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A Review of Research on Chinese Children's Acquisition of Classifiers

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Abstract

Chinese, as a classifier language, has a grammar that requires the usage of special morphemes in certain syntactic contexts, which constructs a delicate grammatical framework for Chinese speakers. People have to follow this grammar and choose a classifier to put into the position between the quantifier and the noun when describing the number of objects. The Chinese language is profuse in the use of classifiers. As units of measurement, classifiers are usually used to describe people, things, or actions. As an important indicator of Chinese language learners' grammatical capacity, the classifier system is of great significance. Due to the large number of classifiers and complex and variable grammatical rules, Chinese children face certain difficulties in learning classifiers. Chinese children's acquisition of classifiers has received extensive attention from scholars, who have conducted various related studies. Sorting through existing research is an effective way to promote further development of research on children's acquisition of classifiers.

Keywords

Chinese children; classifier acquisition; review

1. Introduction

The Chinese language has an extensive system of classifiers, which plays a special role in Chinese and serves as a junction linking grammar to extra-grammatical cognition. On one hand, the grammatical system of classifier languages requires the use of specific morphemes in certain syntactic contexts. On the other hand, the selection and use of classifiers is not merely based on rote memory or simple grammatical rules; it is closely linked to cognitive factors, especially the categorization of real-world objects (Mayers & Tsay, 2001).

As a classifier language, the Chinese language has a grammar that requires a delicate grammatical framework for Chinese learners. Namely, when describing the number of objects, a classifier should be used to be placed between the quantifier and the noun. With 1080 classifiers being collected in *A Dictionary of Chinese Classifiers* (2013), the frequent use of classifiers can be seen in Chinese. In addition to its syntactic importance, classifiers represent a link between grammar and extra-grammatical cognition (Myers & Tsay, 2001). In the previous research on Chinese classifiers, most of them focus on the cognitive approach with a primary concern to study the Chinese classifier system from the perspective of human categorization. Therefore, the selection of a classifier for a certain noun is not a mere matter of rote memory or a simple grammatical rule. It is confined to some complex cognitive factors with regard to human categorization of entities in the real world.

For its significance in the Chinese language system, the classifier is generally believed to be a key indicator of children's grammatical development. As children's acquisition of classifiers has been elaborately studied, general agreements have been reached on the following three aspects: children's acquisition of classifiers has a general sequence. Usually, individual classifiers are the first ones to be acquired no matter in quantities or in frequency, then

the acquisition of temporary classifiers and collective classifiers follows; children's accuracy of using classifiers is in accordance with their age; children's level of using and understanding classifiers has a close relationship with their cognitive level.

The following will provide a literature review from three aspects: the classification of classifiers, the syntactic and semantic features of classifiers, and Chinese children's acquisition of classifiers.

2. The Classification of Classifiers

Chinese scholar, Lv (1999) divided classifiers into nine categories: individual classifiers, collective classifiers, partitive classifiers, configuration classifiers, temporary classifiers, measure classifiers, independent classifiers, verb classifiers, and compound classifiers. Based on the research of Erbaugh (2006), in the broad sense, there have been six types of classifiers in Chinese dialects: (1) Measure classifiers, which are for a set quantity, such as a kilometer or a pound; (2) Kind classifiers like a kind of or a type of; (3) Collective arrangement classifiers: a queue, a row, etc.; (4) Event classifiers, for instance, a performance and an instance; (5) Sortal classifiers that mark a conventional but inherent category for the objects. And the last but not least important type is the general classifier. Without a consensus on the detailed classification of all the Chinese classifiers, much agreement has been reached that the general division of Chinese classifiers: noun classifiers and verb classifiers. Szeto (1998) stated that the differentiation of noun classifiers and verb classifiers is up by the fact whether they classify nouns or verbs. Normally, verb classifiers are used to enumerate the frequency of an action that has happened. And they usually occur post-verbally after a numeral and have no explicit head nouns. Verb classifiers are a special set of classifiers that are excluded from Allan's (1977) characterization of noun classifiers, as they do not classify nouns but actions. Chinese classifiers mostly fall into the category of noun classifiers. And abundant research results indicate that nonu classifiers can be generally divided into two categories: sortal and mensural classifiers, namely, count-classifiers and mass-classifiers. Sortal classifiers indicate quantificational units for sortal nouns. Sortal nouns name things with natural quantificational units, like bananas, bags. Belonging to a closed class, sortal classifiers indicate the salient features of sortal nouns, denoting shape, function, animacy, etc. Therefore, sortal classifiers can be furtherly divided into the categories of shape classifiers, function classifiers, animal classifiers, etc. For its semantic features, a sortal classifier generally has a relatively fixed and rigid association with particular sortal nouns (Li et al. 2010).

Unlike sortal classifiers, mensural classifiers can be used to both quantify those nouns that do not naturally occur in discrete units and as measuring units for concrete nouns (Chien et al. 2003). For example, the classifiers *xiang* in *san xiang shu* (three boxes of books) and *ping* in *san ping shui* (three bottles of water) are mass-classifiers. Mensural classifiers have a more contingent or temporary relationship with the nouns. These classifiers are often open-class words which are typically nouns that are designated as units of quantification. For instance, *wan* "bowl" is a noun, and like any noun, it can be counted with its associated sortal classifier (CL_{sortal}), for example, *si ge wan* "four CL_{sortal} bowl". Furthermore, *wan* can also be used as a classifier to indicate quantity, as in *si wan shui* "four bowls of water".

Therefore, similar to measure words in English to some extent, Chinese classifiers indicate the unit of quantification and function. The main difference between measure words and classifiers is that in Chinese, countable nouns as well as uncountable nouns have to be modified by classifiers to show their quantification. Above all, sortal classifiers embody the semantic meaning of the nouns which they modify, while measure words can only be used as a measure for a variety of nouns. For example, in the Chinese expression *si tiao she* (four CL-$_{tiao}$ snakes, 'four snakes'), the classifier *tiao* has a semantic indication for "rope-like and long" objects.

3. The Syntactic and Semantic Features of Classifiers

Word learning is a complex phenomenon that minimally involves interactions between children's conceptual biases about the world and an appreciation of syntactic and semantic cues to word meaning. Classifiers take a special syntactic position to accomplish the grammatical construction of the noun phrases. In Chinese, the syntactic feature of classifiers is not complicated, which is often collocated with numerals or demonstratives, acting as a bridge to form noun phrases. For instance, *Wo Mai Le Liang Ke Tang*. (I bought two candies.): Numeral + CL + Noun; *Wo Mai Le Zhe Ke Tang.* (I bought this candy.): Demonstrative + CL + Noun; *Wo Mai Le Zhe Liang Ke Tang.* (I bought these two candies.): Demonstrative + Numeral + CL + Noun.

Beyond the syntactic feature, the semantic feature of classifiers is of great importance. Adams and Conklin (1973) noted that numeral classifier systems exist in thirty-seven Southeast and East Asian languages. And they also pointed

out that shape, function, and animacy are critical semantic features in most of the languages. The study also indicated a high probability that classifiers reflect basic cognitive categories in spite of cultural or language differences. The Chinese classifier system, which classifies nouns into different categories, presents an obvious example of overt categorization in the language. Tai and Wang (1994) elaborated on the fact that by picking out some either physically-based or functionally salient perceptual properties, a classifier categorizes a class of nouns, which are permanently related to entities named by the class of nouns. In simple words, classifiers embody the salient features of the nouns with which they collocate. As the Chinese classifier system mostly reflects conceptual structures, its bearing on the issue of the nature of categorization in human cognition is crucial. Therefore, their usage is controlled by the categorization theory and the prototype theory rather than rote memory or simple grammatical rules. Thus, the classifier system is closely related to cognitive factors, especially to human categorization (Myers & Tsay, 2001).

However, not all the classifiers have semantic meanings. Lyons (1977) stated that there exists a general classifier which can be collocated with almost all the nouns in many numeral classifier languages. In Chinese, *ge* is commonly considered to be the general classifier. Erbaugh (1986) claimed that *ge* in Chinese can be used to replace most of the sortal classifiers. It is believed that this general classifier is created only to meet the requirement of grammaticality. It doesn't have a specific semantic meaning and only serves as an elsewhere or miscellaneous classifier.

There is no denying that the relationship between classifiers and nouns is significant. A classifier's collocation with a noun is determined by whether they share an overlap in semantic features, and nouns play a leading role in restricting the choice of classifiers (Shao, 1993). Besides, Zhang (2009) asserted that classifiers could be activated in the early stage during the production of NP and could exist for a short period; For Chinese speakers, there are two systems in their mental lexicon, namely the individual noun system and the individual classifier system; Classifier learning and the recall or use of individual classifiers can be helped and expedited by teaching classifiers with nouns together.

As mentioned above, classifiers embody the salient features of the nouns with which they collocate. What needs to be noted here is that the relation between a noun and its classifier also requires agreement at the discourse level. As different classifiers can be used with the same noun for various stylistic effects or the speaker's intentions, it stands to reason that Chinese classifiers are able to add meanings and clarify ambiguities. A sentence can be treated as semantically unacceptable if a wrong classifier is used.

4. Chinese Children's Acquisition of Classifiers

There has been a profusion of studies concerning children's acquisition of classifiers, including Mandarin, Cantonese, and the dialects of Taiwan districts. Most of them can be divided into the six sub-types below: (1) children's acquisition of the general classifier and their mastery of the syntactic structure of classifiers; (2) children's acquisition order of classifiers; (3) the degree of difficulties for acquiring different types of classifiers; (4) children's error types in classifier use; (5) the comparison of children's usage of count-classifiers and mass-classifiers; (6) children's psychological or cognitive factors involved in classifier acquisition.

Ying et al. (1983) illustrated that in Chinese, classifiers are used not only with uncountable objects, but also with countable objects, and there are no explicit rules as to their collocation. As a consequence, it poses great difficulty for young children to master classifiers. In this research, 179 4 to 7-year-olds were tested to explore how they learn individual, temporary, and collective classifiers. The results show that the children's mastery of classifiers increases with their growth in age. And a certain order in their acquisition of classifiers exists. 4-year-olds could only master a few common individual classifiers, and showed a tendency to overuse them. For the 5-year-old group, a rapid increase in the rate of mastering individual classifiers was found. And this group of children began to master temporary and collective classifiers. The 6 and 7-year-olds had basically mastered common individual classifiers, and their rates of the correct use of temporary and collective classifiers rapidly increased. This study shows that children's mastery of classifiers corresponds with the levels of their cognitive development and their experiences.

In the study of Fang (1985), 4 to 6-year-olds speaking Mandarin or Cantonese and bilingual overseas Chinese children of the same age were tested. It was aimed at exploring their ability to use some of the popular classifiers with the objects shown to them through pictures. This was followed by another test for their ability to generalize four classifiers among a number of novel objects with pseudo names. The results show that the 4 to 6-year-olds' ability to use classifiers was poor, but their ability improved quickly with age. The usage of basic common classifiers was learned by the end of the preschool period. And the development of such ability was also found to be closely related to the cognitive development of abstract thinking and the power of generalization.

In 2003, Chien et al. researched to test whether, in the early stages of language acquisition, Chinese children had the knowledge of the grammatical count-mass distinction. 80 Chinese-speaking 3 to 8-year-olds participated in their experiment, plus 16 adults. Their major findings are as follows: in early stages of language acquisition, even as young as 3-year-old Chinese children, have the grammatical count-mass distinction; And Chinese children are capable of making fine differentiations among a given set of count-classifiers; They understand that the relationship between a count-classifier and an entity denoted by a noun is relatively fixed; Chinese children's abilities of dealing with mass-classifiers are comparable to that of dealing with count-classifiers.

In the research of Ding (1999), he explored the situation in which children use classifiers, describing their developing process from the aspect of syntax and word meaning. And it points out that children's acquisition of classifiers is a process of active adjustment, in which inference plays an important role. In addition, the paper discusses the characteristics of this process: single use of the classifiers when collocating with nouns; overuse of them; and assimilation of them sequentially in a series of sentences with the same pattern. The use of individual classifiers takes the lead, regardless of quantities or in frequency. It is followed by the acquisition of temporary classifiers and collective classifiers.

Zhao (2020) argued that the learners' cognition of shape features significantly affects their acquisition of shape classifiers. A tentative conclusion is drawn that their categorization ability of shape classifiers is fairly limited.

Lin (2022) noted that when early Chinese grammarians studied Chinese grammar, due to the influence of Western linguistics research and the lack of classifiers in Indo-European languages, the study of Chinese classifiers was not given the appropriate attention it deserved. Chinese classifiers were not an independent category within word classes, but rather served as adjuncts, attached to other word classes.

Wu (2023) stated that most research about Chinese children's acquisition of classifiers is still at the stage of testing the results of previous studies, and the research conclusions are not significantly different. There are certain limitations to the types of experimental quantifiers, mainly limited to noun classifiers. The subjects are mainly children with normal language development, and the examination focuses on the production of children's classifiers. There is still a lack of attempts to comprehensively understand children's classifier acquisition through production and comprehension.

The research methods and subjects of the aforementioned studies may be far different from each other, but it is generally acknowledged that there is a correlating relationship between classifier acquisition and children's cognitive development. The use of classifiers enriches language expressions and can be an indication of style or level of language proficiency.

5. Conclusion

Researchers both at home and abroad have done numerous studies on children's acquisition of classifiers, and have achieved fruitful results. Research on children's classifier acquisition is becoming more scientific and comprehensive. Although there have been certain innovations in research methods and research subjects, in general, most of the current research is still in the stage of testing the achievements of previous researchers, and there are no significant differences in research conclusions. There are certain limitations in the types of classifiers used in the experiment, mainly limited to noun classifiers, and they rarely analyze verbal classifiers. Moreover, the subjects are typically developing children with normal language development, and the research content usually focuses on children's classifier production. Attempts to comprehensively understand special groups of children's classifier acquisition are still lacking.

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