Topic and Topic-Comment Structure in First Language Acquisition of Mandarin Chinese

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For Mom and Dad -

Thank you for everything.

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Abstract

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Mandarin Chinese has been characterized as a topic-prominent language with the prevalence use of topic-comment structures. Studies have shown that Chinese children are able to comprehend the concept of topic at their early age of syntax acquisition, but it is unclear how frequently are topic-comment structures produced in their spontaneous speech. This is a cross-sectional study of Chinese-speaking children, with the aim of determining the production frequency of topic-comment structures in four and six old children. Another goal of this study is to examine whether there are any developmental differences in the production of topic-comment structures between the two age groups. The results show that, contrary to what was expected, the production frequency of topic-comment structures is low in both age groups and there is no significant difference in the production frequency between them. It is concluded that, despite the low frequency, the

few errors and variety of topic-comment structures produced suggest that Chinese children have acquired the topic-comment structure by the age of four although this is not manifested in their spontaneous speech production.

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Chapter One: Introduction

Mandarin Chinese (hereafter Chinese) has a canonical SVO word order, and is a topic-prominent language typologically given the significant role of topic and the prevalence of the topic-comment structure (Li & Thompson, 1981). Unlike languages such as Korean or Japanese, topics in Chinese are not overtly marked with particles in the syntax; the identification is dependent on the linear word order and the semantic relationship between the topic and comment. Experimental studies have shown that Chinese-speaking children in the early stages of syntax acquisition are capable of distinguishing the concepts of topic and subject (Chien, 1983). However, it is not clear how frequently are topic-comment structures produced by Chinese-speaking children in spontaneous speech. The goal of this study is to examine the production frequency of topic and topic-comment structures in children acquiring Chinese as their first language, and to determine if there is a type of topic-comment structure that is used the most by children. Comparisons of data from two age groups – age four and six will be made to determine the developmental differences in the acquisition of topic-comment structures.

Syntactically, topic-comment structures in Chinese have non-canonical TOP-SVO and OSV word orders. Examining the acquisition of topic and topic-comment structures provides us an insight into how capable children are in the production of a structure that deviates from the canonical word order. Topic-comment structure is claimed to be productive in Chinese because of its significant role in the grammar, and is as common as that of a subject-predicate construction in a subject-prominent language such as English (Chien, 1983). It is expected that older children will produce more topic-comment structured sentences, since this structure is often viewed as a marked structure that

requires more sophisticated syntactic competence. It is also expected that older children are more likely to use a greater variety of topic-comment structures than younger children.

The use of topic-comment structure is not a mandatory one in Chinese; often it is possible to express the same meaning using a canonical SVO structure. The results from this study will provide further insight into both the typological feature of Chinese and the acquisition of Chinese. Since Chinese is regarded as a topic-prominent language, does the production frequency of topic-comment structures by children confirm this view?

In the studies of Sesotho-speaking children by Demuth (1989; 1990), she attributed the early acquisition and production of passives – usually perceived as a complex syntactic structure – to the fact that passives play a central part in the grammar of Sesotho and is consequently produced more frequently in adult and caregivers' speech than in English. This makes passives readily available in the input that facilitates its early acquisition by Sesotho children. If topic-comment structures are central to the grammar of Chinese, then we should expect to see a high production frequency of topic-comment structures in children's spontaneous speech. Erbaugh's (1992) study suggests that children begin to produce more topic-comment structures after the age of three, and because this study looks at the production of children ages four and six, it can be assumed that children will have no production difficulties. If the production frequency and variety of topic-comment structures increase with age, this would suggest that topic-comment structure is a more complex syntactic device.

The organization of this study is as follows: chapter two provides an overview of topic and topic-comment structures in Chinese as well as previous studies in the acquisition of topics in Chinese and cross-linguistically. Chapter three presents the results and findings and chapter four gives an overall discussion of the results. Lastly, chapter five concludes the study and discusses the possible areas that could be of further work.

Chapter Two: Literature Review

2.1 TOPIC-COMMENT STRUCTURES

Topic-comment structure is found cross-linguistically, and is especially prevalent in Chinese. The concepts of topic and comment have the following pragmatic properties, as proposed by Gundel (1988):

> (1) Topic: An entity, E, is the topic of a sentence, S, iff in using S the speaker intends to increase the addressee's knowledge about, request information about, or otherwise get the addressee to act with respect to E.
>
> Comment: A predication, P, is the comment of a sentence, S, iff, in using S the speaker intends P to be assessed relative to the topic of S.

In short, topic is what a sentence is about 'the domain within which the main predication holds' (Gundel, 1988, p. 210), where the two conditions familiarity and identifiability (definiteness) are met.

Although topic-comment structure is a universal phenomenon, this relationship is encoded with various formal linguistic devices in the grammar, for example, morphological markers, syntactic structures and intonation (Gundel, 1988, p. 216). The use of syntactic structures is the most frequently used device to code a topic-comment structure universally (Gundel, 1988, p.223), an example is the left dislocation structure where the topic is adjoined to the left of a full sentence comment. Topic-comment structures in Mandarin Chinese are encoded with syntactic structures. A discussion of the Chinese topic-comment structure and the various possible structures will be discussed in the following sections.

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2.2 TOPIC IN MANDARIN CHINESE

The basic word order of Mandarin Chinese is SVO and one of the most prominent features of the language is the pervasiveness of the topic-comment structure. Chao (1968) is one of the first scholars to make the claim that Chinese should be considered a topic-oriented (or topic-prominent in Li & Thompson (1976)) language as opposed to a subject-oriented one, 'the grammatical meaning of subject and predicate in a Chinese sentence is topic and comment, rather than actor and action.' (1968, p. 69).

Word order is a significant syntactic device in Chinese since there is no inflectional morphology to mark agreement, number, gender or case (Erbaugh, 1992, p. 386). It plays an important in meaning interpretation, 'in Mandarin, word-order is the single most important syntactic device for sentence interpretation' (Chang, 1992). Topic is an element that cannot be overlooked when discussing the typological features of Mandarin Chinese (Li & Thompson, 1981). Typically, the topic is the sentence-initial noun phrase of which the immediately following predicate is about. This predicate is the comment clause which forms a topic-comment structure with the topic. Unlike case marking languages such as Japanese where topic is marked by an overt topic particle *-wa,* the identification of topic in Chinese rests primarily on word order (Kroeger, 2004, p. 150).

2.2.1 Definition and properties of topic in Mandarin Chinese

Given the prominence of topics in Chinese, a definition is required for the consistent identification of topic. Her (1991) points out that the notion of topic in Chinese has been used inconsistently among linguists, where some consider topic as a syntactic notion, some a semantic one, and in some cases it is unclear (Her, 1991). Moreover, the fundamental issue of distinguishing a topic from a subject in Chinese is not without

various alternate approaches. The general consensus is that 'both topic and subject exist in Chinese as separate grammatical notions and the two can exist in the same sentence' (Shi, 2000, p. 383).

In this study, the identification of topic and topic-comment structure is based on the approach adopted in the study of Chien (1983), where she examined the comprehension of topic and subject distinctions and topic-comment structures in children acquiring Chinese as the first language. She regards the concept of topic as a 'discourse notion rather than a sentence-internal notion,' in other words, subject is a syntactic notion while topic is a pragmatic one.

This pragmatic perspective of topic is in line with Chafe's (1976) proposal on the function of topic which states that 'the topic sets a spatial, temporal or individual framework within which the main predication holds.' This is the 'aboutness' relationship agreed among Chinese linguists (among them Tsao, 1979; Chen, 1996; Shi, 2000), which states that the topic must be related to the comment semantically, not necessarily syntactically. The major distinction between a topic and subject is such that, subject has a grammatical relation with the predicate, while this is not required for a topic. Topic is related to the comment semantically, and may or may not be grammatically related. The semantic dependency of the topic-comment relation means that in is insufficient to infer a topic-comment sentence's meaning solely by its syntactic structure.

The two examples in (2) and (3) exemplify the possible structures of topic in Mandarin Chinese. Example (2) illustrates a canonical SVO sentence in Chinese where only one preverbal NP is present. If no distinction is made between subject and topic, the NP *baba* 'dad' will be treated as both the subject and the topic of the clause. It is the subject because it is the agent required by the transitive verb *dapuo* 'break.' It also has an additional role as the topic with a pragmatic function, since it sets the frame of what the

predicate is about. In this case, subject and topic are conflated.

(2)   baba   dapuo   beizi   le
       dad   break   cup   PFV
       'Dad broke the cup.'

In her study, Chien (1983) shows that L1 Mandarin speaking children are capable of distinguishing these two concepts in their early stages of syntax acquisition. Chien (1983) allows the conflation of subject and topic in Chinese, she suggests that 'although [they are] not mutually exclusive, [they] are distinct from each other' (Chien, 1983, p. 42).

While topic and subject are not structurally distinct in (2), it is overt and distinct in a topic-comment structure, as shown in (3). In (3), the first NP *nei ke shu* 'that tree' is the topic, and the following NP *yezi* 'leaf' is the subject. The predicate *hen xiao* 'very small' takes the second NP *yezi* 'leaf', not the first NP *nei ke shu* 'that tree' as the subject.

(3)   <u>nei   ke   shu</u> yezi hen   xiao
       that   CL   tree   leaf very   small
       'That tree, (its) leaves are very small.

Chien, along with Xu & Langendoen (1985) propose the following phrase structure rule for Chinese, where S is a subject-predication construction:

(4) $\overline{\text{S}}$ → (TOP) S

As the rule indicates, the presence of a topic is optional in Chinese, and it is sentence initial when present. However, it is not stated explicitly whether a subject is obligatory. The sentence initial position of the topic has been identified as one of the two properties of topic (Li & Thompson, 1981). The other important property of a topic is that it can be separated from the rest of the sentence with a pause or a topic marking particle

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such as *ne, a, ya* and *ba.* These particles have no semantic meaning and are interchangeable. A NP with these two properties is not automatically designated the status of topic; restrictions apply as to what type of NP can be a topic. Topic and comment have a relationship that is often referred to as the 'relatedness' or 'referential' factor (Li & Thompson, 1981; Shi, 2000; Kroeger, 2004). In terms of the syntactic structure, there are various ways that the topic is related to the comment, which will be discussed in the following section.

The following definition on the properties of topic is proposed by Shi (2000) which sums up the features of a topic in Chinese:

> (5) …an unmarked NP (or its equivalent) that precedes a clause and is related to a position inside the clause; a topic represents an entity that has been mentioned in the previous discourse and is being discussed again in the current sentence, namely, topic is what the current sentence is set up to add new information to. The clause related to the topic in such a way is the comment.

According to the above definition, topic is always in sentence initial position, which is agreed among most Chinese linguists (Li & Thompson, 1981; Tsao, 1979, etc.). Whether or not the topic has been discussed previously is not relevant here. In this study, no attempt is made to distinguish or discuss the difference between chain and syntactic topics, as proposed by Tan (1991). A chain topic serves as the topic of the greater discourse frame and is usually mentioned at the beginning of the discourse; it can correspond to the subject or object of the following sentences. It is syntactic topics that are of interest in this study. The notion of topic will be discussed as the topic at the clausal level, not the greater discourse unit, where the topic is the referent outside of the clause that contains it.

To sum up, a topic is the sentence initial NP, but in a SVO sentence, the preverbal NP will be treated as a subject, not topic. Topics are not determined by the syntactic

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structure, instead, its semantic relation with the predicate and the context that decides whether or not a NP is a topic.

2.3 TYPES OF TOPIC-COMMENT STRUCTURES

This section looks at the various types of topic-comment structures in Chinese and discusses how topics are linked to their comment clauses.

2.3.1 Topicalization of subjects and objects

For this type of construction, the topic can be viewed as having been extracted from their original post-verbal object position; leaving a gap in its original extraction site.

Example (6) shows that the direct object is topicalized to sentence initial position (the topic is underlined). The gap after the verb indicates the original position of the topicalized object. This type of relationship between the topic and the comment clause is what Kroeger (2004) refer to as functional (Kroeger, 2004, p. 150), and this is referred to as the extraction strategy. This type of construction has been referred to as 'topicalized' (Gundel, 1988) or 'topicalization' (Chen, 1996). The extraction of topic leaves a gap in the object position of (6); this gap is co-referential with the topic and the topic can be moved into this gap without affecting the grammaticality of the comment clause. Although the comment clause now looks incomplete, but because it forms part of the topic-comment structure with the topic it is not regarded as ungrammatical.

(6) <u>Li   xiansheng,</u> wo   renshi _____.
    Li   Mr.   I   know
    'Mr. Li, I know.'

2.3.2 Topic with resumptive pronouns in the comment

Aside from the extraction strategy, this referential relation can also be represented

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with a resumptive pronoun or a full noun phrase in the comment clause (Xu & Langendoen 1985), as illustrated in (7a) and (7b)[1]. In examples (7a) and (7b), *Li xiansheng* 'Mr. Li' is the topic, *wo* 'I' is the subject and the topics are linked to the objects in the comment. This type of topic-comment clause is also referred to as the left dislocation type (Gundel, 1988; Chen, 1996), where the topic is followed by a complete comment clause which contains a resumptive pronoun (but a full NP is possible, e.g. (7b)) that is coreferential with the topic NP.

(7)   a.   <u>Li   xiansheng</u>   wo   renshi ta.
              Li   Mr.   I   know he
             'Mr. Li, I know him.'

        b.   <u>Li   xiansheng</u>   wo   renshi zhe ge   ren.
              Li   Mr.   I   know this CL   person
             'Mr. Li, I know this person.'

On the other hand, the topic can be related to the subject in the comment clause. In (8a), this is an example of a canonical SVO construction. This can also be constructed with a topic-comment structure with an overt subject in the comment. *Li xiansheng* 'Mr. Li' is the topic in both (8b) and (8c); the subjects are *ta* 'he' and *zhege ren* 'this person' in (8b) and (8c) respectively that are linked to the topic. A topic can also refer to a possessor of a subject or non-subject in the comment, replacing them with a resumptive pronoun, as illustrated in (9a) and (9b).

(8)   a.   Li   xiansheng   renshi   wo.
              Li   Mr.   know   I
             'Mr. Li knows me'

---

[1] Examples in (7) and (8) are adapted from Xu & Langendeon (1985).

b. <u>Li   xiansheng</u> ta renshi wo.
Li Mr.   he know   I
'Mr. Li, he knows me.'

c. <u>Li   xiansheng</u> zhe ge ren   renshi wo
Li Mr.   this CL person know I
'Mr. Li, this man knows me.'

(9) a. <u>Li xiansheng,</u> ta de   didi   zai meiguo dushu.
Li Mr.   he POSS younger brother at USA   study
'Mr. Li, his younger brother studies in the USA'

b. <u>Li xiansheng,</u> wo jiao ta de   meimei   yingwen.
Li Mr.   I   teach he POSS younger sister   English
'Mr. Li, I teach his younger sister English.'

The object of a preposition phrase can also be topicalized, and a resumptive pronoun is required in its original position, as illustrated in (10)[2].

(10) <u>Li xiansheng</u> wo chule   ta   mei ren   renshi.
Li Mr.   I except he no   person know
'Mr. Li, I don't know anyone except him.'

Topic can also be related to the indirect object in the comment clause, as illustrated in (11). This indirect object in the comment clause can be null, a pronoun, or a full NP, as shown in (11a), (11b) and (11c) respectively. The topic is the antecedent of the resumptive pronoun or NP in the comment clause.

(11) a. <u>Li   xiansheng</u> wo gei le   ø   wu   ge pingguo.
Li   Mr.   I give PFV   five CL apple
'(to) Mr. Li, I gave five apples. '

b. <u>Li   xiansheng</u> wo gei le   ta wu   ge pingguo.
Li   Mr.   I give PFV he five CL apple
'Mr. Li, I gave him five apples.'

[2] Example from Xu & Langendoen (1985)

c. <u>Li xiansheng</u> wo gei le zhe ge ren wu ge pingguo.
Li Mr. I give PFV this CL person five CL apple
'Mr. Li, I gave this person five apples.'

2.3.3 Dangling Topics

This type of structure concerns mostly with the so-called double-nominative construction in Chinese, as exemplified in (12a). While the relationship between the two NPs have been regarded as topic and subject by some scholars (Li & Thompson, 1981; Chen, 1996; Kroeger, 2004), some suggest that the two NPs have a specifier-head relationship should be considered as one single NP (Tan, 1991).

In this study, the relationship between the two NPs will be considered as topic and subject, in line with Erbaugh's (1982, p. 428) analysis in her study of Children's acquisition of L1 Chinese. In (12a), a possessive marker *de* can be inserted between the two NPs, which yields a more natural sentence of that in (12b). In the case of (12b), the NP 'giraffes' necks' is the subject, which cannot be broken down into a topic and subject. However, without the possessive marker, the two NPs will be considered as topic and subject, since the first NP can be separated from the rest of the sentence by a pause or topic marking particle. Also, it is the second NP that is being modified, not the first NP. This lack of possessive *de* should not be regarded as an erroneous production by young children. In her study, Erbaugh (1982, p. 416) points out that children as young as two years old are able to use this possessive marker correctly most of the time.

(12) a. <u>changjinglu</u> bozi chang. (topic)
giraffe neck long
'As for giraffes, their necks are long.'

b. [changjinglu de bozi]_{NP} chang. (subject)
giraffe POSS neck long
'Giraffes' necks are long.'

The exception case in a double-nominative construction where the two NPs are not considered as topic and subject is when the possessive marker *de* can be grammatically omitted. This occurs when the two NPs are two human relatives and NP1 is a personal pronoun, as shown in (13). Since this type of omission is frequent spoken Chinese, this type of double nominative construction will not be considered as having a topic-comment structure.

(13) [wo (de)   meimei]$_{NP}$ piaoliang.
      I   (POSS) younger sister   beautiful
      'My younger sister is beautiful.'

In some cases, topic appears to have no referential relation with the comment clause; these are termed dangling topics by Shi (2000) and Kroeger (2004). The topic and subject NPs have no grammatical relations, they are related semantically or conceptually (Kroeger, 2004). There are no gaps or co-referential pronouns in the comment clause. However, this does mean that any two unrelated nominals can form a topic-comment relationship. The restriction on what cannot be a topic will also be discussed in the next section. Dangling topics are illustrated in (14) and (15), where the comment clause says something about the topic. The relationship between the topic and comment in these constructions has been referred to as being 'aboutness' (Li & Thompson, 1981) or 'relatedness' (Shi, 2000).

The most typical types of semantic relationship between the two initial NPs in a double nominative construction are domain-subset (Kroeger, 2004) or possessor-possessed. In (14) the subject of the comment clause is considered to be a subset of the domain of the topic NP, and the object of the comment clause in (15) is a subset of the topic domain. The domains are *zhexie ren* 'these people' and *shuiguo* 'fruit' in (14) and

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(15) respectively, and the subject and object NPs in the comment clauses are subsets of these domains, *san ge* 'three' and *yingtao* 'cherry'. These sentences become ungrammatical if the subject or object is not a member of the domain.

(14) zhe xie   ren   san   ge   shi wo   de   xuesheng.
     these CL   people three CL   be   I   POSS   student
     '(among) these people, three are my students.'

(15) shuiguo wo zui   xihuan   yingtao.
     fruit   I   most like   cherry
     '(among all) fruits, I like cherries best'

Tan (1991) points out that in a real topic-comment structure, the order of the two NPs cannot be reversed, as shown in (16)[3].

(16) a. hai, taipingyiang zui   da.
         ocean Pacific   most big
         '(Of all) the oceans, the Pacific is the biggest.'

     b. *taipingyiang, hai   zui da
          Pacific,   ocean most big
          'The Pacific, (of all) the oceans, is the biggest.'

Another type of topic-comment structure with two unrelated NPs is illustrated in (17). Unlike the domain-subset semantic relationship, the topic first two NPs here do not form such relationship.

(17) zhejian shi, ni   bu yong tai   zhi zhe.
     this   matter you not need over self blame
     'This matter, you should not put all the blame on yourself.'

Although this type of structure does not belong to any of the ones that have been

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[3] Examples are from Tan (1991).

discussed so far, Shi (2000) states that the initial NP *zhejian shi* is a topic, since it is assume that this is an event known to both the speaker and the addressee. Also, this sets up the frame of what the comment is about.

2.3.4 Adjunct topics

Within the category of topic-comment structure where there is no resumptive pronoun or gap in the comment clause, Kroeger (2004) proposes another kind of structure, as illustrated in (18) and (19). The difference between this and a dangling topic is that an adjunct topic can be relativized, whereas a dangling topic cannot. This is also referred to as a 'frame topic' by Chen (1996), and he too shows that this type of structures can be relativized. The purpose of a frame topic is to set the temporal or location frame for the comment clause, as in (18) and (19) respectively. Adjunct topics comprise mostly of adverbial phrases. This type of adverbial phrase fronting has been regarded as 'a special case of topicalization' (Xu & Langendoen, 1985). In a canonical sentence containing a temporal adverbial or spatial adverbial, they occur after the subject. In (19), the locative phrase is the topic, although the comment does not have an overt actor, it can be conceived as being null, analogous to the English impersonal 'one' which is not realized overtly in Chinese. Under Chao's (1968, p. 73) analysis, who does not differentiate subject and topic in Chinese, a sentence initial locative phrase can represent the subject/topic of the predicate, since 'the subject need not represent the actor, it can, among other things, represent the place at, place to, object for.' Li & Thompson (1981) also suggest time and locative phrases are topics for having the properties that are required: topic setting the frame and they may be followed by a pause or a particle.

> (18)　zuotian　wan shang,　wo　mei　shuijiao.
> 　　　yesterday　evening　I　no　sleep
> 　　　'Last night, I did not sleep.'

(19) <u>zai Taiwan</u> ∅ keyi chidao hen duo zhong shuiguo.
    at Taiwan   can eat   very many kinds fruit
    'In Taiwan, one can eat many kinds of fruit.'

2.3.5 What is not a topic

As mentioned previously, not any two initial NPs can form a topic-comment relationship. This is because the double nominative constructions do not have a homogenous structure. Shi (2000) distinguishes two such kinds of double-nominative constructions, where the first type involves two nominals that are loosely related and can be separated by an adverb in between, represented in (20).

(20) a.   ta duzi   tong.
              he stomach ache.
              'He has a stomach-ache.'/ 'He is having a stomach-ache.'

        b.   ta jingchang duzi   tong.
              he often   stomach ache.
              'He often has a stomach ache.'

This kind of double-nominative construction needs to be considered as one single NP constituent, in other words, they do not have a topic-subject relationship. In the case of (20a), Tan (1991) and Shi (2000) point out that NP2 *duzi* 'stomach' has grammaticalized into an idiom chunk; it forms a compound predicate with the following verb *tong* 'ache' (Tan, 1991). This is analogous to the English NP 'stomachache'. (20b) shows that the adverb *jinchang* 'often' can precede NP2, even though it is usually not allowed to precede a subject.

As mentioned previously, the NP in (21) (repeated here) is treated as one single NP even when *de* is omitted. When *de* is overt, it is clear that 'my younger sister' is a single NP as they cannot be separated from their predicate with a pause or a topic marker.

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The omission of *de* in this type of construction is common in spoken Chinese. However, if there was a resumptive pronoun that has the topic as its antecedent, that the initial NP would be considered as the topic, as shown in (22).

(21) [wo (de) meimei]$_{NP}$ piaoliang.
      I   (POSS) younger sister beautiful
      'My younger sister is beautiful.'

(22) wo (de) meimei, ta piaoliang.
      I   (POSS) younger sister she beautiful
      'My younger sister, she is beautiful.'

2.3.6 Summary

To summarize, to identify topics in this study, the following two criteria must be met: first, topic is a sentence initial NP and second, topic has a semantic relationship with the comment, which specifies that the topic NP has to be related to a NP in the comment. In addition, the syntax of a sentence containing a topic allows the following four types: 1. topic with a resumptive pronoun/NP in the comment clause, 2. a topicalized NP construction, 3. dangling topics – predominantly the double nominative construction, and 4. adjunct topics – where topics are temporal or adverbial phrases.

2.4 THE ACQUISITION TOPIC-COMMENT STRUCTURE IN CHINESE

In her study, Chien (1983) examined the comprehension of subject and topic by children acquiring Mandarin as their first language. The results were obtained through an experimental setting, where children were required to make judgments on the grammaticality of sentences based on their knowledge of subject and topic, since these two concepts play different roles in the grammar. The results indicate that children are sensitive to the distinction between the notions of subject and topic at their early stages of

syntax acquisition.

In Erbaugh's (1992) longitudinal study of four Chinese-speaking children from the age of 1;10 through 3;10, she found that these children adhere strictly to the canonical SVO word order (Erbaugh, 1992, p. 417), where she concurs with Slobin & Bever (1982) that the canonical word order schema appears to be accessible and play a crucial role in children's early sentence comprehension and production. Chinese-speaking children begin to produce the canonical SVO order sentences at an early stage with little deviations and few errors (Erbaugh, 1992, p. 416), 'Mandarin-speaking children's canonical sentences used strict SVO order. They did not attempt discourse-sensitive variations of word order until basic sentential relations were under control.'

Erbaugh suggests that 'Chinese children's limited processing capacities and desire for consistency made their word order more conservative than that of adults' (Erbaugh, 1992, pp. 416-417) which could explain why although non-canonical word orders are available and common in Chinese, they are not productive, at least not in the early stages of syntax acquisition.

Erbaugh (1992) suggests that the use of topic-comment structure not only is unproductive in Chinese-children's early speech, but is also a structure that is difficult, despite 'its high input frequency and importance' where she claimed that 'topicalizing and discourse particles are among the most difficult aspects of Mandarin.' In fact, it is something that children avoid to produce, 'they eschew pragmatic topicalization by reordering and sentence final particles until they are nearly four years old' (Erbaugh, 1983, p. 49). Topic-comment structures require a more sophisticated syntactic competence, 'choosing a pre-sentential topic, setting it off with a particle, then commenting on it over a number of sentences developed very slowly after the child turned 3;0' (Erbaugh, 1992, p. 441). Chinese-speaking children start to gain a good

control of full-sentence syntax after about age 3;2 (Erbaugh, 1992, p. 404), however, this is not manifested in their sentence production.

2.5 CROSS-LINGUISTIC ACQUISITION OF TOPICS

Gruber (1967) proposes that topic-comment structure is acquired early by an English-speaking child at 28 months and even precedes the acquisition of the subject-predicate construction. This hypothesis is rejected by Brown (1973), who argues that despite the presence of the topic-comment structures in Gruber's data, they were few and the large number of subject-predicate constructions cannot be ignored (Brown, 1973, pp. 131-2). This suggests that for English-speaking children, topic-comment structures appear to be acquired early, but it is unproductive and uncommon in their early stage of syntax acquisition.

2.5.1 Acquisition of topic in Japanese

Japanese is another discourse-oriented language with a dominant SOV word order. Subjects and objects are marked with case particles thus Japanese allows a certain degree of flexibility with regard to its word order. Any argument can be topicalized using the topic marking particle –*wa*, therefore the non-canonical OSV order is possible. The production of a simple topic construction is found as early as the two-word stage before the age of two (Clancy, 1985).

However, a sentence with a topicalized structure appears to pose certain processing difficulty for Japanese-children. Experimental studies involving acting out tasks show that when interpreting simple active sentences incorporating case particles, children performed better with SOV sentences than OSV ones. Older children (mean age

5;0) were able to rely on case particles to infer the correct meaning of an OSV sentence (Hayashibe, 1975, cited in Clancy, 1985). Hayashibe proposes that children use word order as the strategy before they acquire case particle knowledge. Similar results were obtained in Hakuta's (1977) study, where the results suggest that younger children use both particles and word order to interpret SOV and OSV sentences, and children will only free themselves from word order constraints when they become older. The studies lead to the proposal that younger children are more dependent on the word order strategy around the age of four, before they learn to use solely case particles to process a non-canonical word order sentence. In other imitation tasks, children performed significantly worse with OSV sentences than SOV ones, where they tried to create SOV for OSV sentences. Even when presented with NNV, NVN, and VNN sequences without case particles, children have the preference of interpreting the first noun as the agent (Clancy, 1985).

From the comprehension perspective, children treat *-wa* as an alternative subject marker, since they showed greater comprehension competence when the topicalized argument is a subject than when it's the object (Sano, 1977, cited in Clancy, 1985), i.e., O-*wa*SV was problematic for children, the comprehension was worse than that of a passive construction. The probable explanation is that an OSV sentence which has the typical semantic interpretation of patient-agent-action, where the patient is marked by *-wa* which is usually reserved for marking agents, and *-ga* marks the object of experience that is reserved for subjects. This reversed word order appears to have processing difficulties for children, which suggest that word order plays a role in sentence processing of Japanese, at least in the initial stage of syntax acquisition.

2.5.2 Acquisition of topic in Korean

Korean is similar to Japanese typologically in that it is a SOV language and case

markers and particles allow relative freedom in terms of word order, although verb-initial word orders are rare. Korean children's production tends to adhere strictly to canonical SOV order at the early stage of language acquisition, and only become more flexible with word order at a later age (Kim, 1997). Although Korean is also considered a topic-prominent language[4] (Li & Thompson, 1976), is it not clear how frequent the topic marker –(n)un is used in children speech. Word orders containing topics (TSV, SVT, TVS, TSCV, or TSOV) were examined in Cho's study (1981, cited in Kim, 1997) of three Korean children between the ages of 2;2 and 2;10. The production of these types of structure is low, accounting for 0%, 2.3% and 3.5% of all the utterances produced by the three children. Despite the inflectional nature of the language that permits flexible word orders, children tend to produce fixed word order sentences at the beginning stage.

2.5.3 Acquisition of topic in Hebrew

According to Berman (1985), Hebrew has a canonical SVO word order where it has 'several very productive devices for topicalization and other kinds of pragmatic foregrounding of arguments by departure from the canonical SVO order' (Berman, 1985, p. 336) and displays certain structural similarities with Chinese. Hebrew is a discourse-oriented language, where it has 'much flexibility in the fronting of nonsubject nominals for purpose of contrastive focus.' (Berman, 1985, p. 257) Hebrew uses the left-dislocation with pronoun copying strategy, which is analogous to the Chinese resumptive pronoun type of topic-comment structure, in another words, it is possible to yield the English equivalents 'Ronnie, I don't want to play with him' in Hebrew (Berman, 1985, p. 257).

Hebrew children (ages 2-4) appear to adhere to basic SVO order with little error, moreover, they are also capable of producing non-canonical word order and

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[4] Korean and Japanese are categorized as being both topic-prominent and subject-prominent by the authors.

pragmatically marked structures such as left-dislocation, right-dislocation fronting, fronting of non-subject nominals and adverbial fronting. However, the flexibility of word order in Hebrew also means that it is difficult 'to pinpoint strictly grammatical violations of word order constraints on major constituents.' Chinese also exhibits a similar kind of problem since it is a discourse driven language.

Hebrew three-year olds are found to be using these pragmatically marked structures freely, to clearly convey 'who or what the topic of their comment is' (Berman, 1985, p.336). Berman (1985) suggests that the pragmatically marked structures in Hebrew do not show the same level complexity as English passives or clefting, thus does not pose acquisition difficulty for Hebrew children. In Hebrew, it is easy to mark a nominal as the topic, moreover, topicalization structures are said to be natural and 'deeply ingrained in Hebrew' (Berman, 1985, p. 336). In this respect, Hebrew displays characteristics as a discourse-oriented language, as opposed to a non-discourse oriented language such as English, where 'word order is more grammatically constrained' (Thompson, 1978, cited in Berman, 1985). Because of the relative easiness and saliency of topic marking in Hebrew, children are able to acquire early the devices in constructing topicalization structures.

2.6 THE USE OF CANONICAL SCHEMA BY CHILDREN

It is suggested that cross-linguistically, children acquire a schema of canonical sentence forms at the early stage of their syntax acquisition (Slobin & Bever, 1982). This schema then forms the basis for processing non-canonical constructions and sentence forms (Slobin & Bever, 1982). They pointed out that because canonical forms have such strong influence on language processing for children, this may hinder their understanding of non-canonical forms. This leads to the question of how do children approach non-

canonical sentence structures, namely the topic-comment structure in Chinese? They could potentially have no difficulties if topic-comment structure is a central part of the Chinese grammar. A complex syntactic construction can be acquired if it is a central part of the language grammar, as has been shown for the passive construction in Sesotho. Passives are often conceived as having a complex syntactic structure, however, Sesotho-children are capable of comprehending and producing passives as early as age 2;8 (Demuth, 1989; 1999).

2.6.1 Acquisition of passives in Sesotho

In her study, Demuth (1989; 1990) found that the passive construction – conventionally conceived as a complex syntactically construction that is acquired at a relatively later stage of language development, is in fact acquired by young speakers of Sesotho by at least 2;8 years. Sesotho-speaking children demonstrate good comprehension of passives in spontaneous speech and are also creative in their passive constructions. Demuth (1989; 1990) suggests that this is due to the central role of the passive construction in the grammar of Sesotho where it is used more frequently in adult and adult to children speech than languages such as English and Hebrew. Its importance has rendered Demuth (1990, p. 73) to propose that the passive construction is a basic and canonical grammatical construction in Sesotho. The highly prominent role and the readily availability in the input of the passive construction for Sesotho children are reflected in their significantly higher frequency of passive production than English speaking children (Demuth, 1990). Given that children prefers canonical forms in their construction and Sesotho passives are regarded as a canonical structure, (Slobin & Bever, 1982) it is not surprising that passives are highly frequent in the production of Sesotho children.

2.7 SUMMARY

To sum up, previous studies of Chinese and other topic-prominent languages show mixed results as to whether children are producing topic structures frequently. Chinese, Japanese and Korean have been claimed to be topic-prominent languages but results suggest that topics are not produced frequently by children at an early stage. However, children of discourse-oriented Hebrew appear to be producing topics more frequently. It should not be unreasonable to expect Chinese children to produce correct topic-comment structures frequently since this is an important feature of Chinese. However, given that children have difficulties with non-canonical word orders at the initial stages of syntax acquisition, the production of topic-comment structures may be unlikely to be frequent at the early stages.

Chapter Three: Data and Results

3.1 DATA

The data used in this study were obtained from the transcripts from the Chang corpus in the CHILDES database (MacWhinney, 2000). This corpus includes 24 transcripts, which can be divided into two age groups, four year olds and six year olds with 12 children in each group. The mean age of the four-year old children is 4;1 with the age ranging from 3;6 to 4;5. The mean age for the six-year old group is 6;0 with a range of 5;7 to 6;5. There are six female and six male children in both groups. All the children are native speakers of Mandarin Chinese.

The data were collected for Chang's study, with the objective of investigating the developmental differences in children's narrative skills among the two age groups. The children were all given the same task; they were given the same set of toys and props and they were required to tell a story of their own after being given two initial prompts from an investigator. This corpus provides an appropriate set of data for comparing the linguistic competency of children in using topic-comment structures, because the children are faced with the same tasks. The children's production should provide us an insight into whether and how topic and topic-comment structures play a role in Chinese children's linguistic performances in two different age groups.

3.2 Coding: Identifying a topic-comment structure

When identifying a topic-comment structure among all the utterances produced by children, the following criteria were used. Topics were first identified according to their position in the clause, and their semantic characteristics. If these two criteria are met, then the topic's referential relationship with the comment was determined.

1. Position in the clause. Topics have been identified as always being in the sentence initial position because they set the frame for the comment. A subject can also be the topic at the same time, such as the subject in a canonical SVO sentence. This type of structure is not considered in this study. Given that the data for this study comes from narratives, there are many instances of adverbial connectives such as *ranhou* 'then,' *keshi* 'but' and *yinwei* 'because' before a complete sentence emerges. These types of adverbial connectives[5] will be overlooked when identifying topics. Li & Thompson (1981) point out that a topic does not always need to be in the sentence initial position, namely when it follows a connector that links it with the preceding sentence (Li & Thompson 1981, p. 86). The topic does not need to be in an absolute initial position, but it must immediately precede its comment clause, an example is presented in (23) where the adverbial connective *keshi* 'but' precedes the topic-comment structure. Although adverbial connectives appear in the preverbal slot that is typically occupied by topics, they are not considered topics. In general, only NPs can be topics and the only cases where adverbials have topical status are when they appear as temporal or spatial phrases.

(23) keshi <u>konglong</u> ta yizhi bu zou.
      but   dinosaur   it always no go
      'But the dinosaur, it kept refusing to go.'   (Lun-lun 5;10)

2. Topic characteristics. A topic phrase can be separated from the comment by a pause or a topic particle such as *a, ne, ma* and *ya.* These particles do not contribute any semantic meaning to the topic phrase; they can be used interchangeably and are not mandatory. A subject cannot be separated from the rest of the sentence by a pause or one of the topic particles.

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[5] They are referred to as 'sentence-linking adverbs' in Li & Thompson (1981).

3.2.1 Categorizing a topic-comment structure

A subject has a 'doing' or 'being' relationship with the verb, but this is not necessarily true for a topic. Two major grammatical classes can be placed in the topic position − noun phrases and adverbial phrases. Noun phrases can be functionally linked to the comment, with a resumptive pronoun or a gap; they are usually subjects of the verb in the comment clause but can also be direct or indirect objects. Both noun and adverbial phrases can be linked to the comment semantically.

Noun phrases: These are the most common type of topics. The NP is linked to its referent in the comment clause in three ways: with a resumptive pronoun, a gap, or is related semantically.

1. Resumptive pronoun or resumptive NP. In the case of the resumptive pronoun, the topic NP functions as the antecedent of a pronoun in the comment. This resumptive pronoun can occupy the subject, direct object or indirect object slots in the comment clause. An example is presented in (24), where *xiao shizi* 'little lion' is the topic NP, and *ta* 'it' is the resumptive pronoun that is co-referential with the topic NP.

(24) <u>xiao shizi</u> ta weishenme   ziji   qu?
      little lion   it   why   self   go
      '(the) little lion, why did he go by himself?'   (Lun-lun 5;10)

The topic NP can also be a pronoun that is co-referential with a full NP in the comment, as presented in (25), where *ta* 'it' is the topic and *shizi baba* 'daddy lion' is the subject. A resumpitve NP in the comment is less common than the resumptive pronoun strategy.

(25) <u>ta</u> shizi baba tiao xia   qu da huai   ren.
      it lion daddy jump down go hit bad   person
      'It, the daddy lion jumped down to fight the bad people.'   (Yang-zhi 3;10)

Syntactically, a topic that is related to the comment by a resumptive pronoun or NP in the comment is also known as the left dislocation structure.

2. Gap. Alternatively, the topic NP can be linked to the comment clause with a gap. This is the case where the object of the comment clause has been fronted to the clause initial position, hence leaving a 'gap' in the comment. The comment clause may appear ungrammatical or incomplete, and this topic-comment structure exemplifies that of an OSV word order. An example is presented in (26); the gap shows the position of where the object *liu ge* 'six-CL' was before being fronted. Both direct and indirect objects can be fronted. Syntactically, this is also as known as the topicalization structure (Chen, 1996; Kroeger, 2004).

> (26)　liu　ge　　wo　yao　_____.
> 　　　　six　CL　 I　　want
> 　　　　'I want six (of that).'　　　　　　　　　　　　　　　　(Ru-wei 4;2)

3. Semantic relationship. In some cases, topic NPs appear to have no grammatical relationship with any of the elements in the comment. There are no resumptive pronouns or any explicit gaps to be filled in. The comment clause itself can look complete without the topic, but the topic and comment share an 'aboutness' relationship, such as a domain-subset relationship or a possessor-possessed relationship. One of the most common type of topic-comment structures with a semantic relationship is the so-called double-nominative structure as shown in (27), where the topic *ta* 'it' and subject *zhua* 'claw' have a possessor-possessed relationship.

> (27)　yinwei　ta zhua hen　li　　a.
> 　　　　because　it claw very　sharp　PAR
> 　　　　'Because, as for it (lion), its claws are very sharp.'　　　(Xi-er 5;9)

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This type of topic is considered a dangling topic by Kroeger (2004). The topic may appear to bear no explicit grammatical relationship with the comment clause, but they are related to the clause semantically or conceptually (Kroeger, 2004). The topic defines what the sentence is about, and such type of topic has often been termed 'Chinese-style' topics (Chen, 1996).

Adverbial phrases. Adverbial phrases are less common as topics, but they nevertheless serve as the semantic frame and provide the background information of the comment clause. These types of phrases are considered 'adjunct topics' by Kroeger (2004). Although they are not related to the comment grammatically, they have a semantic relationship where the comment clause is a complete clause on its own. This semantic relationship is characterized by an 'aboutness' feature that links the topic with the comment. The topic functions as the setting where the comment says something about it. This 'aboutness' requirement between the topic and comment will rule out any two elements that could potentially form a topic-comment structure. This 'aboutness' relationship can also be characterized by that, the topic is something that has been mentioned previously in the discourse, and the comment clause adds new information to it. Adverbial phrases can be further classified into spatial adverbials and temporal adverbials, as presented in (28) and (29) respectively.

(28) <u>na   ge dongwuyuan limian</u> nail ye   you da xiang shi hui   de.
      that CL zoo   inside there also have elephant be   grey NOM
      'In that zoo, there are also elephants that are grey.'   (Yang-zhi 3;10)

(29) yinwei <u>mei   tian zaoshang</u>   shizi dou da   jiao.
      because every day morning   lion all big   roar
      'because every morning, the lion always roars loudly.'   (Zhi-duan 5;10)

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In terms of the syntactic structure, adverbial phrases that occupy the topic position have been identified as adjunct topics (Kroeger, 2004). They are considered as adjuncts since they are not the required element for the comment clause to be meaningful or grammatical.

3.2.2 Summary

Based on the above criteria, there are four major types of topic-comment structures that will be identified and examined:

1. Resumptive relationship. This is where the topic NP is the antecedent of the subject, object or indirect object in the comment. Alternatively, the topic may be a pronoun that is co-referential with a full NP in the comment.

2. Topicalization of objects. In a topicalized construction, the clause will have an OSV word order with the direct or indirect object being fronted and leaving a gap after the verb.

3. Semantic relationship. The most common type of a topic-comment structure that bears a semantic relationship is the double nominative construction. The double nominatives usually form a domain-subset or possessor-possessed relationship. The two nominatives do not have to be related grammatically; their linkage is conceptual.

4. Adverbial phrases. Adverbial phrases are considered as topics when they occupy sentence initial position. This type of construction can be further divided into temporal adverbial and spatial adverbial phrases.

3.3 DATA SELECTION

The total number of clauses with a topic-comment structure was counted and compared across the two age groups. The target in this study is to examine children's output at the sentential level; given that a topic-comment structured sentence implies the production of a complete sentence, as opposed to fragments and phrases, the following types of short utterances were ignored when determining the total number of utterances produced by each child.

1. Single phrase utterances: These type of utterances include answers to yes-no questions, utterances with only a noun, verb, adjective, adverb or question word, and utterances with only an adverbial-adjective phrases. Examples include, *dui* 'yes', *shizi* 'lion', *xiao shizi* 'little lion', *shuijiao* 'to sleep' *ranhou,* 'then', *chou* 'ugly', *hen chou* 'very ugly', *sheme* 'what'.

2. Non-speech utterances: Where the utterance contains only an exclamation or laughter expression.

3. Unintelligible utterances: Where the utterance is unintelligible and the meaning cannot be determined.

3.4 RESULTS

3.4.1 An overview of the results

The frequency of topic-comment clauses produced was calculated by determining the percentage of the occurrence of this structure among all the clauses produced. As presented in Table 1, the number of topic-comment clauses produced is low among both the younger and older groups of children. The highest number of topic-comment clauses produced only accounted for 11.67% of all the clauses produced by one child. In the

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production of five children, no topic-comment clauses were found in their transcripts.

The total number of clauses produced by all 24 children is 1884, with a mean of 78.5 and a standard deviation of 53.06 (range = 17 to 220 utterances). Among the 1884 utterances produced, only 69 are identified as having a topic-comment structure, which is 3.66% of all the utterances. The mean of topic-comment clauses produced by each child is 2.88, with a standard deviation of 3.33 (range = 0 to 14 tokens).

Child (age 4)	Total No. of utterances	No. of topic-comment clauses	% of all utterances	Child (age 6)	Total No. of utterances	No. of topic-comment clauses	% of all utterances
Li-ke	57	3	5.26	Ai-hua	158	7	4.43
Yi-xi	78	2	2.56	Jian-hua	45	1	2.22
Wei-qiang	45	3	6.67	Kai-li	62	3	4.84
Ting-wei	42	2	4.76	Zhi-qiang	29	0	0
Ru-wei	220	4	1.82	Lan-xin	97	1	1.03
Shun-yao	61	3	4.92	De-zhi	33	1	3.03
Ting-ru	36	2	5.56	Ge-li	67	0	0
Li-xuan	42	1	2.38	Lun-lun	106	8	7.55
Yi-yao	17	0	0	An-xiang	168	5	2.98
Song-yang	80	0	0	Xi-er	134	1	0.75
Yang-zhi	162	14	8.64	Zhong-li	50	1	2
Kai-song	35	0	0	Zhi-duan	60	7	11.67
Total	875	34	3.89	Total	1009	35	3.47

Table 1.   Total number of utterances and topic-comment clauses produced by each child.

To determine if there is a developmental difference in the production of topic-comment clauses, the results are broken down by age and are presented in Table 2. The total number of utterances produced by younger children (age four) is 875, which is slightly less than the 1009 utterances produced by older children (age six). The mean number of clauses produced by younger children is 72.92, and 84.08 by older children.

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While there is a small difference in the number of utterances produced, there is little difference in the number of topic-comment clauses produced by the two groups of children. Younger children produced 34 topic-comment clauses, while older children produced 35. This gives a mean number of 2.83 topic-comment clauses produced by the younger children, and 2.92 for the older children. However, topic-comment clauses accounts for 3.89% of all the clauses produced by younger children, but only 3.47% for older children. Although the percentage is slightly higher for the younger children, this difference is not statistically significant. In summary, there appears to be no significant difference in the frequency of topic-comment clauses produced between the children of two age groups.

	Age 4	Age 6
Total number of children	12	12
Total utterances produced	875	1009
Mean number of total utterances	72.92	84.08
Standard deviation of total utterances	59.28	47.99
Total number of topic-comment clauses	34	35
Mean of topic-comment clauses	2.83	2.92
Standard deviation of topic-comment clauses	3.76	3
Percentage of clauses with a topic-comment structure	3.89	3.47

Table 2.   Total number of utterances and topic-comment clauses produced by children of two age groups.

3.4.2 Results broken down by types of topic-comment structures

There are four major types of topic-comment structures to be identified: (1) Resumptive pronouns or NPs, where the topic is either a full NP or pronoun and is co-referential with a pronoun or NP in the comment. (2) Topicalized structure: this is where

a clause with the object fronted and has an OSV word order. (3) Clauses with a nominative NP that is related to the comment clause semantically. (4) Adverbial phrases, which can be further categorized as a temporal adverbial or a spatial adverbial phrase.

Table 3 presents the different types of topic-comment clauses produced by each child. With the exception of Yang-zhi who produced 8 tokens of the semantic type of topic-comment clause, there does not appear to have a tendency to favor the use of a particular type of topic-comment structure by each child.

Child	Total topics	Types of topic-comment structure					
		Resumptive		Topicalized	Semantic	Adverbial	
		NP-PRO	PRO-NP			Temporal	Spatial
Ai-hua	7	3	1	2		1	
Jian-hua	1						1
Kai-li	3				3		
Zhi-qiang	0						
Lan-xin	1	1					
De-zhi	1	1					
Ge-li	0						
Lun-lun	8	5		1		2	
An-xiang	5	3				2	
Xi-er	1				1		
Zhong-li	1			1			
Zhi-duan	7	2		1		4	
Li-ke	3	1		1	1		
Yi-xi	2	1		1			
Wei-qiang	3	2				1	
Ting-wei	2	1				1	
Ru-wei	4	2		2			
Shun-yao	3				3		
Ting-ru	2				1		1
Li-xuan	1					1	
Yi-yao	0						
Song-yao	0						
Yang-zhi	14	3	1	1	8		1
Kai-song	0						
Total	69	25	2	10	17	12	3
%		36.23	2.90	14.5	24.6	17.39	4.35

Table 3.   Types of topic-comment clauses produced by all the children.

Figure 1 shows that the resumptive and semantic categories account for the majority types of topic-comment clauses produced. The resumptive pronoun and NP type accounts for most of the topic-comment clauses produced (39.13%), followed by semantic type of topic-comment structures (24.6%), adverbial phrases (21.74%) and topicalized structures (14.5%). Within the resumptive category, the majority clauses have a topic NP and resumptive pronoun relationship (25/27, 92.59%), whereas clauses with the topic pronoun and resumptive NP relationship are less frequent (2/27, 7.41%). Within the adverbial phrases category, temporal adverbials account for 80% (12/15) while spatial adverbials account for 20% (3/15).
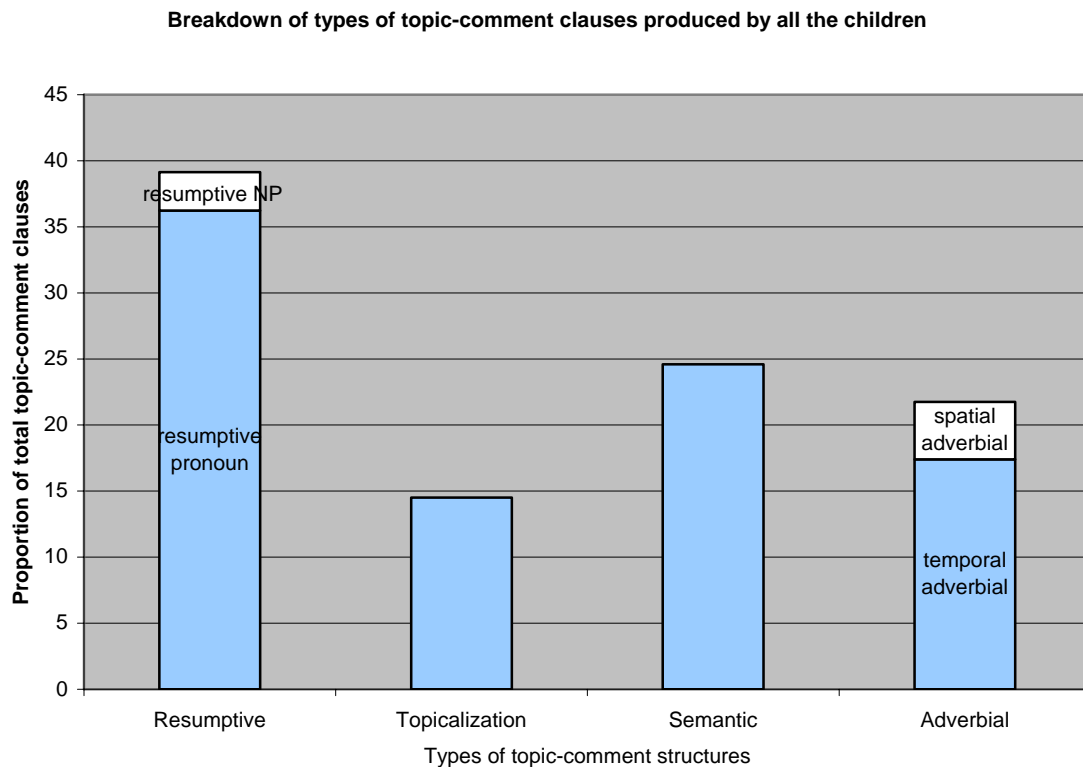
Breakdown of types of topic-comment clauses produced by all the children

Figure 1.   Types of topic-comment clauses produced by all the children

3.4.2.1 Broken down by categories – Resumptive pronouns and NPs

This is the largest category of topic-comment clauses produced by children (39.13%). Of all the 69 topic-comment clauses produced, 25 have a full NP as the topic with a co-referential resumptive pronoun in the comment, and 2 clauses have a pronoun as the topic with a resumptive full NP in the comment. Below is an example of a sentence with a topic NP and resumptive pronoun relationship, where the sentence initial full NP *shizi* '(the) lion' is the topic, and followed immediately by a resumptive pronoun *ta* 'it', which is the subject of the comment.

(30)   <u>shizi</u> ta haimei zhou dao shiwu.
           lion   it not yet find   to   food
           'As for the lion, it hasn't found any food yet.'   (Lun-lun 5;10)

The topic NP can also be accompanied by a determiner, which immediately precedes the NP. The following example (31) illustrates this kind of structure, where the NP *na ge lauhu* 'that tiger' is the topic, and followed immediately by the resumptive pronoun *ta* 'it'.

(31)   <u>na   ge lauhu</u> ta da daxiang.
           that CL   tiger   it hit elephant
           'As for that tiger, it hit the elephant.'   (Li-ke 4;0)

Children also produce topic NPs that are plural, and in this case, the resumptive pronoun in the comment must also be reflected for plurality. However, since noun phrases are not obligatorily marked for plurality in Mandarin, the plural resumptive pronoun is the only evidence for identifying a plural NP, as shown in (32).

(32)   keshi <u>shizi</u> tamen dou bu xihuan gen daxiang wan.
        but   lion   they   all   no   like   with elephant play
        'But as for the lions, they don't like to play with the elephants.'

                                                      (De-zhi 6;5)

Another way of identifying a plural topic NP is by the plural marker *xie* between the determiner and NP, as shown in (33), or when there is more than one entity mentioned in the noun phrase, as in (34). Examples (32), (33) and (34) show that children can correctly use the plural resumptive pronoun *tamen* 'they' when the topic NP is plural. Examples (30) and (32) have the same topic NP, but it is singular in (30) and plural in (32). The inference of the number is dependent on the resumptive pronoun in the comment.

(33)   <u>zhe xie dongwu</u> tamen dou huei yiao na ge huai ren   shoushang.
        this PL animal   they   all   can bite that CL bad person injure
        'These animals, they will bite that bad person (to cause) injury.'
                                                (Yang-zhi 3;10)

(34)   keshi <u>daxiang   gen shizi</u> tamen dou hen   kouke.
        but   elephant and lion they   all   very thirsty
        'But the elephant and the lion, they are both very thirsty.'   (Lun-lun 5;10)

There is only one instance of mistake with regard to the number agreement between the topic NP and its resumptive pronoun. Example (35) is produced by An-xiang, where the topic NP is clearly a single noun, as evidenced by the use of the demonstrative pronoun *zhe* 'this' and singular classifier *ge,* but the resumptive pronoun is in the plural form. This structure can potentially be analyzed as a topicalized structure, where the clause initial NP *zhe ge shizi* 'this lion' can be analyzed as the object of the verb *gonji* 'attack' since this is a legitimate OSV word order. If this was analyzed as an OSV structure, then the meaning becomes 'this lion, they are going to attack it.' However, the context tells us that the child intended to express the idea that the lions are doing the

attacking, because he has been assembling other members of the lion family to get ready to attack the elephants, not another group of animals that will be attacking the lion.

(35)   zhe ge   shizi tamen   yiao   gongji   la.
          this CL   lion   they   want   attack   PAR
          'As for this lion, they are going to attack.'   (An-xiang 5;7)

The resumptive type of topic-comment structure can also be a pronoun topic with a resumptive full NP in the comment, although this is a less typical structure in Chinese. Two instances of such structure were identified in the data, and in both cases the pronouns agree in number with their co-referential NPs, as presented in (36) and (37).

(36)   <u>ta</u>   shizi baba   tiao   xia   qu   da   huai   ren
          tt   lion dad   jump down go   fight   bad   person
          'As for it, the daddy lion jumped down to fight the bad people.'
                                              (Yang-zhi 3;10)

(37)   <u>tamen</u> a   mei yi   ge dongwu a   dou pao dao shu dixia
          they PAR   every one CL animal PAR all   run to   tree under
          'As for them, all the animals run beneath the tree.'   (Ai-hua 6;5)

For all the 27 clauses with a resumptive pronoun or NP, 26 of the clauses have a topic that is co-referential with the subject NP or pronoun in the comment. There is only one clause where the topic is co-referential with the object in the comment, as presented in (38). The topic is *na ge dongxi* 'that thing' and is co-referential with the pronoun *ta* 'it' in the comment.

(38)   <u>na   ge   dongxi</u> yinwei   long   de   jiao zhua zhe   ta.
          that CL   thing   because dragon POSS foot clutch DUR it
          'As for that thing, because the dragon's feet are clutching it.'
                                             (Zhi-duan 5;10)

3.4.2.2 Broken down by categories – Topicalization

Of all the 69 topic-comment clauses, ten clauses have a topicalized object. Among the ten clauses, three have an OSV word order, an example is presented in (39) where the object of the verb *wangji* 'to forget' has been fronted to clause initial position. All three OSV structures have the direct object of the verb fronted. Although the comment in (39) is grammatical by itself without the object, a topicalization structure can potentially result in a comment that looks incomplete, as in (26) (repeated here).

(39) <u>na   yi   ge   shi   samba</u> wo wangji le.
     which one CL be   Simba I   forget   PFV
     'Which one is Simba, I forgot.'   (Kai-li 5;7)

(26) <u>liu   ge</u>   wo   yao <u>   </u>.
     six   CL   I   want
     'Six (of that), I want.' (Intended: 'I want six (of that).')   (Ru-wei 4;2)

Of all the ten topicalized clauses, five have an OSV word order but with the subject omitted, that is to say, the clauses have an OV word order. The example in (40) is an example of such structure, where the NP *daxiang de linghun* 'elephant's soul' is the object of the transitive verb *kanjian* 'see' that has been fronted to sentence initial position. Evidence that 'elephant's soul' is the object comes from previous utterances in the discourse, where the child also expressed a similar idea 'they are watching the elephant's soul,' but using the canonical SVO word order structure. The omitted subject in this clause would be *tamen* 'they' but since this information is recoverable in the discourse, this subject omission. In fact, subject omission has been said to be the norm in certain situations, and the presence in certain context may be odd (Chang, 1992, p. 279).

(40) <u>daxiang   de   linghun</u> a   kanjian   le.
     elephant   POSS   soul   PAR   see   CRS
     'As for the elephant's soul (they) saw it.'   (Ai-hua 6;5)

Although a subjectless clause is acceptable given that the missing information is recoverable, there are three clauses of the OV order that can be potentially analyzed as errors. Chinese allows a non-canonical SOV word order and this type of construction would require the object marker[6] *ba* before the direct object, and the object NP, can not be omitted (Li, 1990). This is frequently referred to as the BĂ construction, as exemplified in (41a). Li & Thompson (1981) point out that it is difficult to give an exhaustive category of nouns or verbs that requires this type of construction. They propose two conditions that are more likely (but not mandatory) to use the BA construction: 1. the *ba* noun phrase is definite or generic, and 2. the intended message has the disposal and non-purposeful connotation, denoting that something is happening to the NP that is marked by *ba.*

However, the BA construction is not always a mandatory one; it is possible to express (41a) with the canonical SVO structure, as shown in (41b). In this case, when the BA construction is used, it is to place greater saliency on the object. The decision as whether to use construction (41a) or (41b) is dependent on the prominence and disposal disposition of the direct object. The BA construction is only obligatory when the direct object is highly prominent with a strong sense of disposal (Li & Thompson, 1981, p. 488).

(41)   a.   wo   ba   wo   de   fangzi   mai   diao   le.
          I   BA   I   POSS   house   sell   off   PFV
          'I sold off my house.'

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[6] *Ba* has been labeled with various terms by linguistics, among them object marker (Erbaugh, 1982), preposition (Li, 1990), or simply the *ba* construction (Chang, 1992; Li & Thompson, 1981). In this study, the term object marker will be used.

b. wo   mai diao le   wo de   fangzi.
   I   sell off PFV I   POSS house
   'I sold off my house.'

Three OV clauses were found in the transcripts that would require the object marker *ba,* as presented in (43a), (44a) and (45a). However, because none of them are marked by *ba,* they can be misinterpreted as simply being a topicalized OV structure. Although the intended meanings are understandable using a non-BA construction, the more accurate and preferable construction is to use a BA construction, since the objects *zhe* 'this', *zhege huai senlin* 'this bad forest' and *shu* 'tree' in (43a), (44a) and (45a) respectively are highly prominent and all show a strong sense of disposal as indicated by their use of the verbs.

(42) a. zhe (wo) keyi bá   xialei ma?
        this (I)   can   pull down INT
        'As for this, can (I) take (it) down?'   (Yang-zhi 3;10)

     b. (wo) keyi bǎ   zhe bá xialei   ma?
        (I)   can BA   this pull down   INT
        'Can (I) take this down?

In (42a), without the object marker *ba,* the subject would be misinterpreted as the demonstrative *zhe* 'this' that is doing the pulling action, and is syntactically an acceptable form without using the preposition *ba.* Although this appears to be a typical OSV structure, this clause cannot be reordered into a SVO structure, instead, a SOV is required with the preposition *ba* before the direct object, as shown in (42b). Why is an OSV structure acceptable while the SVO is not? A plausible explanation is that in an OSV construction, the direct object already occupies the most prominent position; but in a SVO structure the object is at sentence final position, which is the least prominent position.

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The example in (43a) behaves in a similar manner as (42a). Although it appears that *shu* 'tree' is the subject doing the hitting, it is in fact the recipient of the verb *da* 'hit'. A subjectless construction is acceptable in (43a), but the preferable structure is to have the preposition *ba,* since this adds the prominence to the object, as shown in (43b) and (43c). What (42a) and (43a) show is that, when the canonical SVO structure cannot be used, the SOV structure with the object marker *ba* is required. However, *ba* is not used in either clauses, and what are produced are OV structures instead. This can be interpreted as either an OSV structure with the subject omitted, or an erroneous SOV structure. The possibility of either interpretation is suggested in Chang's (1992) analysis of children's OV construction, although he finds most of the OV patterns to be incorrect based on contextual information.

(43)   a.   shu   (wo) keyi   zhende   da   dao   ma?
            tree   (I)   can   really   hit   fall   INT
            'As for the tree, can (I) really knock it down?'   (Zhong-li 6;5)

       b.   (wo) keyi   zhende   ba   shu   da   dao   ma?
            (I)   can   really   BA   tree   hit   fall   INT
            'Can (I) really knock down the tree?'

       c.   shu, (wo) keyi   zhende   ba   ta   da dao ma?
            tree (I)   can   really   BA   it   hit fall INT
            'As for the tree, Can (I) really knock it down?'

The sentence in (44a) is another instance where the word order structure is ambiguous. This clause lacks an agent, the NP *zhege huai senlin* 'this bad forest' is the patient of the transitive verb *da* 'hit'. This sentence has reading ambiguities, it is not clear whether this is action that the child will take or wishes to take. Inference from the context suggests that it is more likely to have the former reading. In this case, both the SVO and SOV constructions are possible. The sentence produced by the child suggests that his/her

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target is the SOV since the sentence begins with the object NP. However, the child makes a mistake by omitting the object marker *ba*. This omission results in the clause having a seemingly topicalized structure. In order to front the object, the underlying structure would need to be SVO, as shown in (44c).

(44) a.   zhe ge   huai senlin dahuai.
             This CL   bad   forest destroy
             'This bad forest, (I will) destroy (it)'   (Li-ke 4;0)

       b.   wo ba   zhe ge huai   senlin dahuai.
             I   BA   this CL bad   forest destroy
             'I will destroy this bad forest.'

       c.   wo yao   dahuai   zhe ge huai   senlin.
             I   want destroy this CL bad   forest
             'I will destroy this bad forest.'

The BA construction has a non-canonical word order in Chinese, and since the usage is not always obligatory, this can pose production difficulties for children.

Another instance of topicalization is object fronting within a noun phrase, as shown in (45a). Although the clause begins with the pronoun *ta,* this can be viewed as a false start, the second NP is the actual object that is fronted. This is possible because the object *shengdanshu* 'Christmas tree' can fill in the gap after the possessive marker *de,* as shown in (45b) which is the pre-fronted structure of (45a).

(45) a.   ta, shengdanshu   tamen de _____.
             it Christmas tree they   POSS
             'The Christmas tree is theirs.'   (Ru-wei 4;2)

       b.   tamen de   shengdanshu.
             they   POSS Christmas tree
             'Their Christmas tree.'

3.4.2.3 Broken down by categories – Semantic type of topic-comment clauses

Overall, there are 17 clauses that have the semantic type of topic-comment structure. The most common construction of this type has double nominatives at clause initial, with the first nominative being interpreted as the possessor of the following possessed NP; examples are given in (46). The design of the experiment involves playing with animals, hence many instances of this construction involve discussing the possessor and a body part when children are discussing or describing an attribute of an animal. Of the 17 clauses, 12 have a possessor-possessed relationship. Among these 12 clauses, six have a full NP as the topic, as in (46a), while six have a pronoun as the topic, as in (46b).

(46)   a.   <u>daxiang</u>   yachi   zai   zheli
           elephant   tooth   at   here
           'The elephant, its teeth are here.'   (Yang-zhi 3;10)

       b.   <u>ta</u> yachi   hao   jian.
           it   tooth   very   sharp
           'As for it, its teeth are very sharp.'   (Shun-yao 3;6)

For the other five utterances that do not have a possessor-possessed relationship, one has a domain-subset relationship, one is an adjunct topic, and three are dangling topics. What all these have in common is that, the topics are not related to the comment clause syntactically, but semantically.

The clause in (47) has the topic being the domain of the subject *daxiang* 'elephant.' This child started by pointing to two animals, and then narrows the subject to one of the animals. An adverbial connective *jiu* 'only' is inserted between the topic and comment but can still be viewed as a topic-comment structure. Without the topic, the subject in the comment becomes ambiguous; it would be unclear which elephant is the child referring to. By having a domain as the topic, the referent represented by the subject

in the comment becomes definite.

(47) <u>tamen liang ge…</u> jiu daxiang bu huei…
     they two CL only elephant no can
     'Among those two, only the elephant won't (bite the bad person).
                                        (Yang-zhi 3;10)

Among the semantic type of topic-comment constructions, two are adjunct topics. Adjunct topics differ from dangling topics in that they can be reletivized, while dangling topics can not (Kroeger, 2004). The clause in (48) has an adjunct topic, *zheli* 'here' cannot be the subject since it is not the agent doing the action of playing. There is no overt subject in this clause; this clause can be viewed as having a zero subject, since there is no generic one in Chinese.

(48) <u>zheli</u> keyi wan shui.
     here can play water
     'Here, one can play in the water.'   (Li-ke 4;0)

Aside from adjunct topics, three instances of dangling topics were found in the data. Dangling topics have similar structures with adjunct topics in that the topic NP appears to have no syntactic relationship with the comment, but is related semantically to the comment clause. The only difference is that dangling cannot be relativized. The clause in (49) is an example of a dangling topic. This clause appears to have an OSV structure, since the topic can be moved to the post-verbal position. However, the clauses following this clause suggest that this is not the case, because this child continues to explain what the elephant will eat next, followed by the dragon, and no object is provided. All the objects are referring to the topic 'the animals that the lion hunted' and inference must be made from the context. Without having the topic, this objectless clause becomes ambiguous.

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(49)   <u>shizi ganggang lie dao de   dongwu</u> jiu[7]shi   shizi xian chi
            lion just then hunt   NOM animal emphatic lion first eat
            'As for the animals that the lion just hunted, the lion will eat first
            (followed by the elephant, followed by the …)   (Lun-lun 5;10)

Another similar construction is presented in (50), where it appears to have an OSV order at the first glance. If the object was to move into the object position after the verb *wangji* 'to forget' then it will have an alternate reading of 'I forgot about this one.' (i.e., I left this one behind.). Although this is a plausible reading, comparing with previous utterances in the context suggests that the desired reading is (50), because the child has being pointing and naming animals. The overt object would be 'its name' if expressed.

(50)   ranhou <u>zhe ge</u> wo   wangji ____   le.
            then   this CL I   forget   CRS
            'Then, as for this one, I forgot (its name).'   (Kai-li 5;7)

3.4.2.4 Broken down by categories – Adverbial phrases

There are two types of adverbial phrases – temporal adverbial and spatial adverbial. Adverbial phrases in clause initial position have been regarded as a 'special case of topicalization' (Xu & Langendon, 1985), because they usually appear after the subject. Overall, there were 16 adverbial phrases produced, where 13 are temporal and three are spatial adverbials. These adverbial phrases occupy the clause initial position and sets the time or location frame for the comment clause. Examples of a temporal adverbial and a spatial adverbial phrase are presented in (51) and (52) respectively.

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[7] As suggested in Li & Thompson (1981, p. 331), *jiu* and the optional *shi* can be emphatic without contributing to the semantic meaning of the sentence.

(51)   yinwei <u>zuotian   wanshang</u> shizi   da   jiao.
           because yesterday evening   lion   big   roar
           'Because last night, the lion roared loudly.'   (Zhi-duan 5;10)

(52)   <u>na   ge dongwuyuan limian,</u> nali yie you daxiang shi huei de.
           that CL zoo   inside   there also exist elephant be gray NOM
               'In that zoo, there are also elephants that are gray.'   (Yang-zhi 3;10)

3.4.3 Broken down by age group and categories

Among the younger group of children, the most frequent type of topic-comment structure produced is the semantic type of topic-comment structure (38.24%), followed by the resumptive category (32.35%). The most common type of semantic topic-comment structure involves the double nominative construction, where the two nominatives have a possessor-possessed relationship, as presented in (53):

(53)   <u>daxiang</u>   yachi zai   zheli.
           elephant   tooth   at   here
           'As for the elephant, its teeth are here.'   (Yang-zhi 3;10)

Nearly half of the topic-comment clauses produced by children in the six year old are the resumptive structure (45.71%), followed by adverbial phrases (28.57%).

Types of topic-Comment Structures

Age group		Resumptive		Topicalization	Semantic	Adverbial	
		NP-PRO	PRO-NP			Temporal	Spatial
4	Tokens	10	1	5	13	3	2
	% of total t-c clauses	32.35		14.71	38.24	14.28	
6	Tokens	15	1	5	4	9	1
	% of total t-c clauses	45.71		14.29	11.43	28.57	

Table 4.   Breakdown of types of topic-comment structures and age group.

A comparison of the production of topic-comment structures between the two groups, younger children has a higher tendency to produce semantic type of topic-comment structures. Although in Figure 2 it may appear that four year old children are producing significantly more semantic types of topic-comment structure, the actual token figure suggests otherwise. A total of 13 tokens were found among four year olds, and among these eight were found in the same child. Thus this cannot be taken as an indication that younger children have the tendency to produce semantic type of topic-comment structure over the other types.

The actual number of tokens produced by children in the two age groups does not differ significantly in all types of topic-comment structures. This shows that there is no tendency for children in either age group to produce a certain type of topic-comment structure.
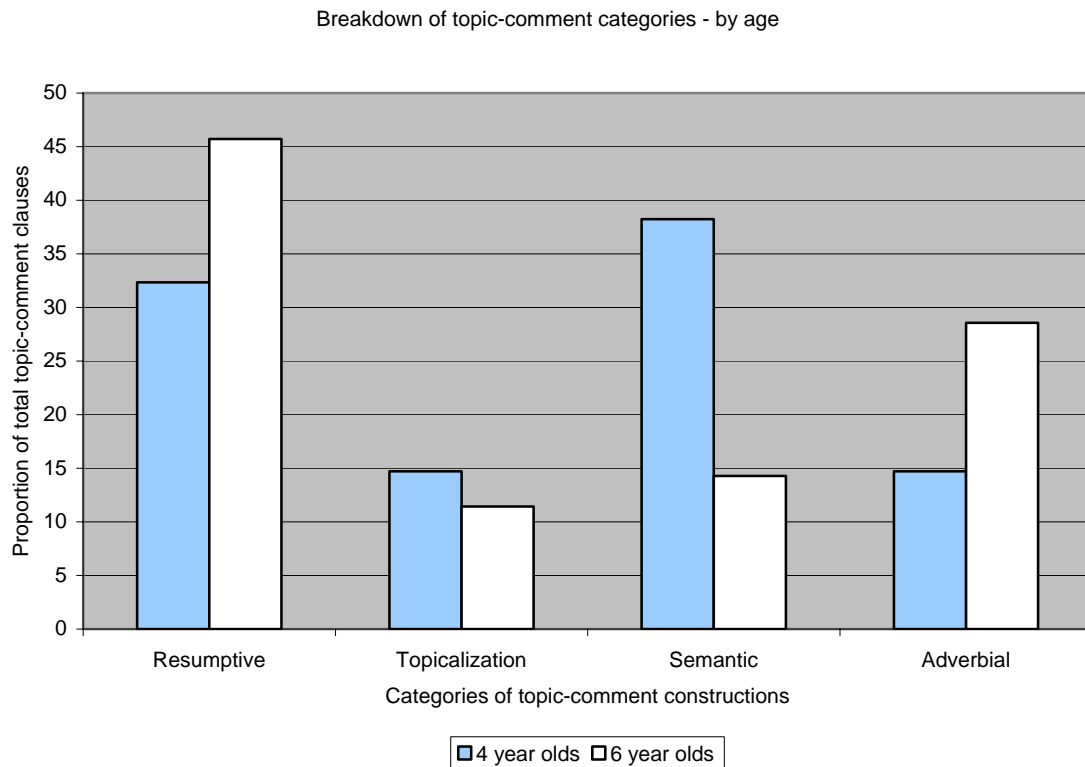
47

Figure 2.   Breakdown of topic-comment categories by age group

3.5 Summary

In total, only 69 tokens of topic-comment clauses were identified among all the utterances produced by the 24 children. Moreover, there is no difference in the production frequency between the two age groups. Overall, the resumptive and semantic types of topic-comment structure were the most common. Topicalization structure is produced the least frequently among both groups. However, children committed few errors when producing various types of topic-comment structures. The results from the data suggest that children are likely to have acquired the topic-comment structure by age four since they are capable of producing all four different structures, although they account for only a very small percentage of all utterances produced in their spontaneous speech.

Chapter Four: Discussion of results

The results in this study show that topic-comment structure is not produced frequently in Chinese children's spontaneous speech. The results also did not provide evidence to show that there are any developmental differences in the production of topic-comment structures between four and six year old Chinese-speaking children. This section looks at several factors that could provide an explanation for this phenomenon.

Slobin & Bever (1982) propose that children avoid producing structures that deviate from canonical word order structures in their language. A deviant structure affects both children's comprehension and production abilities. Given that topic-comment structures do not follow the canonical word order in Chinese, this could be a reason why Chinese children avoid producing them. Also, the use of a topic-comment structure is not mandatory in Chinese, which could also contribute to the low frequency in production.

Although the topic-comment structure in Chinese is syntactically more complex, it is not unreasonable to expect children at a young age to be able to comprehend and produce complex structures, as demonstrated in the case of passives in Sesotho (Demuth, 1989; 1990). In her studies Demuth finds that passives are acquired early because they are a central part of the Sesotho grammar and are used frequently in both adult, and adult to children speech. This is also the case for Hebrew, where children are capable of producing pragmatically marked word orders at a young age, including a structure which resembles that of a topic-comment structure in Chinese. Thus, given that topic-comment structures are central to the grammar of topic-oriented Mandarin Chinese, they should not pose production constraints for children. However, in her longitudinal study of four L1 Chinese children, Erbaugh (1982) found that the use of topicalization is a difficult

concept for children to master and is not produced until a later stage of syntax acquisition. The age group examined by Erbaugh is from 1;10 through 3;10, and she suggests that after the age of 3;2 children are more capable of producing more complicated structures. It could be that children in the four years old group is just beginning to produce topic-comment structures, but what is striking is the lack of developmental difference between the two age groups.

The low frequency of production however should not be taken as an indication that Chinese children have not yet acquired the topic-comment structure. Studies have shown that children are sensitive to the concept of topic (Chien, 1983) as young as 2;6, but this competence does not seem to be reflected in their production. Another factor that suggests children have already acquired the topic-comment structure by age four is that, despite the low production frequency, children rarely make errors when producing them.

The nature of the experiment setting and the task demanded for children could have influenced the outcome of the data collected. Although it was expected that there to be a reasonable amount of topic-comment structures given the topic-prominence of the language, this was not the case. The context could decide the outcome of results, and could mean that certain prominent features of the language will not be present. Tardif et al (1999) examined the manifestation of noun bias concept in English and Chinese, and found that this bias is not consistent in either language due to the context of where the data was sampled. Tardif (1996) found that Chinese-speaking children, unlike English-speaking children do not exhibit a predisposition towards noun production which was claimed to be universal (Gentner, 1982, cited in Tardif, 1996). However, this lack of noun bias tendency is not manifested in all the contexts. In an activity such as looking at a picture book, Chinese mothers and children produce more noun types than verbs, but when engaging in a toy playing activity, both Chinese and English mothers and their

children produced more verb types than noun types. The findings led Tardif et al (1999) to suggest that 'whether or not children use more nouns in their productive speech depends greatly on the contexts in which their speech is sampled' (p. 631). The nature of the setting of which the data used in this study was collected could have well affected the production of topic-comment structures. Since children were given animal toys to play with, they could simply point to the objects that they were discussing, or use null subject predicates once the referent has already been clearly established. In the study of Hickmann & Hendriks (1999) on the use of anaphoric relations in discourse in English, German, French and Mandarin Chinese by children and adults, the authors found that when referring back to the referent of which the reference has already been established, Chinese children used null elements more frequently than children from the other three groups, which is attributed to the pro-drop and zero-topic nature of Chinese that permits omitting preverbal subjects if the reference can be identified in the discourse.

If topic-comment structure was indeed a central part of Chinese grammar, then the production frequency of this structure should be compared in adults' and children's spontaneous speech. However, it is unclear how frequent the topic-comment structure is being produced in Chinese adults' spontaneous speech. An available numerical figure is Chao's (1968, p. 70) estimation that approximately fifty percent of spoken sentences in adult discourse follows a topic-comment structure. If this was a true indication of adults' actual production frequency, this leaves the question of why there is a big discrepancy in topic-comment production frequency between adult and children.

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Chapter Five: Conclusion and further work

Contrary to expected, the results show that topic-comment structures are not produced frequently in Chinese children's spontaneous speech, and also did not provide evidence for production development of topic-comment structures in Chinese-speaking children. The low production frequency of topic-comment structures found in four and six Chinese-speaking children's spontaneous speech does not reflect the topic-prominent feature of the language. However, the few errors in their production suggests that this structure has been acquired, and is either not manifested in the production due to the context of where the data was collected or the structure not being used frequently in spontaneous speech by children of either age group.

All the data used in this study were obtained from a single source where children were required to give a narrative. Although the data can be considered a form of spontaneous production, children were nevertheless restricted with the contents they could produce, which as a result may not fully reflect their linguistic competence. It would be beneficial to examine data obtained in a more naturalistic setting, such as a conversational setting where children are not prompted nor required to complete a given task. Also would be beneficial is data obtained in settings where children are interacting with other children or adults. In the setting of the data used here, there were no interaction, since the investigator was only responsible for eliciting a narration from children that involved asking questions and this kind of input did not show great variation across the transcripts.

No apparent development was found between four and six year old children using cross-sectional data in this study. Longitudinal data of younger children and older

children would be helpful to examine a long term development and gives a greater insight to see whether the use of topic-comment structure is a continuous development, or that this development takes place beyond the age of six. If data obtained from a different context and longitudinal data also yield similar results to this study, then it would provide stronger evidence that topic-comment structures are not produced frequently among Chinese-speaking children between the ages of four and six.

Mandarin Chinese has been claimed to be a topic-prominent language, and topic-comment structure is a central part of Chinese grammar. It would be valuable to compare the production frequency of topic-comment structure between adult and children. If the production frequency is also low among adults, then this may suggest that topic-comment structure is not as prevalent as previously claimed or as frequently as suggested.

List of Abbreviations

Abbreviation	Term
BA	the object marker *ba*
CL	classifier
CRS	Currently Relevant State (*le*)
DUR	durative aspect (*zhe*)
INT	interrogative (*ma*)
NOM	nominalizer (*de*)
NP	noun phrase
PAR	particle
PFV	perfective aspect (*le*)
POSS	possessor marker

References

Berman, R. (1985). The acquisition of Hebrew. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition* (Vol. 1, pp. 255-371). Hillsdale, NJ: Lawrence Erlbaum Associates.

Brown, R. (1973). *A first language: The early stages.* Cambridge, MA: Harvard University Press.

Chafe, W. (1976). Giveness, contrastiveness, definiteness, subjects, topics and point of view. In Charles Li (Ed.), *Subject and Topic,* (pp. 27-55). New York: Academic Press.

Chang, H-W. (1992). The acquisition of Chinese Syntax. In Chen, H.C. & Tzeng O.J.L. (Eds.), *Language Processing in Chinese,* (pp. 277-311). Amsterdam: North Holland.

Chao, Y. R. (1968). *A grammar of spoken Chinese.* Berkeley, CA: University of California Press.

Chen, P. (1996). Pragmatic interpretations of structural topics and relativization in Chinese. *Journal of Pragmatics, 26,* 389-406.

Chien, Y-C. (1983). *Topic-comment structure and grammatical subject in first language acquisition of Mandarin Chinese.* Ph.D. dissertation, Cornell University, United States -- New York.

Clancy, P. (1985). The acquisition of Japanese. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition* (Vol. 1, pp. 373-524). Hillsdale, NJ: Lawrence Erlbaum Associates.

Demuth, K. (1989). Maturation and the Acquisition of the Sesotho Passive. *Language, 65*(1), 56-80.

Demuth, K. (1990). Subject, topic and Sesotho Passive. *Journal of Child Language, 17,* 67-84.

Erbaugh, M. S. (1982). *Coming to order: Natural selection and the origin of syntax in the Mandarin-speaking child.* Doctoral dissertation, University of California, Berkeley.

Erbaugh, M. S. (1983). Why Chinese children's acquisition of Mandarin predicates should be "exactly like English." *Papers and Reports on Child Language Development, 22,* 49-57

Erbaugh, M. S. (1992). The acquisition of Mandarin. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition* (Vol. 3, pp. 373-455). Hillsdale, NJ: Lawrence Erlbaum Associates.

Gundel, J. K. (1988). Universals of topic-comment structure. In M. Hammond et al. (Eds.), *Studies in syntactic typology* (pp. 209-239). Amsterdam: John Benjamins.

Gruber, J. (1967). Topicalization in child language. *Foundations of Language 3,* 37-65.

Her, O.-S. (1991). Topic as a grammatical function in Chinese. *Lingua 84,* 1-23

Hakuta, K. (1977). Word Order and Particles in the Acquisition of Japanese. *Papers and Reports on Child Language Development,* 1977, 13, Aug, 110-117.

Hickmann, M., Hendriks, H. (1999). Cohesion and anaphora in children's narratives: a comparison of English, French, German, and Chinese. *Journal of Child Language, 26,* 419-452.

Kim, Y-J. (1997). The acquisition of Korean. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition* (Vol. 4, pp. 335-443). Hillsdale, NJ: Lawrence Erlbaum Associates.

Kroeger, P. (2004). *Analyzing Syntax.* Cambridge: Cambridge University Press.

Li, Charles N. & Thompson, S. A. (1976). Subject and topic: a new typology of language. In Charles Li (Ed.), *Subject and Topic,* (pp. 457-489). New York: Academic Press.

Li, Charles N. & Thompson, S. A. (1981). *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.

Li, Audrey Y-H. (1990). *Order and Constituency in Mandarin Chinese.* Dordrecht: Kluwer Academic Publishers.

MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk,* 3rd ed., Erlbaum, Mahwah, NJ.

Shi, D. 2000. (2000). Topic and Topic-Comment Constructions in Mandarin Chinese. *Languag*e, *76*(2)*,* 383-408.

Slobin, D. I. & Bever T. G.. (1982). Children use canonical sentence schemas: A crosslinguistic study of word order and inflections. *Cognition,* 12, 229-265.

Tan, Fu. (1991). *Notion of subject in Chinese.* Ph.D. dissertation, Stanford University, United States.

Tardiff, T. (1996). Nouns are not always learned before verbs: evidence from Mandarin

speakers' early vocabularies. *Developmental Psychology, 32*(3), 492-504.

Tardiff, T., Gelman, S. A., Xu, F. (1999). Putting the "noun bias" in context: a comparison of English and Mandarin. *Child Development, 70*(3), 620-635.

Tsao F-F. (1979). *A Functional Study of Topic in Chinese: The first step towards discourse analysis.* Taipei: Student Cook Co.

Xu, L. & Langendoen, T. (1985). Topic structures in Chinese. *Language 61.* 1-27.

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