

5th icCSBs 2017
**The Annual International Conference on Cognitive-Social,
and Behavioural Sciences**

HOW DO CHILDREN LABEL THE WORLD WITH WORDS?

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Abstract

The way young children label the world with words may be different from the way adults use words to segment the world into objects. How does the language children learn in infancy influence the way they see the world; what is the difference in labeling the world by children and adults? We are to bring evidence of special usage of the language children hear in everyday communication to express the way they perceive the world. Surrounding language thesaurus is crucial in segmenting speech into recognizable units and in using these units to label the world. The main method of research is a case study which includes general linguistic analysis of a child's utterances, speech situation analysis, cognitive methods, and thesaurus analysis. We found out that children may recognize separate words in adults' speech and connect them with proper items of the world; children may recognize words or word combinations and use them in speech without having knowledge about the proper item of the world; using recognizable speech fragments children may compose their own labels and specify world items unknown to adults. The way children label the world depends on their language experience and active thesaurus. Adults' language experience is formed by everyday practice of stereotype expressions which segment the world into stereotype units. Children are not used to stereotypes because of lack of experience. This makes possible for children to use fragments of speech to identify world items unnoticeable by adults.

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Keywords: Language acquisition, L1 acquisition, infant speech development, thesaurus.



1. Introduction

There are several linguistic conceptions describing how infants acquire language and use words in their communication. In Russian linguistics, the dominant conception is the “speech activity” approach. This conception was developed by L. S. Vygotsky, A. A. Leontyev and their disciples in the early and mid 1900s. According to speech activity approach, a child acquires language in the process of social communication with adults. Language learning is described as a purposeful process during which infants are acquiring skills to react on adults’ questions or other stimuli properly. A child tries to model adults’ speech behaviour and adults correct a child’s utterances if necessary (Vygotsky, 1999; Leontyev, 1969).

Speech activity conception in a way overlaps with the behavioural approach in American psychology but it pays more attention to inner mental structures – the interconnection of thinking and speaking and internationalization, or assimilation of other people thoughts, words and attitudes into one’s own. From L. Vygotsky’s point of view, self-talk (or “private” speech) is crucial in speech and thinking development because even thinking and talking to themselves children apply a kind of communication process. But as P. Feigenbaum says: “Unfortunately, few psychologists or other professionals familiar with Vygotsky’s theory of psychological development fully appreciate the significance of private speech to his theory” (Feigenbaum, 2002, p. 161).

Social interaction is given considerable attention in rather a new theory – “the usage-based theory” by M. Tomasello – too. The scientist argues that children acquire words and learn language structures through language usage specifying the role of frequency in language acquisition (Tomasello, 2001; 2003).

The listed theories are quite contrary to generative linguistics which originated in N. Chomsky’s works (Chomsky, 1972; 1978) and now has many supporters all over the world. Generative studies have many variations but all of them share “assumptions about universal grammar as a guide to acquisition, about the formal nature of syntax and of the child’s biological preparedness for learning” (Villiers and Roeper, 2011, p.1).

It is better to leave the argument about universal grammar or children’s inborn language abilities to other studies. The more important thing is that studying lexical and grammar acquisition scientists pay much attention to understanding how children recognise, react on and try to use language structures in speech but they do not discuss how different the world may seem to infants before they acquire words. Scientists intensively discuss the connection between grammar structures and logical thinking. Wrong grammar structures or inappropriate word usage in infant speech are considered as mistakes caused by lack of language experience – nobody suspects an idea that children may use inappropriate words or grammar forms not only because they do not know the right words and forms, but because they see the world in different way before they start dividing (or segmenting) it into familiar to adults items by labelling them with words. This means that learning words and grammar forms infants are probably adjusting their original picture of the world to more correlating to adults’ picture. And, what is more interesting, by learning new words and word combinations children are probably forgetting the original idea of the world and never remember it after that.

In this paper there will be given evidences that make us think that language acquisition process may be seen as trying words or grammar forms children recognize in adults’ speech on different items or phenomena they perceive and want to specify. Sometimes these items do not match with the expected by adults. We develop these ideas within the thesaurus approach to which such key concepts as social communication and frequency are very important.

2. Problem Statement

The idea under discussion somehow overlaps with language relativity theory (Worf, 1939) because it is more obvious in communication with foreigners that they may connect the world with words in a

different way than we do – they may specify different items and consider them important enough to be named by a particular word while we may ignore these items at all.

In the process of language acquisition, the ability to segment speech into repeatable sound units which make words helps realize the world consists of segments, too, and helps understand that each segment of speech must refer to a particular segment of the world, both material and mental. We are not going to discuss the correlation between inner or outer worlds or the process of speech segmenting (for the latter see (Johnson, 2014; Jusczyk, 1999)). At the same time, the result of such segmentation may not necessarily be identical to what is understood by the meaning of the word, or word concept. Children may play with words to show that they have identified these words as words and as particular segments of the world, too. That is, for children, the language is the same part of the world as other items, not merely a mean of communication. The crucial idea is that for labeling the world infants use the words they frequently hear in every day communication with adults. These words compose the first language thesaurus, or system of words and system of knowledge at the same time. Of course, this is only one out of many aspects of language acquisition problem but the one that needs scientific attention.

3. Research Questions

The main questions are: how does the language children learn in infancy influence the way they see the world; what is the difference in labeling the world by children and adults? The first question refers to the idea that language influences the way we structure the world. Of course, children see the world the same way as adults do because they have the same organs of perception but how do children understand where one phenomenon of the world stops and another starts? How do they draw borders between world objects, especially between imagining world objects which they can not actually see but may think of? A psychologist would put it this way: how do children identify what ‘the figure’ is and what ‘the background’ is?

The second question asks how children use the words to name things that they realize as world items that deserve to be named with words. Is the word meaning more important than outer sound sign in this case?

4. Purpose of the Study

The purpose of the paper is to provide evidences of special usage of the language children hear in everyday communication to express the way they perceive the world. By ‘special usage’ we mean such children utterances which surprise adults in this or that way – the utterances with inappropriate words or wrong grammar structures. We will try to look at these utterances not as language misuseage that needs correction but as language product created for special purpose or due to special reason.

5. Research Methods

The main method of the study is a case method where the case is a particular baby – my daughter, K., 4. The case method is widely used in L2 acquisition studies. Describing the case study method in L2 acquisition researches, P. Duff says: “The case in such studies generally has been a person (e.g., a teacher, learner, speaker, writer, or interlocutor) or a small number of individuals on their own or in a group (e.g., a family, a class, a work team, or a community of practice)” (Duff, 2014, p. 233). Since L1 and L2 acquisition processes have the same psychological basis (see (Belyanin, 2003, p. 84) for references), it is quite possible to use the case method for L1 acquisition research.

In this study, the case research is based on general linguistics analysis of a child’s utterances, including phonetic analysis, grammar structure analysis, word usage and word meaning analysis,

conceptual analysis, and cognitive modelling. Besides, there is communication situation analysis which includes detailed description of a situation in which a baby produces an utterance as well as investigations into past situations which had happened before the analyzed utterance and could influence the word choice or word forms in this utterance. Research techniques are observation, speech analysis, scientific reflexion and introspection; the main technique is keeping a scientific diary.

I have kept a scientific diary of my daughter's speech expression since she was at the age of 6 months. Now she is 4 years and 6 months. Of course, I was not able to write down and analyze her every expression but those which I considered interesting in this or that respect I described in the diary together with the situations in which the utterances were produced. Today the diary contains over 500 descriptions of speech communication situations with my linguistic commentaries and explanations. Besides, there 72 pieces of video in which K. talks to me or produces her "private" speech.

Keeping a diary is a very effective way to observe language acquisition progress in every small detail during a long period of time. Some may argue that watching one child's speech behavior is not enough to make any general conclusion giving priority to widely spread experimental methods. But, predominant experimental method aimed at considering many subjects' results may not be effective enough in capturing all the details of the long and very complicated process of language acquisition. In fact, every child can be seen as a representative of the whole class of children; and if there any universal mechanisms of infants' language acquisition process, they must appear in every particular child's speech.

6. Findings

There always can be found some "pros" as well as some "cons" to the question whether language influences the way people perceive the world. It means that it may influence but to a certain extent. That's why it is more important not to give general answers, like 'Yes, it does influence' or 'No, it does not' but to find out in which particular way language can influence our perception of the world.

Our study shows that in the process of language acquisition the language may influence the way children segment the world into items because it is necessary to understand to which exactly part of the world the word refers to. Segmentation goes from the general to the special. Children learn to extract words out of adults' speech (or even out of speech situation) and realize them as parts of the world necessary for communication. The key for extraction is frequency of particular sound groups.

6.1. Meaningful word and material word.

Do children always understand the meaning of the extracted sound groups? There are no such evidences. If the first step in understanding language is realizing that frequently repeated sound groups are not occasional and random, then the first meaning of the word is 'the Word' – the item of the world as it is without reference to any other item, like denotation or concept.

Understanding words as meaningful items may go in quite opposite directions depending on the activity of the child. When a child perceives what adults say trying to explain words meanings to a child, a child gets the connection between a particular word and a particular denotation because parents usually show a particular object of reality when they introduce first words: 'This is a table', 'This is a clock'. At the age of 10-12 months a child is able to react on the questions 'Where is the table?', 'Where is the clock?' by looking at these things. When children produce sounds themselves (the opposite process), especially when a child manages to pronounce certain sound groups more frequently than the others, it is parents' turn to connect these sound groups to a particular meaning. In this case, the meaning of the word will not necessarily be a denotation because nothing can be shown to a child. At the same time, it will not necessarily be a concept – it can be merely a relation to another sound group produced by an adult.

The first words my daughter started reacting to were ‘часы’ (‘a clock’) and ‘стол’ (‘a table’). The first words she pronounces herself were not actually words but sound groups imitating animals’ sounds. For instance, she learned to articulate [errr] and every time she said [errr] I reacted like this: ‘A bear! K. growls as a bear!’ (in Russian, [errr] is associated with bear’s growling). Then I asked her every day: ‘How does a bear growl?’ and she reacted with [errr]. She had never seen the bear before but was able to develop this simple communication act. Later, we learned the connection between certain Russian sounds or 2-sound combinations with names of other animals. K. was able to react on such questions as ‘How does a goose cry?’ or ‘How does a hedgehog puffs?’ though she had not seen these animals, too. Sound groups she pronounced were not words, of course. But these were the first stages of her communication which taught her to articulate properly and made her able to articulate such words as ‘мама’ (‘mummy’) and ‘папа’ (‘daddy’) later.

I observed the same with my elder son, I was told by other mothers that they had noticed the same, and such situations are described by other researches into language acquisition, for instance (Eliseeva, 2008). This means that the processes of speech understanding and speech production are completely different at the beginning stages. The process of speech understanding involves dealing with word meaning (denotation) while the process of speech production involves dealing with other words (what a mother says) and in this respect the material word is more important than the meaning.

That is why children may sometimes produce speech expressions with the words which meaning little infants can not understand at such an early age. For example, at the age of 2 years and 4 months K. could say such expressions as ‘Обожаю науку!’ (‘I adore science!’) or ‘Это сенсация!’ (‘It’s a sensation!’). She could not quite understand the words ‘adore’, ‘science’ or ‘sensation’ at that age since nobody had explained them to her. She learned both phrases from cartoons and pronounced them the way we pronounce words of a foreign song written in the language we do not know.

As many other children, K. could pronounce foreign phrases without segmenting them into words properly or with proper segmentation but without proper understanding of each word meaning. As most other babies at the age of 1 year and 3 months she could tell all the numbers from 1 to 10 without understanding the meaning of each number. Children confuse colours not because they do not distinguish them well but because despite there has been “a long tradition holding that conceptual-intentional systems are an intrinsic part of language in a narrow sense” (Hauser, Chomsky, and Fitch, 2002, p. 1571) for little children meaning is not an intrinsic part of the word yet. The material word, its sound essence and articulation have a significant value at the beginning stage of language acquisition.

6.2. Creating new labels and grammar structures.

What do the observations described above tell us about the way children perceive the world? The preliminary answer is: trying to understand adults’ speech infants have to follow them and segment the world the way adults tell – that is as the language imposes; trying to produce their own pieces of speech they don’t feel restrictions imposed by the language yet. That is why in the process of understanding infants label the world with words the way adults do and in the process of speech production children may invent their own labels and by doing this they show that the world may be segmented differently.

For instance, K. once saw as I peeled a sausage and asked ‘Я теперь могу есть бок колбаски?’ (‘Can I eat the side of the sausage now?’). There is no such a notion as ‘a side of a sausage’. Other time, I was calling on the phone and she asked ‘Когда ты дозвонишь?’ (‘When will you stopcall?’) The word ‘дозвонишь’ she invented herself using two parts: the prefix ‘до’ meaning ‘stop doing’ in this case and the verb ‘звонить’ (‘to call’). Some other day, I told her ‘Не бегай, поранишься’ (‘Don’t run, you can hurt yourself’) and she replied ‘И я буду поральница?’ (‘Will I be a hurtee then?’). ‘Поральница’ is another K.’s neologism evidently meaning ‘a person who was hurt’ so I translated it as ‘a hurtee’.

There are a lot of works offering examples of children's neologisms and describing infants' potential to invent words. But nobody pays attention to the fact that by learning language adults are losing their ability to think over such fragments of the world which do not have names in the language. Children show us that there are many other things in the world that could be labeled with words and could be introduced into the conceptual system.

Analogical conclusion can be drawn after analyzing grammar mistakes in infants' speech. For instance, in Russian for description of something you did when you were a child you may use two structures: 'Когда я был ребенком...' ('When I was a child I did...') and 'В детстве...' ('In childhood I did...'). It is wrong to say 'Когда я был в детстве...' ('When I was in childhood I did...'), so when my daughter said this phrase I had to correct her. But in fact, if both structures are possible, why can not we combine them into one?

There many examples of grammar misuse in infants speech presented in my diary which I can not translate into English properly because there is no the same system of words endings as in Russian. The fact is that Russian infants do not feel the system of Russian endings the same way as foreigners do. Of course, this is a reason to suppose that the processes of L1 and L2 acquisition have much in common as I said before referring to Belyanin's work. But this also may indicate that some logical relations presented in grammar forms are not clear before we start using a language. Probably, such logical relations are very variable and optional, much dependent on the language, and not always necessary for understanding the world.

For example, there are countable and uncountable nouns in English and Russian but some nouns which are countable in Russian are uncountable in English such as 'фрукт(sing.)/фрукты(pl.)' and 'fruit', 'совет(sing.)/советы(pl.)' and 'advice', 'новость(sing.)/новости(pl.)' and 'news' and vice versa. Russian babies misuse countable and uncountable nouns the way foreigners do. For example, my baby said ones 'Света потухли' ('The lights went out') but the word 'свет' ('light') is uncountable in Russian and we do not use it in plural form. Does this mean that at that moment my baby saw the light the same way as English-speaking people?

6.3. Thesaurus approach.

According to the theory of thesaurus which is presented in my Ph.D. thesis language thesaurus has fundamental influence on the way people perceive the world. Thesaurus is traditionally understood as the system of words and logical relations between them. I understand thesaurus as the system of words and collocational relations between them. I support the idea expressed by scientists in different branches of linguistics that in language communication we apparently use not separate words and grammar models but set collocations of words and certain combinations of such collocations. Grammar rules are extracted from such language usage and become understandable only as the result of such extraction (Osokina, 2014).

This means that to be able to speak in the language properly knowing grammar models is not enough because it can bring you to producing wrong phrases as those described above. When children or foreigners use proper words and proper grammar structures, they anyway may produce an incorrect sentence because not all words are suitable to all grammar structures. Some words are suitable to some particular grammar structures and some other words are suitable to other grammar structures. That is why it is very important to learn set collocations of words.

In language acquisition, children are learning not merely words but particular usage of words in set collocations. When adults correct infants' speech they teach infants stereotype usage of words. It is not really difficult for children to memorize so many set expressions. As the given examples show,

children may easily memorize words and word combinations even without knowing the meaning of all words.

Language acquisition goes on through accumulating stereotype collocations of words and developing the thesaurus system. By doing so, children are approximating the way they label the world with words to stereotypical adults' expressions based on set collocations of words.

7. Conclusion

The results of the study can be summarised in several theses. Children may recognize separate words in adults' speech and connect them with proper items of the world. Children may recognize words or word combinations and use them in speech without having knowledge about the proper item of the world. Using recognizable speech fragments children may compose their own label and specify a world item unknown to adults. The way children label the world depends on their language experience and active thesaurus. Adults' language experience is formed by everyday practice of stereotype expressions which segment the world into stereotype units. Children are not used to stereotypes because of lack of experience. This makes possible for children to use fragments of speech to identify world items unnoticeable by adults. But as language acquisition goes on in language communication with adults, infants use more stereotype set expressions and reduce their ability to invent new labels and to structure the world independently from language.

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