

# REFERENTIAL CHOICES IN NARRATIVES OF 4-YEAR-OLD THAI-SPEAKING CHILDREN

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## Abstract

*This paper examines how 4-year-old Thai-speaking children made referential choices when referring to animate entities in a story. The aim is to answer two questions. First, do young Thai children's narratives exhibit Preferred Argument Structure (PAS) patterns (Du Bois 1987)? And, second, do young Thai children differentiate their choice of referential forms based on discourse contexts? It was found that children's selection of referential forms generally followed the PAS constraints. The only constraint that was not strictly observed was the Non-lexical A constraint. Furthermore, children were found to be influenced by discourse contexts when they expressed arguments in subject positions. The evidence also showed that, at 4 years of age, children showed a preference for lexical forms and were not yet fully capable of using referential forms to create coherence in narratives.*

## Introduction

Narrating a story can be complicated for young children. Multiple tasks need to be performed simultaneously, including sequencing events in a comprehensible order, introducing characters and drawing the listener's attention to focal characters,

and at the same time keeping track of what the listener knows or does not yet know about the story. A coherent narrative is created using a variety of linguistic devices, one of which is the use of referential forms. A narrator must constantly make decisions about referential devices. At different points in the story, different referential forms may be chosen. The range of possible form is, however, language-specific. For instance, while English generally allows lexical and pronominal forms and rejects null forms in subject and object positions, all three types of referential device regularly occur in both positions in Thai. Children thus need to learn what referential forms are available in their language. A Thai-speaking child, for example, needs to decide at certain points in the discourse whether to use lexical, pronominal, or null forms.

Children's production of referential forms in narratives has been extensively studied in a number of languages, for instance, Chinese, English, French, German, Italian, Japanese, and Warlpiri (Bavin 2000; Clancy 1992; Jisa 2000; Hickmann and Hendriks 1999; Orsolini and Di Giacinto 1996; and Wigglesworth 2000). As Jisa (2000) points out, a major question is whether the referential expressions used by children are informationally adequate and lead to a coherent story. Past studies have provided varying results concerning the age at which children master referential devices. This difference has been attributed to both the methodologies employed in data collection and the theoretical underpinnings (Hickmann 2003). Based on a review of many studies, Hickmann has stated that children's early use of pronouns is mainly observed in deictic contexts, but the use of referential forms as a discourse-internal device for such purposes as introducing referents or maintaining reference appeared relatively late. She has claimed that children do not

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use referring expressions proficiently until the age of seven or even later (see Hickmann 2003 for details). Along the same lines, Clark (2003) has observed that 3- and 4-year-old English-speaking children are not yet skilled narrators. They have been found to use full noun phrases to refer to entities that have already been introduced, a case in which older children use pronouns. Around age five, children then begin to use pronouns to add cohesion to their stories. Clark has also added that children acquiring different languages start to use pronouns as a cohesive device around the same age (Baumgartner and Devescovi 1996; Berman and Slobin 1994; and Hickmann and Hendriks 1999, as cited in Clark 2003). Though children's appropriate use of referential expressions seems to occur rather late, their mastery in this area has been cross-linguistically found to increase with age.

A number of factors have been found to influence selection of referential forms in discourse. Research conducted on adult production has revealed that the status of a referent influences its realization (e.g., Chafe (1976) and Clancy (1980), among many others). To be more specific, a referent that is known to the speaker and addressee at the time of speaking is usually expressed in an attenuated form (such as a pronominal or null form) whereas a referent that is new to the addressee is often lexically realized (Chafe 1976). A question may arise as to whether children are similarly sensitive to the information status of referents when they have to make a choice concerning referential forms. Previous research has shown that they are. For example, two-year-old children acquiring Inuktitut, an Eskimo language, were found to attend to discourse-pragmatic information regarding referents as they used referring expressions in conversation (Allen 2000). Analyses of conversations of young children speaking

other languages have also supported the claim that sensitivity to the status of a referent in discourse develops early in life (e.g., Clancy (1993, 2003) for Korean and Guerriero (2001) for English and Japanese).

Additionally, Clancy (1980) has investigated the relationship between referent status and linguistic forms by examining the distance between two mentions of the same referent and interference from other referents in discourse. She found that, in story-telling, both English- and Japanese-speaking narrators preferred inexplicit forms (such as pronouns and ellipses) to explicit forms (i.e., noun phrases) when there was no sentence boundary between two mentions of the same referent. That is, the referent was still prominent in the minds of the interlocutors. However, long lapses between the two mentions required the use of explicit forms as the referent became less salient. When sentence boundaries separated the two mentions, explicit forms were used more often than implicit forms. The greater the number of sentence boundaries, the more likely the narrators were to use noun phrases to refer to referents in question. Hence, distance between two mentions of the same referent measured in terms of sentence boundaries influences the explicitness of the forms chosen. Moreover, both English and Japanese speakers were found to use implicit forms frequently when no other referent intervened between two mentions of the same referent and to choose explicit forms when one did intervene, and, as the number of intervening referents increased, so did the tendency to use noun phrases. This is because occurrences of more than one referent can turn the addressee's attention away from the referent in focus. In other words, referents become less prominent in the presence of interfering entities. Thus, intervening referents make it necessary for speakers to

be more specific about the referents in mind in order to avoid potential ambiguity.

Furthermore, whether the previous mention occurs in the subject position plays a role in referential selection (Arnold 2003). Studying Mapudungun narrative texts, Arnold found that references to the subject of a previous clause tended to be null more often than references to other elements of the previous clause. She claimed that this was in line with previous research showing that references to subject antecedents were more likely to be pronominal than lexical (Arnold 1998 and Stevenson 1994, as cited in Arnold 2003). In other words, there is a tendency for subjects to be implicitly expressed when they refer back to the subject of the previous clause.

The selection of referential choices is also intertwined with syntactic structures. In analyzing narratives in Sacapultec Maya, a language spoken in highland Guatemala, Du Bois (1987) observed the relationship between referential forms, grammatical roles, and the pragmatic status of referents. Of interest to him were referents in argument positions, that is, subjects and objects. Du Bois coded arguments for linguistic forms (lexical, pronominal, and null). He likewise categorized arguments by grammatical role, following Dixon's (1979) tripartite scheme. These roles were A for the subject of a transitive verb, S for the subject of an intransitive verb, and O for the object of a transitive verb. Arguments were also classified as given or new depending on their pragmatic status. Du Bois found that arguments with different forms and statuses systematically appeared in different syntactic positions. To capture these preferred discourse patterns, he postulated the Preferred Argument Structure (PAS) Constraints shown below.

Preferred Argument Structure (PAS) Constraints (Du Bois 1987: 829)

- A) One Lexical Argument  
Constraint: Avoid more than one lexical argument per clause.
- B) One New Argument Constraint:  
Avoid more than one new argument per clause.
- C) Non-lexical A Constraint: Avoid lexical A's.
- D) Given A Constraint: Avoid new A's.

These constraints interact in such a way that there is a maximum of one new referent per clause in an S or O position. The PAS patterns have been confirmed in adult discourse in many languages (see Du Bois (1987) for a list and Ratitamkul (2007) and Puttapong (n.d.) for specific reference to Thai) as well as in child language (see Clancy (1993, 2003) for Korean and Allen and Schröder (2003) for Inuktitut).

Owing to the property of Thai that allows subjects and objects to appear in all three major categories of referential forms (lexical, pronominal, and null) and the fact that it has a very rich referential system, the language has attracted researchers working on referential choices. For instance, a study of Thai adults' narratives revealed that choices of referential forms were influenced by discourse factors such as recency of mention, interference from other referents, and grammatical position of the argument (Ratitamkul 2007). It is interesting to explore Thai children's narratives and see how the referential system is acquired. The present study examines how 4-year-old Thai children refer to entities while story-telling and

discusses factors influencing their referential choices. I aim to answer two questions: (1) Do young Thai children's narratives follow the PAS patterns? and (2) do young Thai children use referential forms contrastively depending on discourse context?

## Method

### Data

Narrative data came from the Thai Frog Stories (Zlatev and Yangklang 2004). Ten Thai-speaking 4-year-old children (age 3yr. 6mo. to 4yr. 4mo., mean age = 4) told a story stimulated by the picture book *Frog, Where Are You?* by Mercer Mayer (1969). The data were part of the CHILDES database of child language.<sup>2</sup> Children looked at the wordless picture book and told a story as they went through the pages. Transcribed data were examined for clause boundaries, pauses, and repetition.

### Coding

The arguments of verbs were coded for their grammatical roles, the status of the referents to which they referred, and their linguistic forms. Each argument's grammatical role depended on its grammatical function and the type of verb with which it occurred. Following Du Bois (1987) and Dixon (1979), arguments were classified as one of three roles: A for the subject of a transitive verb, S for the subject of an intransitive verb, and O for an object. Referent status was categorized as either new or given. According to Chafe (1976), new referents are "what the speaker assumes he is introducing into the addressee's consciousness by what he says," whereas given referents refer to "that knowledge which the speaker

assumes to be in the consciousness of the addressee at the time of the utterance." Thus, arguments denoting referents that were freshly introduced into the story were coded as new while those denoting referents that had been introduced or mentioned earlier in the story were coded as given. Linguistic forms were grouped into three types: lexical forms, pronominal forms, and null forms. In Example (1) below, the argument "child" is in the A role and referred to a given referent, as the child in question had already been mentioned. It was expressed with a lexical form. The other arguments in this sentence, "frog", is in the O role. It expressed given information and appears in a lexical form.

- (1) *lě? dèk kǎw ríak kòp*  
and child CONN<sup>3</sup> call frog  
"And then, the child called the frog."

Arguments in subject position, that is, in A and S grammatical roles, were further coded for discourse context. Jisa's (2000) coding criteria were adapted for this purpose. Four types of contexts were specified, namely the Introducing (INT) context, the Reintroducing (REIN) context, the Promoting (PROM) context, and the Maintaining (MA) context. In the INT context, a new entity is introduced into the discourse. REIN designates a context in which a previously mentioned entity that did not appear in the immediately preceding clause is reintroduced in subject position. PROM labels an entity that occurred in a non-subject position in the previous clause and has been promoted to subject position. Finally, in the MA context, an entity that was the subject of the previous clause is maintained as the subject of the current clause. These contexts differ in terms of the existence of

<sup>2</sup> <http://chilides.psy.cmu.edu>

<sup>3</sup> The abbreviation CONN stands for *connective*.

a previous mention, the distance between two mentions of the same referent, and the grammatical role of a previous mention in the preceding clause.

An example of each discourse context is given below. The underlined element is the subject argument in focus.

- (2) New, lexical, S argument in INT context

*mi<sup>4</sup> dèk*  
have child  
“There was a child.”

- (3) Given, lexical, A argument in REIN context

*lé? mǎa kɔ̌ ɔ hàw*  
and dog CONN bark  
“And then, the dog barked.”

*lé? kòp kɔ̌ ɔ phlòo ʔòk maa*  
and frog CONN appear exit come  
“And then, the frog came out.”

*léew mǎa kɔ̌ ɔ piin tónmáay*  
then dog CONN climb tree  
“And then, the dog climbed a tree.”

- (4) Given, lexical, S argument in PROM context

*tandaynánʔeeŋ Ø kɔ̌ ɔ cəə kàp phəŋ*  
suddenly Ø CONN meet with bee  
“Suddenly, (the boy) then ran into some bees.”

*phəŋ bin maa tháŋ raŋ*  
bee fly come whole hive  
“The whole hive of bees flew (toward the boy).”

- (5) Given, null, S argument in MA context

*léew kwaan kɔ̌ ɔ ʔòk maa*  
then deer CONN exit come  
“And then, the deer came out.”

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<sup>4</sup> For the purposes of this study, an argument of the verb *mii* ‘to have’ used existentially is considered a subject.

*lɛ́ɛw Ø kɔ̌ ɔ̌ wɨ̌n lɛ́y càp mǎa kàp dèk*  
 then Ø CONN run chase catch dog and child  
 “And then, (the deer) chased after the dog and the child.”

As animate entities, such as the boy, his dog, and the frog, were considered prominent and crucial in the story, they were focused upon, while inanimate subjects, which were not as important in the story line, were ignored. My analysis did not include utterances that were irrelevant to the story, sentences with first-person reference, incomplete sentences, and special constructions such as questions and fixed phrases.

## Results

Three hundred forty-nine sentences were analyzed. There were all together 449

subject and object arguments. A majority of arguments, that is 73%, were lexically realized, 22% were not explicitly realized, and only 5% were realized with pronominal forms. In terms of information status, there were many more instances of given arguments than new arguments (87% vs. 13%). 21% of the arguments occurred in the A role; 57%, in the S role; and 22%, in the O role. Tables 1a, 1b, and 1c show the number of arguments grouped according to linguistic form and status of referent in the A, S, and O roles, respectively.

Table 1a: Arguments in the transitive subject role (A)

	Lexical	Pronominal	Null	Total
Given	47	10	30	87 (93%)
New	7	0	0	7 (7%)
Total	54 (57%)	10 (11%)	30 (32%)	94 (100%)

Table 1b: Arguments in the intransitive subject role (S)

	Lexical	Pronominal	Null	Total
Given	161	14	49	224 (88%)
New	31	0	0	31 (12%)
Total	192 (75%)	14 (5%)	49 (19%)	255 (100%)

Table 1c: Arguments in the object role (O)

	Lexical	Pronominal	Null	Total
Given	63	0	17	80 (80%)
New	19	0	1	20 (20%)
Total	82 (82%)	0 (0%)	18 (18%)	100 (100%)

## PAS patterns

In general, argument realization in children’s narratives appeared to follow the PAS constraints. Regarding the One Lexical

Argument Constraint, children were found to use one lexical argument per clause most often; thus, clauses with one lexical argument were of the highest number (69%). Clauses with no lexical argument occurred less

frequently (19%), while clauses with two lexical arguments were used least frequently (12%). The frequencies of clauses with no lexical argument, with one lexical argument, and with two lexical arguments are displayed in Figure 1, and Example (6) shows an instance of a clause with only one lexical argument, the most common type of clause found in children's narratives.

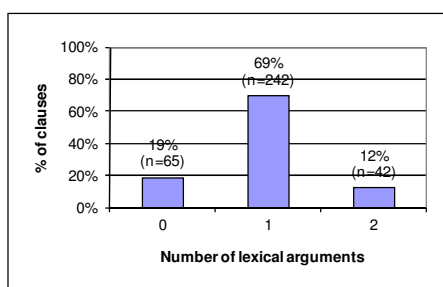


Figure 1: Frequency of clauses with 0, 1, and 2 lexical arguments

- (6) *măa kràdòot loŋ pay*  
 dog jump descend go  
 “The dog jumped down.”

As for the number of new arguments per clause, the data contained a large number of clauses with no new argument (85%) and very few clauses with two new arguments (1%). This is consistent with the One New Argument Constraint stating that speakers avoid introducing two new arguments in a single clause. Figure 2 shows the frequency of clauses with no new arguments, with one new argument, and with two new arguments. A clause with no new argument is shown in Example (7), where “child” and “frog” were both given arguments, having been mentioned previously in the story.

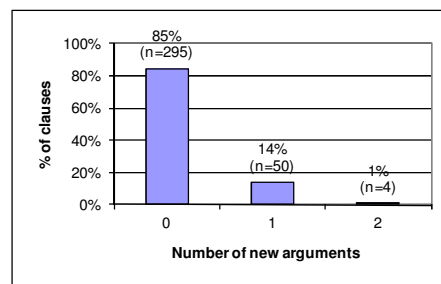


Figure 2: Frequency of clauses with 0, 1, and 2 new arguments

- (7) *léew Ø kɔˆ ɔ hăa kòp mây cəə*  
 then Ø CONN find frog NEG<sup>5</sup> meet  
 “And then, (the child) did not find the frog.”

On the other hand, the data suggest that the Non-lexical A Constraint is not strongly observed. Examination of the proportion of lexical arguments in each grammatical role revealed that 57% of the A arguments appeared in lexical forms. This is not predicted by the Non-lexical A Constraint, although the number of lexical forms in A was smaller than those in the S and O roles. (See Figure 3a.)

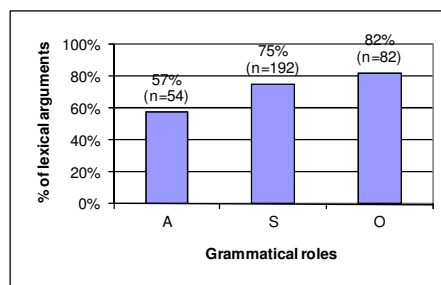


Figure 3a: Proportion of lexical arguments in each grammatical role

In order to observe where lexical arguments were positioned in the data, I examined their distribution across the three roles. I discovered that 16% of lexical arguments occurred in the

<sup>5</sup> The abbreviation NEG stands for “negative marker.”

A role; 59%, in the S role; and 25%, in the O role, as shown in Figure 3b.

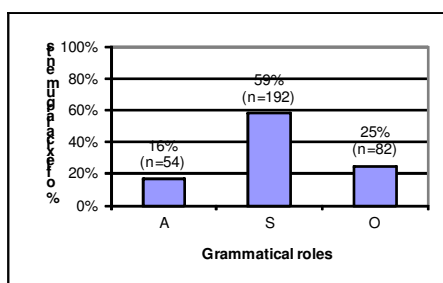


Figure 3b: Proportion of lexical arguments in three grammatical roles

Finally, the realization of new arguments was consistent with the Given A Constraint in that only 7% of arguments in the A role were new. Figure 4a shows the proportion of new arguments occurring in each of the three roles.

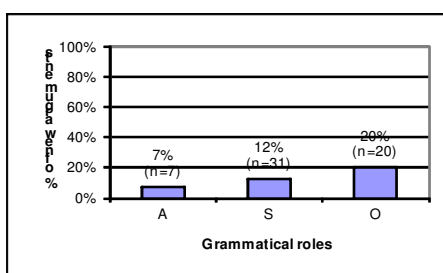


Figure 4a: Proportion of new arguments in each grammatical role

Examination of the distributional pattern of new arguments across the three roles showed that new arguments appeared least frequently in the A role (12%). (See Figure 4b.)

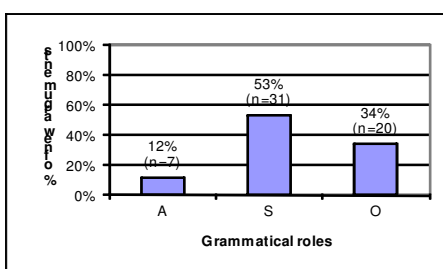


Figure 4b: Proportion of new arguments in three grammatical roles

It can be seen that data from children's narratives conformed to Du Bois' PAS patterns to a certain extent. Constraints regarding new arguments, namely, the One New Argument Constraint and the Given A Constraint, were observed. Only 1% of clauses contained more than one new argument, while only 7% of A arguments were new and a mere 12% of all new arguments appeared as A. This confirms that, in general, only one new referent was introduced per clause and that this appeared most frequently in the S or O role.

As for the One Lexical Argument constraint, there were few clauses with two lexical arguments. However, data revealed that the constraint pertaining to the position of lexical arguments, the Non-lexical A Constraint, was not strictly observed. We can see that 16% of lexical arguments were in the A role, and as many as 57% of arguments in A were lexically realized.

### Subjects in different contexts

With regard to subject arguments exclusively, children were found to express subjects in lexical forms most frequently, that is, 70% of the time, compared to 23% for null forms and 7% for pronominal forms. When discourse contexts in which subject arguments occurred were specified, children used referential forms differently in different contexts. Figure 5 displays proportions of referential forms of subjects in each discourse context; the numbers are given in Table 2. Lexical forms were selected most frequently in the INT context, followed by the REIN context, the PROM context, and the MA context. Null forms, on the other hand, patterned in the opposite direction. They were of highest proportion in the MA context, decreased successively in the PROM and REIN contexts, and did not occur



in the INT context. Thus, the proportion of lexical forms was greatest when children introduced new referents into the discourse, and the proportion of null forms was greatest

when reference to the previous subject was maintained. Pronominal forms were not used frequently in children's narratives and were distributed similarly to null forms.

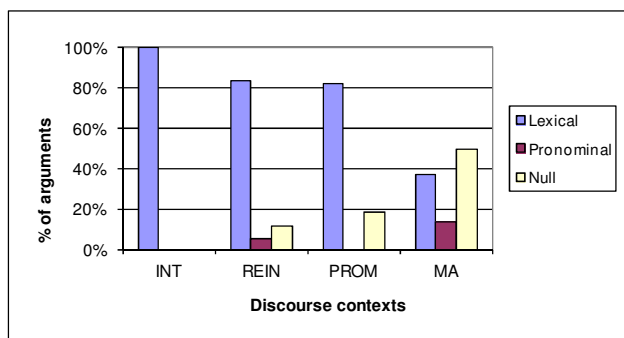


Figure 5: Proportions of referential forms of subject arguments in each discourse context

Table 2: Referential forms of subject arguments in each discourse context

	Lexical	Pronominal	Null	Total
INT	38 (100%)	0 (0%)	0 (0%)	38 (100%)
REIN	146 (83%)	9 (5%)	20 (11%)	175 (100%)
PROM	22 (81%)	0 (0%)	5 (19%)	27 (100%)
MA	40 (37%)	15 (14%)	54 (50%)	109 (100%)

Children were found to prefer lexical forms in story-telling. In all but the MA context, lexical forms outnumbered other forms. In the MA context, in which a subject refers back to the subject of the preceding clause, children used lexical forms 37% of the time. An example of a lexical form in the MA context is shown in Example (8),

where the noun phrase “child” is mentioned in the first sentence and lexically realized again in the second and third sentences. The use of a lexical form in this context is rather unexpected, since the referent was explicitly specified as the subject of the preceding clause.

(8) *léew dèk kɔ̃ ɔ lóm ʔə̀k maa càak tônmaáy*  
 then child CONN fall exit come from tree  
 “And then, the child fell out of the tree.”

*lé? dèk kɔ̃ ɔkhân pay bon hĩn*  
 and child CONN ascend go on rock  
 “And then, the child went up on a rock.”

*lé? dèk kɔ̃ ɔ pay dɛ̃j khăw kwaan*  
 and child CONN go pull antler deer  
 “And then, the child went to pull at a deer’s antler.”

It should be noted that lexical MA subjects were not always preceded by a lexical subject as exemplified in Example (8); they could also refer back to a previous pronominal or null subject. Example (9) shows a lexical subject that shares the same referent as the null-form subject of the previous clause. It might then be supposed that a lexical MA subject resulted from the fact that the previous subject was not explicit. However, this is apparently not the case because, while 48% of lexical subjects referred back to a null subject in the preceding clause, an equally large proportion of lexical subjects (48%) were linked to a lexical subject in the preceding clause, as seen in Example (8).

(9) *lɛʔ Ø hɛ̃n lûukkòp sɨp tua*  
 and Ø see child.frog ten CL<sup>6</sup>  
 “And (the child) saw ten little frogs.”

*dɛ̃k kɔ̃ˆ ɔ paa kɔ̃ˆ ɲhĩn pay*  
 child CONN throw rock go  
 “And then, the child threw a rock.”

On the whole, a correlation seems to exist between discourse contexts and linguistic forms. Linguistic forms were not evenly distributed across contexts, but certain forms appeared in some contexts more than others. Children’s preference for lexical expressions is also obvious and deserves further investigation.

## Discussion

The results demonstrate that referential selection by four-year-old Thai-speaking children is, to a certain degree, consistent with Preferred Argument Structure constraints. The realization of arguments designating new referents followed the PAS constraints in terms of position and

number of occurrences per clause. Although lexical arguments conformed to the constraint on number of occurrences per clause, their position in the clause was not rigidly constrained. This differs from argument realization in narratives by Thai adults, in which the PAS constraints were more strictly observed (Ratitamkul 2007). The fact that the Non-lexical A Constraint was not fully observed is consistent with children’s preference for lexical expressions. Results showed that children had a tendency to use lexical forms regardless of an argument’s position in a clause.

As with adults, sentential distance between two mentions of the same referent influenced children’s selection of referential forms in narratives. When the sentential distance between previous mention and current mention was short, as in the MA and PROM contexts, the use of null forms increased. Greater distances, as in the REIN context, caused children to produce fewer null forms. The INT context, in which there is no previous mention, induced the highest proportion of lexical expressions and no null forms were selected at all.

In addition to the distance between two mentions of the same referent, the position of a previous mention in the preceding clause was another important factor in children’s referential choices. The difference between subjects in the MA and PROM contexts is that the former refer to the subject of the preceding clause while the latter have a non-subject antecedent. The MA context contained a larger proportion of null forms than the PROM context, suggesting that, when a subject had a subject antecedent in the previous clause, it was more likely to be null than when the antecedent did not function as a subject. This follows from the relationship between the degree of continuity of a topic and its

<sup>6</sup> The abbreviation CL stands for “classifier.”

linguistic encoding (Givón 1983). According to Givón, a null form tends to be used when a topic, which is usually the subject of a sentence (Chafe 1976), continues in the discourse. This claim is also supported by Arnold's (2003) finding that an implicit form is chosen when the antecedent is the subject of the previous clause, that is, when a topic continues from one clause to the next. However, as Givón has pointed out, if a topic does not continue or is not readily accessible, as in the INT context, a more explicit form will be used.

That four-year-olds did not use referential forms similarly in all contexts indicates that they are sensitive to contextual information when they select referential forms in discourse. In fact, the context in which an argument appears is linked to the cognitive status of the referent designated by that argument in the minds of the interlocutors. Arnold (2003) has proposed four levels of cognitive salience for referents in Mapudungun narrative texts which consider both recency and position of last mention. According to her criteria, referents that were last mentioned as the subject of the previous clause (her "previous subject" category) are the most salient. The second most salient elements are referents that were last mentioned as objects of the previous clause, subparts of the subject or an object of the previous clause, or both subjects and objects of the previous clause together (the "active" category). Next in line are referents that appeared in the text previously but not in the previous clause (the "old" category). The least salient referents are those that are brand new to the text (the "new" category). Clearly, Jisa's (2000) four contexts, which I applied in coding the data in this study, coincide with the levels of cognitive salience set forth by Arnold.

Referents in the MA context are the most salient, followed by those in the PROM and the REIN contexts, and referents in the INT context are the least salient. This leads to the claim that children, like adults, select referential forms according to the cognitive status of referents. Linguistic forms correlate with statuses of referents in that increased cognitive salience corresponds to increased use of null forms. Lexical forms, on the contrary, correlate negatively with salience: the more salient a referent, the less likely it is to be realized lexically.

Interestingly, the data revealed extensive use of lexical forms in narratives by children. A prediction can be made that lexical forms are chosen when subjects, which are often topics, are switched (Clancy 1980 and Givón 1983). Switched topics tend to be lexical because speakers are signaling to their listeners that a different topic has entered the scene. This also reduces the referential ambiguity that could arise if a less specific form were used. On the other hand, if a topic persists in discourse, a null or pronominal form is sufficient to refer to the topical entity. To see if this holds true in children's production, subjects with different linguistic forms were additionally coded for topic continuity. A subject was coded as "continue" if it was a continued topic, that is, no other animate referent appeared as a topic between two mentions of the animate subject in question. If the subject was not the same as the previous animate subject, the topic was considered switched, and the subject was coded as "switch." Table 3 shows the proportions of different referential forms for both continued subjects and switched subjects.

Table 3: Referential forms for continued subjects and switched subjects

	Lexical	Pronominal	Null	Total
Continue	50 (40%)	16 (13%)	58 (47%)	124 (100%)
Switch	196 (87%)	8 (4%)	21 (9%)	225 (100%)

As predicted, the children in this study often realized subject arguments lexically in a switched-subject context (87% of the time). Also, when they switched topics, they were not likely to use pronominal or null forms. In the case of continued subjects, however, the number of lexical forms was almost as great as that of null forms (40% vs. 47%). Children thus appear to use lexical forms even when they seem unnecessary because continued topics do not need to be mentioned explicitly.

Children's overwhelming use of lexical forms is also evident in their choice of subject forms in the MA context. Although arguments in this context were more often null than lexical (see Figure 5 and Table 2 above), the proportion of lexical forms was high compared to adults' narratives. As reported in Ratitamkul (2007), adults mentioning a subject with an antecedent that was the subject of the preceding sentence used lexical forms only 5% of the time and null forms fully 76% of the time. As pointed out earlier, the realization of arguments in lexical forms, particularly when they refer back to a previous lexical subject, is redundant because the referents have just been mentioned as the subject of the previous sentence and are therefore easy to recover.

Children's preference for lexical forms in the MA context becomes comprehensible when episodic boundaries are taken into account. As children went through the story book page by page, it is possible that a single page (or two pages seen together) was perceived as a small episode. A page change may therefore have represented the crossing of an episodic

boundary, which generally causes narrators to use more lexical forms than they do when talking about events in a single episode. If this is the case, lexical forms in the MA context should have occurred when a page was turned. Table 4 displays the number of referential forms of subjects in the MA context grouped according to whether there was a page change or not. I found that, when a page was turned, lexical forms occurred 53% of the time, almost twice the proportion of lexical forms when there was no page change (28%). Hence, children's use of lexical forms does seem to be affected, in part, by the turning of page, which may possibly be linked to their perception that they are entering into a new episode. Hickmann (1995) also found that young children tended to use fuller forms when they reached episodic boundaries. This is similar to adult production, in which explicit forms are used more often than implicit forms when a change in time or place of events indicates a new episode (Vonk 1992).<sup>7</sup>

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<sup>7</sup> It was not possible to tell whether the children's choice of referential forms depended on changes in time and/or location due to an insufficiency of relevant data.

Table 4: Referential forms of subjects in the MA context according to page change

	Lexical	Pronominal	Null	Total
Page change	20 (53%)	5 (13%)	13 (34%)	38 (100%)
No page change	20 (28%)	10 (14%)	41 (58%)	71 (100%)

Four-year-old Thai-speaking children do not appear to have fully mastered the use of referential forms in narratives. Their overuse of lexical forms results in a violation of PAS. While Thai adult speakers employ null forms to create cohesion in story-telling, this use of null forms seems difficult for young children. An inability to use referential forms coherently has in fact been documented in many languages. For example, 3- and 4-year-old English-speaking children were found to use lexical forms for referents that had been introduced, while older children used pronouns (Clark 2003). However, cross-linguistic variation also exists, as children do not uniformly prefer lexical forms over other forms. Null forms were prevalent in the narratives of the youngest (4- to 5-year-old) Warlpiri children in Bavin's (2000) study and were used deictically to refer to both new and given referents. This finding suggests that young Warlpiri children do not yet use referential forms in an appropriate manner, but they opt for null, rather than lexical, forms.

One should also bear in mind that young children find the task employed in collecting the data used in the present study quite demanding. It requires that they invent a story of their own as they look at a series of pictures. It is thus possible for children simply to describe each picture they see instead of forming a connected story. As Clark (2003) points out, "The Frog Story" narratives created by young English-speaking children were incoherent without the accompanying pictures; the children were simply

commenting on the pages. Hence, a different method of data collection could have produced very different results vis-à-vis referential choices. A simpler and less demanding task might lead to appropriate usage of referential forms even in young children.

## Conclusion

This study reveals that referential forms in narratives produced by 4-year-old Thai-speaking children exhibit Preferred Argument Structure patterns, except that the proportion of lexical forms in the A grammatical role is relatively high. Examination of subject arguments in different discourse contexts shows that the selection of referential forms varies depending on the subject's distance from the last mention of that referent and on the position of that last mention in the clause. This suggests that young Thai speakers are sensitive to the cognitive status of referents when they realize arguments in discourse. Referents that were prominent were more likely to be expressed covertly, while those that were not prominent were mentioned explicitly. Furthermore, the data support the claim that children master the use of referential forms to create discourse coherence at a rather late stage. At 4 years of age, Thai-speaking children showed excessive use of lexical expressions and did not yet use referential forms to produce coherence in narratives.

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