

A Study of Children's Acquisition of the Deixis in Chinese Mandarin: Asymmetry Distribution of "zhe", "zhege" and "na", "nage" between Positions of Subject and Object

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ABSTRACT

Acquisition of the deixis category has been a hot topic for over decades and many linguists have researched it from different perspectives. However, many studies focus on L2 acquisition of deixis learning rather than on children's acquisition of native languages especially Mandarin Chinese. Thus, this study aims to investigate children's acquisition of the demonstratives "zhe" and "na" in Mandarin Chinese especially the asymmetry distribution of "zhe" vs. "zhege" and "na" vs. "nage" between positions of subjects and objects. The study tested 18 Chinese children from 3 to 5 years old on their acquisition of deixis in Mandarin using elicited production as well as elicited imitation. The research shows that children have not acquired the demonstrative deixis of "zhe"-series and "na"-series absolutely before 6 years old but senior children relatively did better than junior children. Moreover, children's development of "na" is later than the development of "zhe". In addition, children from 3 years old to 5 years old have not acquired the asymmetric distribution of "zhe"/ "na" vs. "zhege"/ "nage" at the position of subject and object. I hope this study can further the research on children's language acquisition and cognitive development.

Keywords: acquisition of deixis, Chinese demonstrative deixis, Chinese Mandarin children

1. INTRODUCTION

The common point shared by deixis across languages is that learners have difficulty understanding how to apply them correctly in the appropriate context without addressing referents. Additionally, deixis can be sub-categorized in various ways in multiple languages. Studies show that children's acquisition of the deixis category is later than categories such as nouns and verbs, as it requires children to have cognition of space and time to encode an object into an abstract lexicon than the name of an object. In Mandarin Chinese, the demonstrative deixis "Zhe" and "na" are in a sub-category of deixis to describe the distance of space and time.

A large number of former deixis acquisition studies focus on L2 learning rather than on native languages acquisition. Investigating children's acquisition of deixis at what age and to what level are children able to make distinction of and correctly use demonstrative deixis forms is significant for the research of children's

language acquisition and cognitive development. Therefore, the study has chosen the different use of "zhe"-series and "na"-series as well as the asymmetric distribution of "zhe"/ "na" vs. "zhege"/ "nage" between subject and object position address children's acquisition of demonstrative deixis semantically and syntactically.

1.1. A Review of Previous Studies and Theories

1.1.1. The Deixis of "zhe"-series and "na"-series in Mandarin Chinese

Demonstrative deixis in Mandarin Chinese is two-way divided. There are "zhe"-series and "na"-series for near referencing and far referencing in terms of space, time and domain, which is similar to English. Demonstrative elements containing "zhe" and "na" as its members are organized around the two basic demonstrative elements, namely, "zhe" and "na", with other characters attached to form clusters such as

“zhege”, “zheli” in some contexts. Based on Chen Yujie [2]’s proposal of demonstrative elements and demonstratives formulation, this study categorizes “zhe”/ “na” and “zhege”/ “nage” into specific sub-categories of deixis.

Lv Shuxiang [4] has labelled two functions to each of “zhe” and “zhege” respectively: demonstrative function and substitutional function. But “zhe” and “zhege” behave in an imbalanced way in the substitutional function. Lv Shuxiang [4] presented that “zhe”, functioning as the substitutional demonstrative deixis, can be used as the substitution for a person or an object, but limited to acting as a subject rather than as an object, except for the “shi-sentences”. While “zhege” can be used as a subject and an object without such limitation when functioning as the substitutional demonstrative deixis. So, the asymmetric occurrence of “zhe” and “zhege” is attributed to which category they belong to in a certain context. It is the syntactic categorizing that matters in causing such asymmetry, rather than the phonological distinction of monosyllable or double syllable between “zhe” and “zhege”. Analysis on “na” and “nage” is in the same way with that of “zhe” and “zhege”. Fang Mei [5] has demonstrated the asymmetric usage of “zhe” vs. “zhege” and “na” vs. “nage” from both syntactic and pragmatical aspects. For the syntactic aspect, the asymmetry is associated to where the deixis is, on the position of subject or object. Zhao Yuanren [6] argued “demonstrative noun-substitutes” are normally in the combined form of “demonstrative element + classifier” such as “zhege”, “nawei”. And the two expressions, “zhe” and “na”, are used under some constraints if they are not integrated with any classifier. One constraint is that it would be ungrammatical to place “zhe” and “na” at the position of

object. Also, “zhe” and “na” cannot be followed by “de” to form a phrase to describe another noun phrase. The solution to these two constraints is adding a classifier like “ge” after “zhe” or “na”.

Lv Shuxiang [4] has classified the substitutional function of “zhe (+ classifier)” and “na (+ classifier)” into two further sub-categories, “transcribed substitution” and “direct substitution”. “Transcribed substitution” is a substitution transcribed from demonstratives, which means when the nouns attached to the demonstrative functioning “zhe (+ classifier)” and “na (+ classifier)” are omitted, the demonstrative function would be transcribed into substitutional function and hence “zhe (+ classifier)” and “na (+ classifier)” would act as “transcribed substitution”. Thus, only the omission of the following noun rather than the classifier is permitted, which means only the form of “zhege” and “nage” can function as transcribed substitution while “zhe” or “na” without the classifier “ge” cannot. Thus, “zhege” and “nage” are endowed with higher freedom to occur in different contexts than “zhe” and “na”. As to the distinction of “zhe”/ “na” vs. “zhege”/ “nage” when they all function as “direct substitution”, Lv Shuxiang [4] has mentioned if placed preceding a verb, normally “ge” should not be attached to “zhe” and “na”, whereas placed after a verb, “ge” should be attached in the most cases. He also pointed out that “zhe” and “na” without “ge” as “direct substitution” are limited to the position of the subject, especially the subject of “shi-sentence” in most cases. At the position of an object, “zhege” and “nage” rather than “zhe” and “na” occur at a higher chance, even for the prepositional object. More details can be seen in the following table.

TABLE I. CATEGORIZING OF “ZHE”, “ZHEGE”, “NA” AND “NAGE”

	Demonstrative Function				Substitutional Function			
	<i>Zhe</i>	<i>Zhege</i>	<i>Na</i>	<i>Nage</i>	<i>Zhe</i>	<i>Zhege</i>	<i>Na</i>	<i>Nage</i>
Subject position	G	G	G	G	G	G	G	G
Object position	G	G	G	G	U	G	U	G

G: Grammatical U: Ungrammatical

1.1.2. Properties of the Classifier “ge”

Zhao Rixin [7] explained that in ancient Chinese and modern southeastern Chinese dialects, “ge” functions as demonstrative referring to a referent nearby the speaker. Fan Wei [9] has emphasized the function of the classifier “ge” as individualizing and definiteness, focusing on a definite individual object rather than on the whole category of the object. Hence, “zhege” and “nage” tend to be used on old information, since people usually consider newly occurring information as a whole category. Chen Ping [8] has reported the position

in sentences, such as subject and object, acts as a device to indicate identifiability or non-identifiability of nominal expressions in Chinese. The role that position plays in definiteness identification correlating with the function of the classifier “ge” may explain the asymmetry.

1.1.3. Previous Studies on the L1 Acquisition of Deixis

Compared with the construction of theories on the deictic system, studies on the L1 acquisition of

demonstrative deixis are not that rich, especially for Mandarin Chinese. Christine Tanz [1] has studied the acquisition of deictic terms such as demonstrative deixis, special deixis and personal pronouns with an English background. By using the method of elicited production, he has concluded that children begin to acquire demonstratives and locatives like ‘this/that’, ‘here/there’ from around three years old, after they acquire of personal pronouns and special deixis, revealing that children’s acquisition of demonstratives is not quite early.

1.2. Research Questions

Based on the previous studies, this study attempts to answer the following questions: a. At what age do average pre-school Chinese children acquire the distinction between the demonstrative deixis of “zhe”-series and “na”-series? b. Can pre-school Chinese children distinguish the usage of demonstrative deixis “zhe” from “zhege” and “na” from “nage” in the position of subject and object, respectively?

2. METHODOLOGY

2.1. The Subject

The study randomly selected 18 children between 3;0 and 5;11 from one of the kindergartens in Qingdao, Shandong Province. Researchers separated them into three age groups (3;0–3;11 as group 1, 4;0–4;11 as group 2, 5;0–5;11 as group 3) and each group comprises six children containing three males and three females. All of them exhibited no audio-visual and speech problems.

2.2. The Design of The Test Constructions

2.2.1. Test Construction for “zhe” -series and “na” -series---Experiment 1

The study used elicited production (EP) (experiment 1) to investigate research question (a). The subjects and the experimenter sat in a separate room facing each other. There were two identical upside-down paper cups on the table between the subject and the experimenter. One was in the middle of the subject and the experimenter; the other was on the same line with the first cup but far away from the subject. The researcher put a piece of candy in one of the paper cups and let the subject guess which paper cup had the candy inside. After the subject gave answers, the experimenter revealed the answer. Every subject has two chances, and the experimenter documented the results on a sheet.

2.2.2. Test Construction for “zhe”/ “na” vs “zhege” / “nage” ---Experiment 2

The author designed experiment 2 to address the research question (b) by applying elicited imitation (EI) to test whether children were able to comprehend the distinction and make corrective use of “zhe” vs “zhege” and “na” vs “nage” when they were placed at different slots, subject and object in a sentence. The researcher designed particular sentences to test if children can distinguish the grammaticality of “zhe”/ “na” vs “zhege” / “nage” at the positions of subject and object of a sentence respectively. The set of testing sentences followed the rules: (1) Person vs object/event (2) Subject vs object (3) Zhe/na vs zhege/nage (4) Prepositive object vs postpositive object

As previously mentioned in the literature review that all of “zhe”, “zhege”, “na”, and “nage” have a substitutional function and a demonstrative function. In demonstrative function, the author considers it as grammatical no matter which one of “zhe”/ “na” or “zhege”/ “nage” occurs at the position of subject or object. No language property or children’s knowledge of language that concerns the acquisition of deixis can be addressed to even if children have made the distinction between “zhe”/ “na” vs. “zhege”/ “nage” in demonstrative function in their production. Thus, the researcher would exclude the substitutional function vs demonstrative function from the testing material. Therefore, ten types of sentences were designed in this study and 20 sentences were used in experimenter 2.

2.3. Procedures

The testings happened in a separate room at the kindergarten. Three experimenters worked together and recorded experiment data. One was a kindergarten teacher responsible for testing the subjects; the other two experimenters were group members responsible for observing and recording the subjects’ behaviours. There are two parts of the experiment: the training part and the testing part. Before the testing, the teacher would use different content from the testing content to familiarise the children with the rules. The subject and the experimenter then sat in a separate room facing each other. The teacher would ask the subjects to complete experiment 1 first and then experiment 2. Experiment 1 is the candy-guessing game. In experiment 2, the experimenter read 20 sentences and ask the subjects to imitate the sentences. During the test, the team members would document and analyse the testing process on a result sheet.

3. RESULTS

3.1. Results of Experiment 1

TABLE II. "ZHE" –SERIES AND "NA" –SERIES

	Zhe	Na	Zuo	Total
Distal Term	25	3	0	28
Proximal Term	6	0	2	8
Total	31	3	2	36

From the above table, we concluded that in general, children tended to use more "zhe" -series than "na" -series. There was a subject using "zuo" -series rather than "zhe" -series. More children tended to use "zhe" -series than "na" -series in terms of the distal term. Children also use more "zhe" -series than "na" -series in terms of the proximal term.

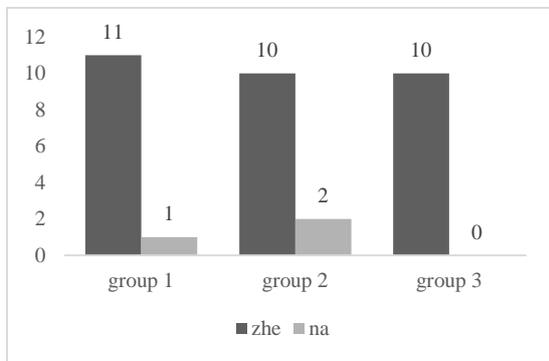


Figure 1. Distribution of "zhe" –series and "na" –series among groups

We found that all children tended to use more "zhe" -series than "na" -series from the above figure. On the contrary, children in group 1 began to use "na" -series. Children in group 2 used more "na" -series than children in group 1. However, no children used "na" -series in group 3.

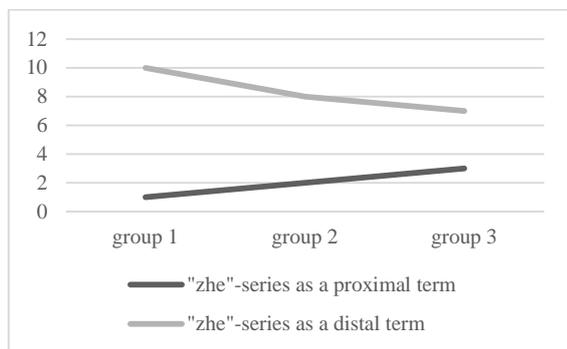


Figure 2. Distribution of "zhe" –series as a proximal term and a distal term among groups

From the above figure, we discovered that the development of children's acquisition of "zhe" –series is a gradual process.

3.2. Results of Experiment 2

We found two main errors in the testing results. They are errors involving the demonstrative deixis "zhe"/ "na" vs "zhege"/ "nage", and errors not involving deixis, such as pronouncing "na" (which) instead of "na" (there), "shi" dropped and subject dropped. Grammatically, non-demonstrative deixis errors have no relation to this study. As to demonstrative deixis errors, they occurred 15 times in total. Among these errors, seven times occurred at the subject's position and eight times occurred at the position of object. The eight errors at object position are corrected from "zhe"/ "na" to "zhege"/ "nage". Eight errors related to bare substitutional "zhe" and "na" at the object position were produced by children, as the correction of the ungrammatical testing sentences not supposed to be repeated identically. That was 11.11% of all the ungrammatical sentences that were supposed to be corrected during imitation. Bare "zhe"/ "na" at prepositional object position is also supposed to be corrected. We can see the result of the experiment in the following table.

TABLE III. CORRECTION RATE AT OBJECT POSITION BY EACH CHILD

Group No.	Child No.	Times of Correction (C)	Sentences Supposed to Be Corrected (S)	C/S (%)
1	1	0	4	0
	2	1	4	25
	3	2	4	50
	4	1	4	25
	5	1	4	25
	6	3	4	75
2	7	0	4	0
	8	2	4	50
	9	2	4	50
	10	0	4	0
	11	1	4	25
	12	1	4	25

3	13	0	4	0
	14	0	4	0
	15	1	4	25
	16	0	4	0
	17	0	4	0
	18	0	4	0

These errors are related to bare substitutional “zhe” and “na” at the object position. Focusing on the distribution of errors between “zhe” and “na”, within errors occurred at object position, we found that errors with “zhe” shared 75%, more than that with “na”, 25%. The percentage becomes “zhe” 80 % and “na” 20% if we expand the observation to all the errors that occurred at the subject position. Focusing on how children’s age is related to their errors at object position, we found that children age 3 and 4 made errors four times, 50%; children in the group of age 5 made errors 0 times, 0%. In addition, there was no difference between males and females according to the observation of the data.

4. DISCUSSION

4.1. Observation of Corpus

Before conducting the experiments, we have made observations of corpora for preliminary analysis by selecting a set of transcription titled “Zhou 1” from CHILDES. It consists of spontaneous utterances by Mandarin children aged from 1;2 to 4;0, while they were playing toys with their mother or telling stories, collected from Nanjing. From the transcriptions by children aged 1;2, we learned that no children use demonstrative deixis “zhe”, “zhege”, “na”, or “nage”. However, we also discovered that children aged 1;8 could understand the use of demonstrative deixis. The forms of “zhe” or “na” without “ge” as substitutions at object position was not observed from children’s utterance. As to prepositional objects, both “zhe” and “zhege” as substitutions have been observed. Additionally, the frequency of “na” and “nage” is much lower than the utterance produced by children and adults. However, the observation of the spontaneous utterance is not enough in support that children at such age can comprehend the contrastive pair of “zhe”-series and “na”-series or able to make a distinction in the usage of “zhe” and “zhege” at subject and object positions. Only when children produce the target expressions in the most appropriate context can we make the judgement. Thus, the data analysis of the elicited production and elicited imitation is required.

4.2. Discussion of Experiment 1

From the results of experiment 1, we concluded that all groups of children would like to use “zhe” -series to represent the distal term, which indicated that children before six years old have not acquired “zhe” -series and “na” -series since “na” -series represented the distal term. Furthermore, all groups of children used “zhe” -series more frequently than “na” -series, which showed that children acquired “na” -series later than “zhe” -series. During the experiment, a child in group three used “zuo” -series (left) instead of “zhe” -series (right) probably because children in senior classes began to learn “zuo” -series and “you” -series in daily life. Children’s acquisition of “zhe” -series and “na” -series is a gradual process and senior children relatively did better than junior children. Moreover, all groups of children produced “zhe” -series or “na” -series with pointing to the object, which indicated that the indexical function of “zhe” -series and “na” -series was supported by physical gestures of indication.

According to Xu Dan, one of the explanations is that [5], in Mandarin Chinese, “zhe” ranks No.10 in use frequency, much higher than “na”, ranking No.182. This kind of asymmetry might result in the unbalanced input of “zhe” -series and “na” -series in children’s language development. Also, the reason why “na” -series is acquired later than “zhe” -series may connect with children’s cognitive development. Young children show egocentrism, and they learn and understand the world self-centred. Thus, using “zhe” -series is beneficial for them to express and show egocentrism. Another reason is that although children are born with Universal Grammar, linguistic modules are independent of each other, bringing about the gradual development of demonstratives in Mandarin children. In other words, children’s acquisition of demonstrative deixis, “zhe” -series and “na” -series is relatively later than other deixes such as personal pronouns due to the unbalance of the development of individual linguistic modules.

4.3. Discussion of Experiment 2

According to the data, preschool children at the age of 3~5 have not acquired the asymmetric distribution of “zhe”/ “na” vs “zhege”/ “nage” at the position of subject and object. Moreover, even a child who had made the correction expected to a sentence kept repeating identically other sentences in the same set, and the correction ratio was generally low comparing corrected sentences to uncorrected sentences within the production made by one child. When using “zhe”/ “na”, “zhege”/ “nage” for a prepositional object, there are two factors: the similarity with the subject's position in a sentence and the nature as the object in terms of the case. Children are supposed not to convert “zhe”/ “na” to “zhege”/ “nage” if the effect from the first factor

overweighs the second factor. It resulted in the subject-like behaviour of the prepositive object. Since it was the opposite case in the data, where children indeed converted “zhe”/ “na” to “zhege”/ “nage”, implying that nature as an object overweight the subject-like position in the prepositive object, and it means that children have relatively better acquisition of the asymmetry with the context where the object is initiated.

We discovered that the imbalanced error distribution between “zhe” and “na” in the data. Children made lesser corrections to “na” than “zhe”, in both object-position errors and all subject position errors. The consistency of high frequency and high correction rate of “zhe” provides the evidence for the claim from a behaviourist view, the frequency of lexical items affects children’s lexical acquisition. From the data, the high correction rate of “zhe” reflects the high level of children’s acquisition of this lexical item, including morphological and syntactic knowledge attached. Children’s acquisition of the certain lexical item “zhe” comes from the frequency of “zhe” in the ambient language. On the other hand, “na” is not a frequent input to children.

From the perspective of children’s longitudinal acquisition of the asymmetry over growing up, it can be found that there is no significant gap between the correction rate of children in group 1 and children in group 2, while an apparent decrease can be observed in the correction rate of children in group 3. A possible explanation can be attributed to the method of Elicited Imitation applied in this experiment. EI can provide detailed data but suffers the deficiency of indirect reflection of children’s language competence. Children, especially at an older age, tend to take strategy when asked to imitate, for the younger the children are, the less conscious they are to apply strategy during the test. The test shows their language performance. Thus, it should not be attributed to their language competence completely but affected by their intention and strategy. Therefore, EI may not be appropriate for 5-year-old children as for younger children in this experiment.

4.4. The Comparison with English

There also exist demonstratives in English. Many linguists have researched children’s acquisition of “this” and “that”. Compared with Mandarin-speaking children, the development of English-speaking children’s acquisition of the demonstratives “this” and “that” is relatively earlier than the development of Mandarin-speaking children. To be more specific, English-speaking children have almost acquired the demonstratives “this” and “that” at around five years old, while Mandarin-speaking children have not acquired the demonstrative deixis of “zhe”-series and “na”-series before six years old. In addition, the indexical function of “zhe” -series and “na” -series was supported by physical gestures of indication in both

groups of children’s developments of demonstratives. Since in English, there are not demonstratives such as “zhege” and “nage” like Mandarin Chinese, analysis could not be made at such an elaborate level.

5. CONCLUSION

This study investigated children’s knowledge of “zhe”, “na”, “zhe” vs “zhege” and “na” vs “nage” in Mandarin Chinese. Through this research, we answered the two questions asked at the beginning of the study. First, children have not acquired the demonstrative deixis of “zhe”-series and “na”-series before six years old. However, children would use “zhe”-series and “na”-series more effectively as they grow old. Moreover, children’s development of “na” was later than the development of “zhe”. As for the second research question, preschool children at the age of 3~5 have not acquired the asymmetric distribution of “zhe”/ “na” vs “zhege”/ “nage” at the position of subject and object.

The author hopes that the study could contribute to an empirical analysis of children’s acquisition of demonstratives “zhe”, “na” especially the asymmetry distribution of “zhe” vs. “zhege” and “na” vs. “nage” between the position of subject and object. However, the number of the subjects and the range of ages are relatively small. Also, the number of testing sentences in experiment 2 is relatively small. Besides, EI may not be suitable for testing 5-year-old children, which needs researchers to investigate further.

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