

# A Study on the Relationship between the Characteristics of Children's Language Acquisition and the Intrinsic Structural Features of Language: Take the Acquisition of Semantic Types of Double Object Constructions as an Example

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**Abstract:** The double object constructions in language have different semantic types, which represent meanings such as giving, obtaining, and communication. The semantic types vary among languages. Some semantic types are common to languages, while others are unique to certain languages. The quantitative distribution pattern of semantic types of double object constructions in languages is an external manifestation of the internal structural features of languages. This paper attempts to explore the relationship between children's acquisition characteristics of semantic types and the intrinsic structural features of language through corpus research methods. We found that there is a parallel relationship between them, that is, children usually acquire semantic types that reflect language commonalities earlier, while acquire semantic types that reflect language personality later.

**Keywords:** Children's language acquisition; Language structural features; Double object constructions; Semantic type

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## 1. Introduction

The double object construction is a structure in which a verb has two objects, one of which is an indirect object usually referring to a person, and the other is a direct object usually referring to an object, such as "I'll give you a book." The double object verb in the above example expresses the meaning of giving, and this clustering based on the semantic features of verbs is called the semantic type of double object constructions. The semantic types of

double object constructions in language can be divided into types of giving, obtaining (such as “I stole two yuan from him”), communication (such as “I teach him English”), and so on.

Previous studies on the acquisition of double object constructions mainly focused on two aspects. Firstly, some researchers have focused on the acquisition timing or dative shift between double object constructions and dative constructions [1-4]. Secondly, another group of researchers focuses on the acquisition process and characteristics of double object constructions [5-10].

Few studies have focused on the acquisition of semantic types of double object constructions and several scholars who pay attention to this research have paid more attention to the acquisition of a few semantic types in Chinese or English [7, 10-11], which provides research space for the systematic examination of semantic type acquisition of double object constructions from the perspective of cross language or cross dialect in this paper.

This study conducted a comparative analysis of the acquisition of semantic types of double object constructions in Mandarin, Cantonese, and English based on children’s output corpus, attempting to examine whether children prioritize the acquisition of semantic types that are commonly present in the language and acquire semantic types that are not shared by all languages later in the process of acquiring semantic types, to explore the relationship between children’s language acquisition characteristics and language intrinsic structural features.

## 2. Overview of semantic type acquisition of double object constructions in Mandarin, Cantonese, and English

We mainly use corpus research methods to conduct this study. The corpora of children whose mother tongue is Mandarin, Cantonese, and English are respectively from the Capital Normal University Mandarin Children’s Language Dynamic Development Corpus (CNU-MCLDDC), Hong Kong Cantonese Child Language Corpus (CANCORP), and CHILDES Corpus [12]. Among the three languages, Cantonese has the fewest semantic types with double object constructions, mainly including types of giving, communication, and obtaining. The semantic types of English are the most diverse, including not only giving, communication, and obtaining, but also naming, ballistic motion, sending, future having, accompanied motion in a direction, communication tool, creation, refusal and denial. The number of semantic types in Mandarin is between that of English and Cantonese, mainly including giving, communication, obtaining, naming, ballistic motion, sending, and future having. The output of semantic types in Mandarin, Cantonese, and English is shown in **Table 1**.

**Table 1.** Output data on semantic types of children whose native languages are Mandarin, Cantonese, and English (Left: Mean time (in months)/right: token)

Semantic types/Language	Mandarin	Cantonese	English
Giving	23 / 364	31.58 / 35	24.25 / 274
Communication	28 / 66	33.125 / 11	26.8 / 140
Obtaining	40 / 3	35.5 / 5	27.6 / 58
Naming	34.5 / 45		26 / 55
Creation			32.6 / 23
Accompanied motion in a direction			28.3 / 15
Sending			38 / 2

**Table 1** shows that as of the end of the corpus statistics time, Mandarin children have not yet acquired semantic types such as ballistic motion, sending, and future having, and English children have not acquired semantic types such as ballistic motion, future having, communication tools, creation, refusal and denial. Based on the mean time of output and the total amount of tokens, the study can draw the following conclusion. Mandarin children mainly follow the following acquisition path in acquiring the semantic types of double object constructions: giving→communication→naming→obtaining→ballistic motion, sending, and future having; Cantonese children mainly obey the following acquisition path: giving→communication→obtaining; the acquisition path of English children is: giving→communication→obtaining, naming→accompanied motion in a direction, creation→sending→ballistic motion, future having, communication tool, refusal and denial.

The semantic types of giving, communication, obtaining, and naming are commonly acquired earlier by children in Mandarin, Cantonese, and English. The study refers to these four early acquired semantic types as Class A. The semantic types that children acquired later, such as creation, accompanied motion in a direction, sending, ballistic motion, future having, communication tool, refusal and denial, are called Class B. Class A is commonly shared among Mandarin, Cantonese, and English, while Class B is a semantic type with more linguistic features and is not universally present among these three languages. In summary, semantic types that are widely distributed in Mandarin, Cantonese, and English are generally acquired earlier.

### **3. The relationship between the acquisition characteristics of semantic types and the quantitative distribution characteristics of semantic types in world languages**

#### **3.1. Cross linguistic distribution of semantic types**

As mentioned above, types of giving, communication, and obtaining are the most widely distributed semantic types in Mandarin, Cantonese, and English, and naming is also relatively widespread. In fact, the distribution of these semantic types is also universal within the scope of world languages. Malchukov et al. conducted a cross linguistic comparative analysis of the semantic types of double object constructions and found that in languages with fewer semantic types of double object constructions, there are mainly several semantic types including giving, communication, obtaining, and naming, such as Yaqui, Diyari, Ewe, Mapudungun, Tukang Besi, Jaminjung, Thai, Tima, and Teiwa<sup>[13]</sup>. Logically speaking, the semantic types that exist in languages with a very small number of semantic types are usually also present in languages with a large number of semantic types, meaning that this semantic type has a wide distribution range in the language. Thus, we can infer that the types of giving, communication, obtaining, and naming are widely distributed in languages worldwide, reflecting the common characteristics of language. Especially, the giving class is the most widely distributed among all semantic types. The distribution of semantic types such as sending, ballistic motion, and creation reflects more linguistic personality, with less distribution in language. Based on the above analysis, we believe that the distribution pattern of double object semantic types in Mandarin, Cantonese, and English is consistent with the quantitative distribution of semantic types in world languages.

#### **3.2. The parallel relationship between the acquisition characteristics of semantic types and the quantitative distribution characteristics of semantic types in world languages**

The study divides Class A into two parts: A1 and A2. Class A1 is types of giving which is the most widely distributed in language, while Class A2 includes types of communication, obtaining, and naming with relatively less language distribution. The quantitative distribution of Class A1, A2, and B in world languages and the

temporal sequence of children's language acquisition exhibit the following implicit bias relationship: a.  $B \supset A$ ; b.  $A2 \supset A1$ .

In terms of the quantitative distribution characteristics of semantic types, the language distribution of semantic types located at the left end of the implication relationship level sequence implies the distribution of semantic types located at the right end. That is to say, in a, when a language has class B, it usually also has class A; In b, when a language has class A2, it usually also has class A1. In terms of the characteristics of children's language acquisition, the acquisition of semantic types on the left implies the acquisition of semantic types on the right. Once children acquire the semantic types on the left side, they usually also have acquired the semantic types on the right side. Once children acquire Class B, they usually also have acquired Class A; Similarly, children who have acquired Class A2 typically have also acquired Class A1. Therefore, we hold the view that the acquisition characteristics of the semantic types of double object constructions exhibited by Mandarin, Cantonese, and English children have a parallel and consistent relationship with the quantitative distribution characteristics of semantic types in world languages. That is, semantic types that are widely distributed and reflect common language characteristics are usually acquired earlier by children; the semantic types that are limited in language distribution and reflect individual differences in language characteristics are usually acquired later.

The above parallel relationship pattern is consistent with the research conclusion of Jakobson and MacMahon, which found that children first acquire sounds that are common to all human languages, followed by sounds unique to their native language<sup>[14]</sup>. For example, "children always master plosives first and then fricatives, which is closely related to the pattern of phonetic types, that is, there is no language without plosives in the world, but there are languages without fricatives"<sup>[15]</sup>. The above viewpoint can be summarized as that language acquisition characteristics are closely related to the inherent structural features of the language. The study on the acquisition of semantic types in this article also found that the chronological order in which children master the semantic types of double object constructions is not accidental. It has a parallel relationship with the quantitative distribution characteristics of semantic types in world languages and is closely related to the quantitative distribution rules of semantic types determined by the inherent structural features of language.

## 4. Conclusion

This study mainly uses corpus research methods to study the semantic types of double object constructions, supported by acquisitional data of Mandarin, Cantonese, and English children, in an attempt to explore the relationship between children's language acquisition characteristics and the intrinsic structural features of language. We found that the chronological order in which children acquire the semantic types of double object constructions is not accidental. It has a parallel relationship with the quantitative distribution characteristics of semantic types in world languages, and it is also closely related to the quantitative distribution rules of semantic types determined by the inherent structural features of language.

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## Disclosure statement

The author declares no conflict of interest.

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