Like upper-middle

counterparts, they rarely used tag questions.

In comparison, the difference between children's provision of elaborate

information reaches significance (t (30) = 4.72, p ≤ .01). It may be the consequences

of upper-middle mothers' larger proportion of requests for new information (see 4.1.1).

The claim can be further supported by the large amount of low-income children's

responded provision of information that will be discussed in detail in 4.2.

Upper-middle mothers tended to provide scaffolding for children to elaborate new

information by asking them questions, so that children provided elaborate information

in response to mothers' requests.

As to provision of repetitive information, although low-income children (9%)

seem to provide more than upper-middle children (3%), the difference is not striking

(t (17.37) = -2.06, p > .05). As for the use of tag questions, since children from both

groups seldom used tag questions, the contrast between them are not statistically

significant. The small amount of tag question in three-year-olds' talk may result from

the pragmatic function of tag questions. Tag questions function to intensify utterance

meaning and to arouse the other interlocutor's attention. It may be that three-year-olds

do not need these functions in their speech.

In sum, comparison of upper-middle and low-income children's talk in book

reading reveals that upper-middle children involved more in the interaction by providing new information, but low-income children spent more time showing attention to their mothers' reading.

To summarize, results in interactional coding tier show that upper-middle and low-income mothers differed in the proportion of requesting new information, the uses of question types in requesting information, the amount of repetitive information, and the demand for attention, but they had no difference in the proportion of providing information, evaluation, feedback, the use of tag questions, and discussing about the task. Comparison of children's talk reveals that upper-middle and low-income children had no significant difference in the proportion of providing evaluation, feedback, and in requesting for information, but their difference is significant in the proportion of providing information and attention.

On the basis of these results, it appears that upper-middle mothers encouraged their children to participate in story book reading more than low-income counterparts did. It also shows that low-income mothers spent more time checking on their children's attention. In addition, unlike low-income children's passive response to mothers' requests for attention, upper-middle children took part in reading the story in response to mothers' requests.

In addition to the comparison of mothers and children's provision of elaborate information between groups, it is necessary to compare the proportion of provision of elaborate information within group. It can reveal who did more in joint book reading. The result is shown in Table 7.

Table 7. Comparison of mothers and children's provision of elaborate information.

	Mothers (n = 16)		Children (n = 16)		
Variable	M	SD	M	SD	t
Upper-middle	.18 (40.13)	.13 (29.36)	.15 (34.31)	.10 (20.89)	.74
Low-income	.26 (48.0)	.20 (25.52)	.07 (22.13)	.06 (26.0)	3.50**

**p ≤ .01
Note. Actual frequencies are given in parentheses.

Table 7 shows that in upper-middle mother-child dyads, mothers (18%) provided more elaborate information than children (15%), but the difference does not reach significance (t (30) = 0.74, p ≤ .05). It seems that upper-middle mothers and children shared the reading task. It can be explained by upper-middle mothers' high percentage of requesting information. However, in low-income mother-child dyads, the difference between mothers (26%) and children (7%) is statistically significant (t (17.502) = 3.50, p ≤ .01). It appears that low-income mothers took most of the reading as their responsibility and did not invite their children in the reading process.

The above findings show that although mothers from both groups provided

similar proportion of information, upper-middle mothers tended to encourage their

children to narrate the story by asking questions. Consequently, upper-middle children

participated in story book reading more in response to upper-middle mothers' requests.

For the other group, on the contrary, low-income mothers seem to take story book

reading as their own responsibility without inviting their children into the activity. In

addition, low-income children did not join the reading spontaneously. One third of

their talk was provision of attention. They did not make meaningful contribution to

the conversation as upper-middle children did. Low-income mother-child dyads thus

had less interaction.

4.2 Types of Information

Information coding tier examines the information type mothers and children

uttered. In this tier, there are three subcategories: narrative talk, non-narrative talk,

and unclassifiable talk. Among the three subcategories, narrative talk, the narration of

storyline, is the main component. Narrative talk is thus the focus in this section. First

the proportion of mothers and children's immediate and non-immediate talk in

narrative talk will be presented in 4.2.1 and 4.2.2 respectively.

4.2.1 Mothers' Informational Strategies

Result of comparison of mothers' immediate and non-immediate talk is

presented in Table 8.

Table 8. Distribution of mothers' immediate and non-immediate talk.

Variable	Upper-middle (n = 16)		Low-income (n = 16)		
	M	*SD*	*M*	*SD*	*t*
Immediate talk	.46 (76.44)	.10 (39.17)	.49 (85.0)	.13 (58.03)	-.78
Spontaneous	.46 (76.06)	.10 (39.35)	.49 (84.56)	.13 (56.89)	-.85
Responsive	.004 (.38)	.007 (.50)	.001 (.44)	.003 (1.50)	1.39
Non-immediate talk	.14 (28.56)	.08 (33.55)	.08 (15.75)	.05 (14.48)	2.56*
Spontaneous	.14 (28.13)	.08 (33.30)	.08 (15.19)	.05 (14.52)	2.73*
Responsive	.003 (.44)	.004 (.73)	.005 (.56)	.01 (.89)	-.85

*p ≤ .05

Note. Actual frequencies are given in parentheses.

Table 8 shows that upper-middle mothers had 46% of all their utterances

immediate talk and 14% non-immediate talk. Most of the time when they provided

information, they did it spontaneously. It may be that their children seldom requested

information from them. Low-income mothers were similar to upper-middle mothers

in this respect. Among all their utterances, 49% were immediate talk and 8% were

non-immediate talk. Most of their utterances were spontaneous, which may also due

to their children's small proportion of requests for information.

In comparison, the difference between the proportion in immediate talk in

upper-middle (46%) and low-income mothers' talk (49%) is not statistically

significant (t (30) = - 0.78, p > .05). However, the difference between upper-middle

(14%) and low-income mothers' (8%) non-immediate talk is statistically significant (t

(30) = 2.56, p ≤ .05). As stated in Chapter 3, De Temple (1994; 2001) observed that

parents who have more non-immediate talk demand higher than those who have more

immediate talk. Compared to low-income mothers, upper-middle mothers are

high-demand mothers. This claim is consistent with the findings in 4.1.1 in that

upper-middle mothers demanded higher than the other group in book reading.

    In spontaneous and responsive talk, mothers from the two groups had no

difference in both spontaneous and responsive immediate talk. However, they differed

significantly in spontaneous non-immediate talk (t (30) = 2.73, p ≤ .05). Mothers

seldom had responsive talk, so the proportion of mothers' responsive talk is very

small.

    The proportion and raw frequencies of the types of mothers' immediate talk is

shown in Table 9.

Table 9. Distribution of the content of mothers' immediate talk.

| Variable | Upper-middle (n = 16) | | Low-income (n = 16) | | |
	M	SD	M	SD	t
Spontaneous	.46 (76.06)	.10 (39.35)	.49 (84.56)	.13 (56.89)	-.85
Location	.04 (7.25)	.04 (6.75)	.03 (5.81)	.02 (6.24)	.10
Labeling	.09 (14.69)	.04 (8.01)	.09 (19.88)	.07 (21.64)	.38
Attributes	.003 (.56)	.007 (1.03)	.001 (.38)	.003 (.81)	1.10
Book focus	.006 (1.06)	.006 (1.18)	.004 (.75)	.006 (1)	.84
Recite	0 (0)	0 (0)	.003 (.44)	.008 (.89)	-1.58
Event	.29 (49.38)	.08 (28.71)	.34 (53.06)	.15 (32.73)	-1.27
Speech	.03 (3.13)	.02 (1.45)	.03 (4.25)	.02 (2.98)	-.03
Responsive	.004 (.38)	.007 (.50)	.001 (.44)	.003 (1.50)	1.39
Location	0 (0)	0 (0)	.0001 (.06)	.0004 (.25)	-1
Labeling	.003 (.19)	.007 (.40)	.0009 (.25)	.003 (.77)	.85
Attributes	0 (0)	0 (0)	0 (0)	0 (0)	NA
Book focus	.0004 (.06)	.002 (.25)	0 (0)	0 (0)	1
Recite	0 (0)	0 (0)	0 (0)	0 (0)	NA
Event	.001 (.13)	.003 (.34)	.0002 (.13)	.0008 (.50)	1.14
Speech	0 (0)	0 (0)	0 (0)	0 (0)	NA

Note. Actual frequencies are given in parentheses.

In Table 9, it is obvious that the three most frequent subcategories in both

upper-middle and low-income mothers' spontaneous immediate talk are event,

labeling, and location. Mothers focused on what is going on and objects' names

regardless of what social classes they belong to. In addition, the differences in

subcategories of spontaneous immediate talk in upper-middle and low-income

mothers are not significant. There is no significant difference found between groups in

this respect. Mothers' proportion of responsive immediate talk, due to the relatively

small number in each subcategory and total number, did not reach significance.

As to the kinds of non-immediate talk, comparison of mothers of both groups is

listed in Table 10.

Table 10. Distribution of the content of mothers' non-immediate talk.

Variable	Upper-middle (n = 16)		Low-income (n = 16)		
	M	SD	M	SD	t
Spontaneous	.14 (28.13)	.08 (33.30)	.08 (15.19)	.05 (14.52)	2.73*
Inference	.03 (5.06)	.03 (5.82)	.01 (1.81)	.01 (1.38)	2.26*
Prediction	.06 (11.13)	.04 (13.78)	.03 (5.06)	.02 (5.58)	2.54*
Text-reader link	.04 (9.31)	.05 (14.98)	.03 (5.81)	.04 (8.46)	.73
Text-text link	.0001 (.06)	.0005 (.25)	.0002 (.13)	.0008 (.50)	-.26
Vocabulary	.0007 (.31)	.003 (1.25)	.0005 (.13)	.002 (.50)	.16
Knowledge	.01 (2.25)	.02 (2.79)	.009 (2.25)	.01 (3.57)	.58
Responsive	.003 (.44)	.004 (.73)	.005 (.56)	.01 (.89)	-.85
Inference	.001 (.19)	.003 (.40)	.002 (.25)	.007 (.68)	-.57
Prediction	.0008 (.18)	.002 (.40)	.002 (.18)	.005 (.40)	-.96
Text-reader link	0 (0)	0 (0)	.0001 (.06)	.0004 (.25)	-1
Text-text link	0 (0)	0 (0)	0 (0)	0 (0)	NA
Vocabulary	0 (0)	0 (0)	.0003 (.06)	.001 (.25)	-1
Knowledge	.0004 (.06)	.001 (.25)	0 (0)	0 (0)	1

*p ≤ .05

Note. Actual frequencies are given in parentheses.

As Table 10 shows, among spontaneous non-immediate talk, upper-middle

mothers predicted (6%), connected the story to real world experiences (4%), and

inferred (3%) more than other kinds of non-immediate talk. Low-income mothers'

three most frequently provided kinds of spontaneous non-immediate talk were similar

to those of upper-middle mothers, but the rankings were different. Low-income

mothers connected the story with real life experiences (3%), predicted what will

happen (3%), and made inference about what is going on in the story (1%) more than

any other kind. The differences between text-reader link, text-text link,

vocabulary/language, and world knowledge do not reach significance. Only the

differences in the proportion of inference and prediction reach significance. Among

upper-middle mothers' utterances, 3% were inference, but there were only 1% in

low-income mothers' utterances, and the difference is significant (t (20.22) = 2.26, p

≤ .05). Upper-middle mothers' prediction about what will happen next made up 6% of

all utterances, but there were only 3% in low-income mothers' utterances. The

difference reaches statistical significance (t (30) = 2.54, p ≤ .05). It appears that

upper-middle mothers tended to infer and predict what is not physically present in the

book. As to the proportion of responsive non-immediate talk, there was no significant

difference between groups.

In sum, mothers from the two groups had more immediate talk than

non-immediate talk. However, comparison of the proportion of immediate and

non-immediate talk reveals that upper-middle mothers had relatively larger proportion

of non-immediate talk. These results support the claim that upper-middle mother used

more complex, higher level of language skills when reading storybook to their

children.

4.2.2 Children's Informational Strategies

The proportion of children's immediate and non-immediate talk is exhibited in

Table 11.

Table 11. Distribution of children's immediate and non-immediate talk.

| | Upper-middle | | Low-income | | |
| | (n = 16) | | (n = 16) | | |
Variable	M	SD	M	SD	t
Immediate talk	.48 (32.38)	.16 (17.29)	.31 (30.25)	.16 (34.64)	2.91**
Spontaneous	.20 (14.13)	.16 (9.91)	.17 (15.50)	.12 (18.68)	.49
Responsive	.28 (18.25)	.18 (14.05)	.14 (14.75)	.13 (1931)	2.51*
Non-immediate talk	.13 (10.94)	.07 (9.92)	.12 (7.50)	.16 (7.88)	2.56
Spontaneous	.06 (4.75)	.05 (4.86)	.07 (3.44)	.13 (5.09)	-.26
Responsive	.08 (6.19)	.09 (6.53)	.06 (4.06)	.07 (5.65)	.88

*p ≤ .05, **p ≤ .01

Note. Actual frequencies are given in parentheses.

As table 11 shows, upper-middle children had obviously more immediate talk

(48%) than non-immediate talk (13%). In addition, among all their immediate talk,

they responded more to their mothers' requests (28%) than they spontaneously

provided the information (20%). In non-immediate talk, they also responded more to

mothers' requests (8%) than to provide spontaneously (6%). Low-income children

had 31% immediate talk and 12% non-immediate talk. In the 31% immediate talk,

17% were spontaneous, and 14% were responses to mothers' requests. In the 12%

non-immediate talk, 7% were spontaneous and 6% were responsive. In general,

upper-middle children responded to mothers' requests more than provided information

on their own, but the proportion of low-income children's responsive and spontaneous

talk were similar.

Comparison of the utterances of children from both groups reveals that

upper-middle children (48%) obviously had more immediate talk than low-income

children (31%) and the difference reaches significance (t (30) = 2.91, p ≤ .01). The

result is consistent with the findings in previous section in that upper-middle children

took part in story reading more than low-income children did. Examination of

children's immediate talk shows that upper-middle and low-income children had

similar proportion of spontaneous immediate talk, while the former had obviously

more responsive talk than the later (t (30) = 2.51, p ≤ .05). It can be explained by

upper-middle mothers' higher frequency of requesting information. The result is

consistent with previous findings in that upper-middle children participated in the

reading more than low-income children in response to their mothers' requests.

Examples 48 and 49 illustrate the difference in upper-middle and low-income

mother-child dyads when they read one page which depicts that the dog turns on the

music and dances with the baby.

Example 48 (Upper-middle SES, child Johan, 3;6, male)
　　Mother: 這　　回　　呢　　這　　個　卡兒　又　　想　　做

zhe   hui   ne   zhe   ge   ka'er   you   xiang   zuo

DEM   time   PAR   DEM   CL   Carl   again   want   do

什麼   事情   啊?

sheme   shiqing   a

what   event   Q

What does Carl want to do this time?

Child: 聽   音樂.

ting   yinyue

listen   music

[He wants to] listen to the music.

Mother: 然後   卡兒 # 在   做   什麼?

ranhou   ka'er # zai   zuo   sheme

then   Carl #   DUR   do   what

Then what's Carl doing?

Child: 跳舞.

tiaowu

dance

[He's] dancing.

Mother: 跳舞.

tiaowu

dance

[He's] dancing.

Example 49 (Low-income, child Fei-fei, 3;4, female)

Mother: 哇   放 +...

wa   fang +...

wow   turn on +...

Wow, [he] turns on +...

Mother: +, 收音機.

+, shuoyingi

+, radio

+, the radio.

Mother: 放   音樂   給   他   聽   喔.

fang   yinyue   gei   ta   ting   o

play   music   for   3sg   listen   PAR

[He] plays some music for him.

Mother: 跳舞   囉   汪汪   做   表演   你   看.

tiaowu   lo   wanwan zuo biaoyan   ni   kan

dance   PAR doggie do   performance you   look

[He's] dancing. Look! The doggie is doing a performance.

In Example 48, Johan's mother asked him questions and let him finish the story.

However, in Example 49, Fei-fei's mother read the story on her own without inviting

Fei-fei to participate so that Johan got the chance to produce more responded

information, but Fei-fei did not.

On the other hand, upper-middle (13%) and low-income children (12%) had

similar proportion in non-immediate talk (t (21.583) = 0.27, p > .05). One possible

explanation is that the decontextualized language ability of three-year-old children

limits their language behavior.

The results of comparison of children's types of immediate talk are presented in

Table 12.

Table 12. Distribution of the content of children's immediate talk.

Variable	Upper-middle (n = 16)		Low-income (n = 16)		
	M	SD	M	SD	t
Spontaneous	.20 (14.13)	.16 (9.91)	.17 (15.50)	.12 (18.68)	.49
Location	.005 (.38)	.01 (.62)	.009 (.75)	.01 (1.24)	-.9
Labeling	.02 (1.44)	.02 (1.26)	.03 (3.63)	.04 (6.85)	-.98
Attributes	.02 (1.13)	.04 (2.73)	.005 (.31)	.01 (.60)	1.28
Book focus	.003 (.25)	.007 (.45)	.004 (.50)	.01 (1.75)	-.11
Recite	.008 (.38)	.02 (.72)	.05 (3.81)	.09 (5.50)	-1.83
Event	.13 (10.19)	.14 (9.06)	.07 (6.44)	.07 (10.10)	1.56
Speech	.007 (.38)	.02 (1.02)	.0004 (.06)	.001 (.25)	1.17
Responsive	.28 (18.25)	.18 (14.05)	.14 (14.75)	.13 (1931)	2.51*
Location	.06 (2.94)	.07 (3.70)	.02 (2.50)	.02 (3.39)	1.84
Labeling	.11 (6.63)	.10 (4.53)	.06 (6.25)	.07 (7.95)	1.75
Attributes	0 (0)	0 (0)	.0008 (.06)	.003 (.25)	-1
Book focus	.004 (.31)	.009 (.60)	0 (0)	0 (0)	1.94
Recite	0 (0)	0 (0)	.006 (.31)	.02 (.79)	-1.18
Event	.09 (7.69)	.08 (8.99)	.05 (5.63)	.06 (8.94)	1.82
Speech	.008 (.69)	.01 (1.08)	0 (0)	0 (0)	2.54*

*p ≤ .05

Note. Actual frequencies are given in parentheses.

Table 12 shows that in upper-middle children's talk, they spontaneously provided information about event (13%), labeling (2%), and attributes (2%) the most. In responsive talk, they provided information about labeling (11%), event (9%), and location (6%) the most. It seems that upper-middle children participated in narrating the interaction by providing information about the story.

On the other hand, low-income children spontaneously provided information about the event (7%), recited what had been said (5%), and labeling (3%) the most.

They responded to mothers' requests for labeling (7%), event (6%), and location (2%)

the most. It should be noted that low-income children had 5% recitation in their talk.

Although the difference does not reach significance, compared to upper-middle

children's contribution to the narration, low-income children tended to echo mothers'

previous utterances.

In comparison, children's differences in spontaneous provision of location,

labeling, attributes, book focus, recite, event, and speech are not significant. In

children's responsive talk, upper-middle (0.8%) and low-income children (0%) only

had significant difference in providing information about quotations (t (15) = 2.54, p

≤ .05). Children in the two groups had no significant differences in other

subcategories of responsive immediate talk.

The proportion and raw frequencies of children's types of non-immediate talk is

shown in Table 13.

Table 13. Distribution of the content of children's non-immediate talk.

| Variable | Upper-middle (n = 16) | | Low-income (n = 16) | | |
	M	SD	M	SD	t
Spontaneous	.06 (4.75)	.05 (4.86)	.07 (3.44)	.13 (5.09)	-.26
Inference	.005 (.38)	.009 (.62)	.01 (.38)	.03 (.72)	-.90
Prediction	.02 (2.19)	.03 (3.47)	.01 (.94)	.02 (2.05)	.16
Text-reader link	.01 (1.06)	.02 (1.91)	.04 (2.06)	.11 (3.77)	-1.1
Text-text link	.006 (.56)	.02 (1.50)	0 (0)	0 (0)	1.64
Vocabulary	.002 (.19)	.009 (.75)	0 (0)	0 (0)	1
Knowledge	.008 (.38)	.02 (.81)	.0008 (.06)	.003 (.25)	1.26
Responsive	.08 (6.19)	.09 (6.53)	.06 (4.06)	.07 (5.65)	.88
Inference	.01 (1.31)	.02 (2.15)	.0007 (.13)	.003 (.50)	2.67**
Prediction	.03 (2.13)	.03 (3.22)	.02 (1.31)	.02 (2.50)	1.06
Text-reader link	.03 (2.25)	.04 (3.40)	.03 (2.19)	.07 (4.28)	-.34
Text-text link	0 (0)	0 (0)	0 (0)	0 (0)	NA
Vocabulary	.0007 (.06)	.003 (.25)	.0007 (.13)	.003 (.50)	-.03
Knowledge	.006 (.44)	.01 (.81)	.003 (.31)	.008 (.79)	.74

$*p \leq .05$, $** p \leq .01$

Note. Actual frequencies are given in parentheses.

In Table 13, among all spontaneous non-immediate talk upper-middle children had, they talked about prediction (2%), the story's connection with their experiences (1%), and world knowledge (0.8%) the most. In responsive talk, they talked about the story's connection with life experiences (3%), prediction (3%), and inference (1%) the most. Low-income children talked more about the connection between the story and their experiences (4%), prediction (1%), and inference (1%) in spontaneous non-immediate talk more than any other kind of talk. In responsive talk, they replied more to mothers' requests for similar life experiences (3%), prediction (2%), and

world knowledge (0.3%).

In comparison, upper-middle and low-income children had no significant difference in the frequencies of subcategories in non-immediate talk, except in the proportion of responsive talk about inference (t (30) = 2.67, p ≤ .01). Upper-middle children responded to mothers' requests for cause-effect more often than low-income children. This may due to upper-middle mothers' larger amount of requests for inference. The finding shows that upper-middle mothers emphasized cause and effect relations more than low-income mothers.

In sum, comparison of information carried in book reading shows (1) upper-middle mothers challenged their children more than low-income mothers did; (2) upper-middle children participated in story reading more than low-income children did. The two findings are consistent with those found in previous sections.

4.3 Summary

Results of comparison of the two groups are presented in this chapter. Based on these results, three main findings can be stated here. First, while low-income mothers took charge of most reading, upper-middle mothers tended to share the task with their children. Second, compared to low-income mothers, upper-middle mothers tended to

challenge their children more by asking them questions and by providing them with

non-immediate talks. Third, upper-middle children obviously provided more new

information than low-income children did, and seem to involve in conversation more

than the other group.