

The Usage-based Theory of Language Acquisition: A review of Major Issues

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Abstract

The present study is a review of the usage based theory of language acquisition introduced by Tomasello (2003). Based on this theory structure emerges from use. Among semantic, syntax, and pragmatics, the usage based theory emphasizes the primary role of pragmatics in human communication. At the first sight it may look contrary to the nativism. However, it can be said that this theory also believes in some universality of linguistic structures similar to the concept of universal grammar in nativism but, in a different way.

Keywords: Second language acquisition, Usage-based Theory, Tomasello, language development

INTRODUCTION

The usage-based theory of language acquisition was introduced by Tomasello (2003). According to this theory language structure emerges from language use, and children build their language relying on their general cognitive skills. These skills help children to identify the intentions of adult speakers as well as the distributional patterns of the language. After establishing and entrenching patterns, young children generalize those patterns to form abstract linguistic categories specific to their language. According to Bavin (2009), naturalistic and experimental evidence supports the usage based approach to language development. Although this theory seems to be opposed to the nativists' ideas, it is claimed that language acquisition is "done with general cognitive processes, and universals of linguistic structure derive from the fact that people everywhere have the same set of general cognitive processes" (Bavin, 2009, pp. 85). According to Tomasello (2003) four specific sets of processes account for how children construct a language: Intention-Reading and Cultural Learning; Schematization and Analogy; Entrenchment and Pre-emption; and Functionally Based Distributional Analysis.

Main principles and theoretical basis

The usage-based approach to linguistic communication may be summarized in the two principles: meaning is use and structure emerges from use. The first principle represents an approach to the functional or semantic dimension of linguistic communication. In this approach we should focus on how people use linguistic conventions to achieve social ends. The second principle represents an approach to the structural or grammatical dimension of linguistic communication that focus on how meaning-based grammatical constructions emerge from individual acts of language use.

Tomasello (2003), combining the two approaches above, proposed a usage-based theory of language acquisition. He stated that children acquire language equipped with two sets of cognitive skills: intention-reading, and pattern-finding. 'Intention-reading' is what children must do to determine the goals or intentions of mature speakers when they use linguistic conventions to achieve social ends, and thereby to learn these conventions from them culturally, in accordance with the functional approach mentioned above. 'Pattern-finding' is what children must do in order to extract abstract linguistic schemas or constructions from the individual utterances, in accordance with the grammatical approach mentioned above. Therefore, this theory has two main dimensions: functional and grammatical.

Experimental evidence supporting this theory

According to the usage-based learning approach children use only general cognitive mechanisms to learn argument structure on the basis of generalizations from the input (Tomasello, 2000). This approach has its foundations in studies of spontaneous speech. Tomasello's (1992) detailed analysis of one child's speech before age 2 showed that each verb seemed to be an 'island' with its own argument structure (e.g. eater for the verb eat and runner for the verb run), a pattern later confirmed in data from several other children (Lieven et al., 1997; McClure et al., 2006). Tomasello(2003) hypothesized that these first verb specific argument structures are gradually generalized by the child to more abstract categories such as Agent, Subject and intransitive verb, eventually leading to verb-general representations of argument structure only after age 3;0. Children's overgeneralization errors are also rare before age 3, suggesting that they have not yet formed initial generalizations (Bowerman, 1982a; Pinker, 1989). Finally, the strong effect of input frequency on the emergence of productivity of argument structures in children is consistent with a usage-based view. More powerful evidence for the usage-based approach comes from three types of elicited production studies: novel verb generalization, weird word order, and training. Overall, the results of these studies suggest that 2-year-old children restrict their use of a verb to the syntactic frame in which it is learned and do not easily generalize to other frames as would be predicted if they had innate knowledge of categories such as Agent and Subject (Tomasello, 2000).

Notable points

In this theory there are some notable points. First, one must always begin with communicative function. So even in early months of age human infants communicate in some fairly sophisticated ways before they have acquired any productive language, e.g. by pointing. Infants' prelinguistic gestural communication already includes a species-unique ability to communicate about the shared understanding they have with other potential communicative partners in the context of joint attentional frame or common conceptual ground for both imperative and declarative motives— comprising such things as agents, locations, objects, etc. Therefore, prelinguistic communication paves the way for the acquisition of the 'arbitrary' linguistic conventions that infants use, initially, in exactly the same kinds of situations, for exactly the same kinds of communicative motives, as their early gestures.

Second, when we turn to children's early linguistic communication, the most basic unit of linguistic experience, and the one with which children begin, is not the word but the utterance. Like an act of pointing, an utterance is used to both direct a recipient's attention to something referentially and also to express a communicative motive. This is the way children learn words. That is, children try to comprehend utterances and in doing so they attempt to comprehend the overall communicative intention behind the utterance (intention-reading), and determine the communicative function of particular constituents within the utterance (blame assignment). Thus, to learn a new word, children must extract it from a larger utterance and connect it with the relevant aspect of the joint attentional frame they share with the adult.

Third, based on this theory a linguistic construction is prototypically a unit of language that comprises multiple linguistic elements used together for a relatively coherent communicative function, with sub-functions being performed by the elements as well. Consequently, constructions may vary in their complexity depending on the number of elements involved and their interrelations. Constructions also vary in their abstractness, from abstract constructions to various concrete idioms. Children begin, as noted above, by producing holophrases. Their earliest multi-unit utterances soon form schemas or constructions, but ones that are highly concrete, not abstract. From the point of view of linguistic form, the utterance-level constructions underlying children's earliest multi-word utterances come in three types: word combinations, pivot schemas, and item-based constructions.

Beginning at around 18 months of age, many children combine two words or holophrases in situations in which they both are relevant. Beginning at around this same age, however, many of children's multiword productions show a more systematic pattern, one event-word which is used with a wide variety of object labels, producing pivot schemas or constructions. These pivot schemas, not only are organized locally, but even within themselves they do not have syntax. As the third type of children's utterances, item-based constructions go beyond pivot schemas in having syntactic marking as an integral part of the construction. However, the syntactic marking in these item-based constructions is still verb specific, depending on how a child has heard a

particular verb being used. The main point is that unlike in pivot schemas, in item-based constructions children use syntactic symbols such as morphology, positions and word order to syntactically mark the roles participants are playing in these events. But all of this is done on an item specific basis. Early syntactic competence is therefore best characterized as a semi-structured inventory of relatively independent verb-island constructions that pair a scene of experience and an item-based construction, with very few structural relationships among these constructional islands.

Finally, the key theoretical point is that when we conceptualize children's early grammatical competence in terms of constructional patterns conventionally associated with particular semantic content, the acquisition processes needed are not so different from those we need for word learning. The child needs first to see that when the adult produces an utterance that fits a particular linguistic pattern (construction), he or she intends a particular kind of meaning. To see similarities among different utterances, young children need skills of schematization and analogy – skills they also use in other domains of cognitive activity (Gentner & Markman, 1997).

Common objections

Like any other theory, there were some common objections to this usage based approach to child language acquisition. The three most common objections are: (1) it cannot deal with more complex constructions, especially those involving two verbs and syntactic embedding; (2) it cannot specify how the generalization/abstraction process is to be constrained, and (3) it does not deal with the so-called 'poverty of the stimulus'.

Complex constructions

Many theorists believe that this usage based approach does not work for syntactically complex constructions. Recent research has found, however, that complex constructions may not be so different if children's actual productions are looked at carefully (Diessel, 2004). For example, among the more complex constructions in English are sentential complement constructions. In an experiment by Diessel and Tomasello (2001), it was found out that virtually all of young English-speaking children's earliest utterances with sentential complements were composed of a simple sentence schema that the child had already mastered combined with one of a delimited set of fixed phrases containing a complement-taking matrix verb. A second example is relative clauses. Again, when examined closely, even this very complex construction is firmly based in a set of simpler constructions, which children have mastered as item-based constructions some time before relative clauses are first acquired and produced. Finally are questions. A particularly interesting phenomenon is so-called inversion errors. English-speaking children sometimes do not invert the subject and auxiliary in *wh*-questions that leads to errors such as 'Why they can't go?' In this case studies showed: young children do not seem to have an overall rule for forming questions, or even *wh*-questions, but rather they have a collection of more item-based schemas that presumably will become a set of more coherent and abstract constructions later in ontogeny.

Constraining constructions

In response to the second objection against this theory (how the generalization/abstraction process is to be constrained) three solutions have been put forward. First, Pinker (1989) proposed that there are certain very specific and (mostly) semantic constraints that apply to particular English constructions and to the verbs that may or may not be conventionally used in them. Second, it has also been proposed that the more frequently children hear a verb used in a particular construction (the more firmly its usage is entrenched), the less likely they will be to extend that verb to any novel construction with which they have not heard it used. And third, if children hear a verb used in a linguistic construction that serves the same communicative function as some possible generalization, they may infer that the generalization is not conventional – the heard construction pre-empts the generalization. Two experimental studies provide evidence that indeed all three of these constraining processes – entrenchment, pre-emption and knowledge of semantic subclasses of verbs – are at work. These studies indicated that: just as verb–argument constructions become more abstract only gradually, so also are they constrained only gradually.

Poverty of the stimulus

Finally, the most serious criticism against this approach was based on the poverty of the stimulus. But, as Tomasello (2003) argues, there is no poverty of the stimulus if linguistic competence is regarded as a structured inventory of meaningful grammatical constructions, with the child possessing sophisticated learning skills involving categorization, analogy and distributional learning. There is certainly no poverty of the stimulus when it comes to the particular constructions children learn. And, importantly, the acquisition of these constructions is determined in large measure by the frequency (cue availability) and consistency (cue reliability) with which children hear them – along with their complexity (cue cost) of course (Lieven & Tomasello, 2008). The poverty of the stimulus problem only arises in very abstract arguments against approaches that recognized no kind of structure dependency within utterances. So, as children acquire some notion of meaning or function, then they understand structure of sentences to the extent needed to form standard adult like sentences.

CONCLUSION

At the end as it is stated by Bavin (2009, pp. 85): “It is notable that: modern usage-based theorists are not behaviorists who believe the child works with unstructured linear strings, but rather they are cognitivists who believe in structure – just not of the purely formal kind.” The usage-based theory of language acquisition makes the fundamental claim that language structure emerges from language use. This applies at the level of individual words, as their communicative function derives from their use, as well as at the level of grammar, as structure emerges from patterns of use of multi-unit utterances.

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