

THE EARLY ACQUISITION OF FUNCTIONAL WORDS *de*(的) IN MANDARIN-SPEAKING CHILDREN

Yang Zhang

The University of Manchester, Manchester, United Kingdom

Abstract

Abstract This paper examines the acquisition of the most frequently used functional words *de*(*Er-J*) in Mandarin-speaking children, and discusses the restrictive factors, individual differences and related issues based on the longitudinal data from three Mandarin-speaking children aged between 1;02 and 2;11.

Within the framework of the Minimal Program, we propose three functional words *de*(*Er-J*) based on its modification, mood, and aspect functions. Specifically, *de1*(*B"J* 1) (including *de1a*[*B"J* 1a] and *de1b*[*B"l* 1b], used for de[*Er-J*]-construction and attributive nominal structure respectively) is the head of *DeP* in *VP*, *de2*(*Er-J* 2) is the head of *illocP* in *CP*, and *de3*(*Er-J* 3) is the head of *AspP* in *IP*.

The study reveals that the acquisition order of the functional words *de*(*Er-J*) in Mandarin-speaking children follows a path: *de1*(*E8* 1) > *de2*(*B"J* 2) > *de3*(*Er-J* 3). This acquisition order aligns with the Bidirectional Maturation Model proposed by Hu(2016), where the *VP* structure emerges earlier than the functional structure, and the functional structure emerges in a top-to-bottom fashion.

Children's acquisition path of the functional words *de*(*Er-J*) conforms to the Bidirectional Maturation Model. The temporal characteristics of children's acquisition of the functional words *de*(*Er-J*) may be influenced by the biological properties of UG. Under the premise of adhering to the timetable of syntactic structure development, the development within different syntactic levels is influenced by various factors, including physiological factors such as the growth and development of children's articulatory and auditory organs, cognitive factors such as the development of children's goals and intentions, social cognitive skills, and world knowledge, as well as linguistic factors such as economy principles and experiential factors (language input). The definition of relevant criteria, the duration and quality of data collection, and subjective factors in research may also contribute to the individual differences observed in the acquisition of the functional words *de*(*Er-J*) among children.

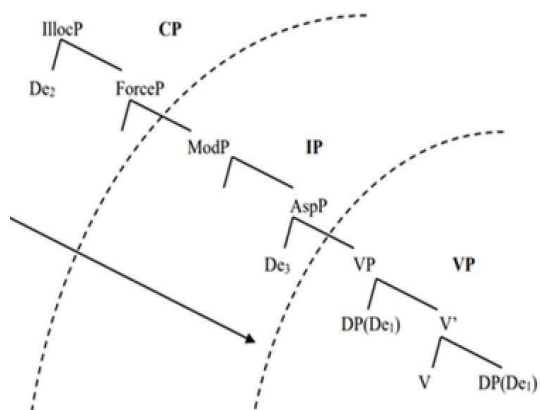
Primary References

- Ambridge, Ben, et al. (2014). Child language acquisition: Why universal grammar doesn't help. *Language*, 90, e53-e90.
- Ambridge, Ben, et al. (2015). The ubiquity of frequency effects in first language acquisition. *Journal of child language*, 42(2), 239-273.
- Borer, Hagit, & Wexler, Kenneth. (1987). *The maturation of syntax. Parameter setting*. Dordrecht: Springer, 123-172.
- Chiu, Bonnie Hui-Chun. (1997). *Relative Clauses in Child Chinese*. Paper presented at the Fifth International Conference on Chinese Linguistics, Taiwan: National Tsing Hua University.
- Chomsky, Noam. (2005). Three factors in language design. *Linguistic Inquiry*, 36(1), 1-22.
- Chomsky, Noam. (2014). *The minimalist program*. MIT Press.
- Friedmann, Naama, Belletti, Adriana, & Rizzi, Luigi. (2021). Growing trees: The acquisition of the left periphery. *Glossa: a journal of general linguistics*, 6(1).
- Hu, Jianhua. (2016). *Descriptive models of child syntax*. Lecture Series Papers by Scholars of the Chinese Academy of Social Sciences at the Chinese University of Hong Kong. Hong Kong: The Chinese University of Hong Kong.
- Hu, Jianhua. (2022). The evolution of ancient and modern Chinese from the perspective of child language acquisition. *China Social Sciences Today*, 3.
- Huang, C. T. James. (1982). *Logic relations in Chinese and the theory of grammar*. Ph.D. diss., MIT.
- Hyams, Nina. (1994). Nondiscreteness and variation in child language: Implications for principle and parameter models of language development. In Y. Levy (Ed.), *Other Children, Other Languages: Issues in the Theory of Language Acquisition* (pp. 11-40). Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Hyams, Nina. (1996). The underspecification of functional categories in early grammar. In H. Clahsen (Ed.), *Generative Perspectives on Language Acquisition: Empirical Findings, Theoretical Considerations and Cross-linguistic Comparisons* (pp. 91-128). Amsterdam: John Benjamins.
- Klee, Thomas, et al. (2004). Utterance length and lexical diversity in Cantonese-speaking children with and without specific language impairment. *Journal of speech, Language, and Hearing Research*, 47, 1396-1410.
- Lee, Hun-tak Thomas, Wong, Colleen, & Wong, Cathy. (1995). *Functional categories in child Cantonese*. Paper presented at the Seventh International Conference on the Cognitive Processing of Chinese and Other Asian Languages, Chinese University of Hong Kong.
- Lieven, Elena, & Tomasello, Michael. (2008). *Children's first language acquisition from a usage-based perspective*. Routledge/Taylor & Francis Group.
- Lust, Barbara. (1999). Universal grammar: The strong continuity hypothesis in first language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of Child Language Acquisition* (pp. 111-145). Academic Press.
- Ning, Chunyan. (1993). *The overt syntax of relativization and topicalization*. Ph.D. diss., University of California, Irvine.
- Ning, Chunyan. (1996). De as a functional head in Chinese. In B. Agbayani, K. Takeda, & Sze Wing Tang (Eds.), *UCI Working papers in Linguistics 1* (pp. 63-79). ILSA, University of California, Irvine.

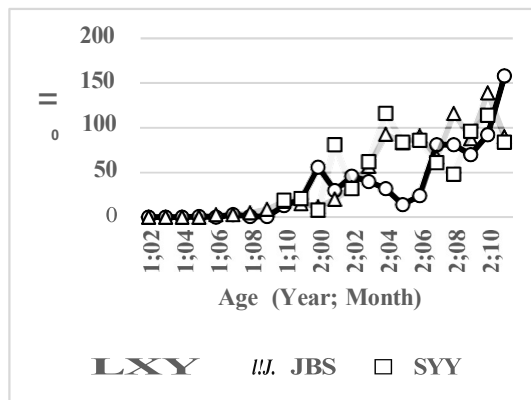
- Packard, Jerome. (1987). The-first language acquisition of pronominal modification with *de* in Mandarin. *Journal of Chinese Linguistics*, 16, 31-53.
- Paul, Waltraud, & Whitman, John. (2008). *Shi ... de* Focus Clefts in Mandarin Chinese. *Linguistic Review*, 25, 413-451.
- Peng, Lulu. (2016). The acquisition of child syntactic structures. Ph.D. dissertation, Graduate School of Chinese Academy of Social Sciences.
- Radford, Andrew. (1981). *Transformational Syntax*. Cambridge: Cambridge University Press.
- Radford, Andrew. (1990). *Syntactic Theory and the Acquisition of English Syntax*. Oxford: Blackwell.
- Radford, Andrew. (1996). Towards a structure-building model of acquisition. In H. Clasen (Ed.), *Generative Perspectives on Language Acquisition: Empirical Findings, Theoretical Considerations and Crosslinguistic Comparisons* (pp. 43-90). Amsterdam: John Benjamins.
- Rowland, Caroline. (2014). *Understanding Child Language Acquisition*. Routledge.
- Simpson, Andrew. (2002). On the status of modifying *de* and the structure of the Chinese DP. In Sze-Wing Tang & Chen-Sheng Luther Liu (Eds.), *On the Formal Way to Chinese Languages* (pp. 74-101). Stanford: The Center for the Study of Language and Information.
- Simpson, Andrew, & Wu, Xiu-Zhi Zoe. (2002). From D to T-Determiner Incorporation and the Creation of Tense. *Journal of East Asian Linguistics*, 11, 169-209.
- Tomasello, Michael. (2009). The usage-based theory of language acquisition. In B. MacWhinney & E. O. Goodluck (Eds.), *The Cambridge handbook of child language* (pp. 69-87). Cambridge University Press.
- Wexler, Kenneth. (1998). Very early parameter setting and the unique checking constraint: A new explanation of the optional infinitive stage. *Lingua*, 106, 23-79.
- Wexler, Kenneth. (1999). Maturation and growth of grammar. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of Child Language Acquisition* (pp. 55-109). Academic Press.
- Zhang, Yunqiu, & Chao, Daijin. (2019). How children's syntax grows: A proposed acquisition model based on linguistic universals. *Journal of Capital Normal University (Social Sciences)*, 6.
- Zhang, Yunqiu, & Xu, Xiaowei. (2021). Experiential factors in early child language acquisition. *Journal of Capital Nonnal University (Social Sciences)*, 2.

Principle Figures

(1) Figure 2-3: The acquisition path of the function words *de*(1'i''J)



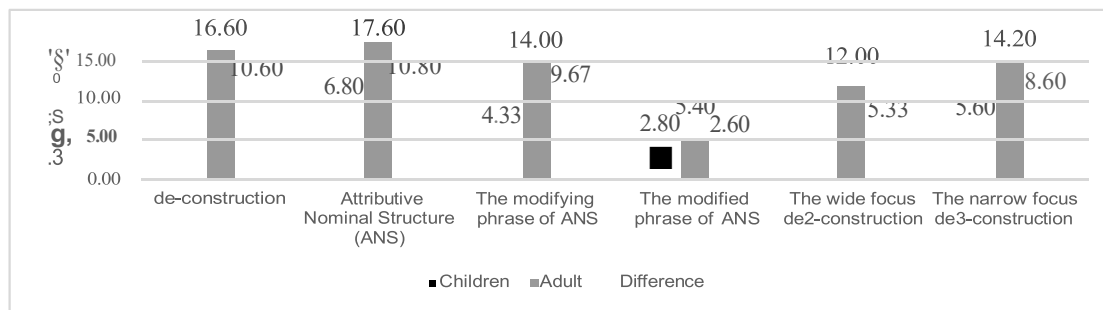
(2) Figure 3-1: The production timing and quantity of the functional word *de*1(1'i''J 1) by three children



(3) Table 3-1: The regression analysis of the production timing and quantity of *de*1(1'i''J 1) by three children.

Child	R value	R ² value	F value	P value	Regression coefficient (intercept)	Regression coefficient (Age)
LXY	0.83	0.69	<0.001	<0.001...	-118.85	6.12
JBS	0.92	0.84	<0.001	<0.001...	-148.56	7.58
SY	0.68	0.47	<0.01	<0.01"	-98.59	5.75

(4) Figure 3-19: MLU5 and differences in *de*-structures between three children and adults.



(5) Table 4-2 The relationship between input and output in two children

The type of <i>de</i> (B'-I)	Child	Type relevance	Time relevance	Quantity relevance	
<i>de</i> 1a(B'1a)	LXY	+		+ (1, 1) 1	
	JBS			- (2, 1)	
<i>de</i> 1b(B'1b)	LXY			- (2, 3)	
	JBS			- (1, 2)	
<i>de</i> 2(8'2)	LXY			+	- (3', 2)
	JBS			+	+ (3, 3)
<i>de</i> 3(8'-J 3)	LXY			+	+ (4, 4)
	JBS			+	+ (4, 4)

¹ The preceding number indicates the ranking of input quantity from adults when the functional words *de*(B'-1) first appears, while the succeeding number indicates the ranking of the onset time of the functional words *de*(B'-1).