

Appendix A.

The coding of different types of NPs

NP Types	Examples	Coding in First Mentions
NP with a numerical determiner and a classifier	yi1 zhi1 da4 xiang4 one CL big elephant 'a big elephant'	Num + CL + N
NP with a classifier	you4 zhi1 gou3 have CL dog 'there is a dog.'	CL + N
Bare NP without determiner or classifier	tu4zi1 zai4 wan2 rabbit is playing '(a/the) rabbit is playing.'	Bare N
Proper names	xiang4 ma1ma1 lai le. elephant mother come particle 'Mama-Elephant comes.'	Name
Possessor N	da4 xiang4 de peng2you3 big elephant de friend 'a big elephant's friend'	Possessive + N
NP with a demonstrative and a classifier	na4 zhi1 da3 xiang4 that CL big elephant 'that big elephant'	Dem + CL + N
Personal pronoun	ta1 zai4 wan2 he/she is playing 'he/she is playing.'	Pronoun
Non-specific NP	<i>yi1 ge4 ren2</i> 'someone' <i>dong1xi1</i> 'something'	Non-specific N

Appendix B.

First Mentions Scoring Criteria in Mandarin

	Definition	Example
Score 3	A fully adequate referring expression for its context	<p>Indefinite marking regardless of the clause position: NUM + SCL + N</p> <p>(1a) yi1 zhi1 da4xiang4 zai1 wan2. one SCL elephant is playing ‘An elephant is playing.’</p> <p>(1b) lai2 le yi1 zhi1 da4xiang4. come particle one SCL elephant ‘An elephant comes.’</p> <p><i>Note: if the child used English N in the construction NUM+SCL+N, he/she is given a score of ‘3’</i></p> <p>CL+ N in the post-verbal position</p> <p>(2) lai3 le zhi1 da4 xiang4. come particle SCL big elephant ‘A big elephant comes.’</p> <p>Proper name occurs in the pre-verbal position or the object position in the subject-verb-object clause</p> <p>(3a) xiang4 ma1ma1 zai4 bang1 ta1men3. elephant mother is help them ‘Mama-elephant is helping them.’</p> <p>(3b) ta1 kan4jian4 xiang4 ma1ma1. he see elephant mother ‘He sees mama-elephant.’</p> <p>Possessor NP occurs in the pre-verbal position or the object position in the subject-verb-object clause</p> <p>(4a) da4 xiang4 de peng2you3 lai2 le. big elephant de friend come particle ‘Elephant’s friend comes.’</p>

		<p>(4b) ta1 kan4jian4 xiang4 ma1ma1 de peng2you3. he see elephant mother de friend ‘He sees mama-elephant’s friend.’</p> <p>Elaboration of a new referent with a relative clause</p> <p>(5) [mai4 qi4qiu2 de] lao3 ye2ye2. sell ballon de old grandpa ‘An old man who sells balloons.’</p> <p>Unmarked NP in pre-verbal or post-verbal position (with clear context information)</p> <p>(6) jiu4sheng1yuan2 lai2 le lifeguard come particle ‘A lifeguard is coming.’</p> <p><i>Note: if the child mentioned the ‘swimming pool’ or ‘diving board’ previously, it is fine to use the bare noun jiu4sheng1yuan2 here.</i></p>
Score 2	A less than adequate expression that was still partially informative	<p>Use of the general classifier when a specific classifier is required</p> <p>(7) yi1 ge4 da4 xiang4 zai4 wan2. one GCL big elephant is playing ‘An elephant is playing.’</p> <p>NP marked by the demonstrative pronoun na4 ‘that’</p> <p>(8) na4 zhi1 da4 xiang4 zai4 wan2. that SCL big elephant is playing ‘That elephant is playing.’</p> <p>Unmarked NP in the pre-verbal or post-verbal position (without clear context information)</p> <p>(9) tu4zi zai4 wan2. rabbit is playing ‘The rabbit is playing.’</p>

		Use of non-specific lexical items (i.e. <i>yi1 ge4 ren2</i> ‘someone’ or <i>yi1 ge4 dong1 xi1</i> ‘a thing’ to introduce the target referent)
Score 1	Inadequate referring expression	Use of a pronoun (i.e. <i>ta1</i> ‘he/she/it’) to first mention the referents
Score 0	No mention	

Appendix C.

Table 1. *Decorrelated factors in the analysis of the HL group (N=38)*

	MOE	FAMLANG	ENGRICH
AOA	-.15***		
MOEResid	.98***		
CHILANG		.76***	
FAMLANGResid		.65***	
MANRICH			.14**
ENGRICHResid			.99***

Note. Because AOA and MOE were significantly correlated, we decorrelated MOE from AOA and used the MOE residual, MOEResid, in the model. The correlation between MOEResid and the original MOE predictor was significant, which indicates that MOEResid can be interpreted as a representative of MOE. But MOEResid excludes the effect of AOA. Similarly, FAMLANG was decorrelated from CHILANG because they were strongly correlated. The predictor ENGRICH was also decorrelated from MANRICH due to a significant correlation.

** $p < .01$. *** $p < .001$.

Table 2. *Decorrelated factors in the analysis of the HL_BIL group (N=21)*

	FAMLANG
CHILANG	.76***
FAMLANGResid	.65***

Note. Because FAMLANG and CHILANG had a high correlation we used the decorrelated factor, FAMLANGResid, which was used as a representative of FAMLANG. But FAMLANGResid excludes the effect of CHILANG. For the HL_BIL group, AOA and MOE were not significantly correlated in this group ($r(292) = -0.08$, $p = .17$), and neither were ENGRICH and MANRICH ($r(292) = -0.01$, $p = .83$).

*** $p < .001$.

Table 3. *Decorrelated factors in the analysis of the HL_ENG group (N=17)*

	AOA	FAMLANG	ENGRICH	MOTED
MOE	-.37***			
AOAResid	.98***			
CHILANG		.76***		
FAMLANGResid		.65***		
MANRICH			.29***	.27***
ENGRICHResid			.93***	
MOTEDResid				.96***

Note. Because AOA and MOE were closely correlated, we used the decorrelated factor, AOAResid, which can be used as a representative of AOA. FAMLANGResid was created by decorrelating FAMLANG from CHILANG. MANRICH was highly correlated with ENGRICH and MOTED. Thus, we used the decorrelated factors ENGRICHResid and MOTEDResid in the analysis.

*** $p < .001$.