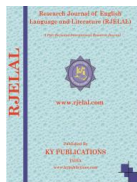**RESEARCH ARTICLE**

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Acquisition of Nouns and Relational Categories
Among Young ESL Learners in India

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Abstract

First language studies on early vocabulary acquisition have shown a stage of 'noun advantage' in child vocabulary around one year of age. Gentner (1982) in her 'natural partitions hypothesis' had argued that nouns are acquired early because the referents for these concepts or percepts are readily available in the environment. In a later hypothesis of Division of Dominance, Gentner and Boroditsky (2001) proposed a distinction between the acquisition of open and closed classes in terms of their concept-to-word mapping. Cognitive dominance prevails when concepts are simply named by language as in the case of nouns. Linguistic dominance prevails when the clustering of perceptual bits is not pre-ordained and is determined by language as in the case of verbs. This cross-sectional study shows a noun advantage in second language acquisition in an instructional setting, grade one of a Kendriya Vidyalaya in Unnao, Uttar Pradesh, India. The explanation offered for this noun advantage is linguistic rather than cognitive, in accordance with the relational relativity corollary of Gentner and Boroditsky (2001).

…[T]he temporal priority of noun learning over verb learning...is apparently robust both to architectural distinctions between languages and to input differences that are correlated with linguistic distinctions
…Snedeker and Gleitman. 2004: 259

The Noun Advantage

This is a study on early vocabulary acquisition in an instructed Second Language Acquisition (SLA) situation. The perspective it takes on second language vocabulary acquisition is drawn from a well-known phenomenon in first language acquisition, the *noun advantage*. The claim of the universality of a noun advantage in first language leads us to the question which constitutes the focus of this paper: Is there a noun advantage in the early vocabularies of children learning the second language as well? Our experience leads us to believe that there may be a noun advantage in second language instructional situations that closely resembles the first language phenomenon. The second language under study is English. Data from the first language (Hindi) of the same population are elicited for comparison and contrast with the second language data. This paper documents the phenomenon of a noun advantage in the second language, and attempts to explain it within the framework of Gentner (1982) and Gentner and Boroditsky (2001).

To begin with the phenomenon of noun advantage, it has been found that the early vocabulary of children consist primarily of nouns.

The first words uttered the infants are names of concrete physical entities: names of people, places, animals or vehicles, food items and so on. This phenomenon is referred to as noun advantage or *noun dominance*. The idea that nouns are the dominant lexical category at the early stages of language development has its roots in the early studies under the impact of the generative paradigm on the phenomenon of the naming explosion or vocabulary spurt. These are terms used to describe a sudden increase in the rate of word learning between the ages of 1;0 to 2;0; in particular, we have a rapid increase in the productive vocabulary of children at around the age of one. It has been observed in all the studies of the vocabulary spurt that the first 50 to 100 words produced by infants seem to consist of nouns (Nelson, 1973; Goldin-Meadow, Seligman and Gelmen, 1976; McShane, 1980; Goldfield and Reznick, 1990; Bates et al, 1994).

Nouns and Verbs in Second Language

Our study presents further evidence for the noun advantage. It is set in an instructed second language context with a population of 9 to 10 year old children who have been taught English for four years. Such contexts are normally considered to be input deficient. Moreover, they are also situations of conscious language teaching and it is an open question whether conscious language acquisition takes place in this context. Evidence from such a context for the noun advantage in spontaneous speech samples would be a very interesting corroboration of the hypothesis of the division of dominance.

In this section we summarize results from some of the earlier second language studies that show effects of word category on second language acquisition. As early as 1969 (before the generative paradigm), T. S. Rodgers conducted an experiment with a task requiring learning of a vocabulary list in Russian and recalling the translations of words in English. He found that in the recall test, the best learned words consisted of nouns, adjectives and prepositions. The first experiment in the study with second language learners of Russian involved hearing a Russian word on tape followed by the English translation after a gap of five minutes. The subject was expected to write the English equivalent upon hearing the Russian word. Concrete nouns showed the highest percentage of recall (84%) followed by verbs (59%), adjectives (57%) and abstract nouns (34%). This was followed by another experiment set up to compare the most learned pair of words. This experiment showed that the most learned pair included nouns, adjectives, and adverbs.

In a longitudinal study with second language learners of English (whose first language was Japanese) lasting for seven months, M. Yoshida (1978) found that nominals ranked the highest among the words acquired over a period of seven months. The categories of nominals learnt (in descending order) were: Food, Animals, Vehicles and Outdoor objects. Recall that 'food' and 'animals' are universally acquired early in the first language as well.

In another experiment involving learning of written German words by English-speaking adults, Ellis and Beaton (1995) found that nouns were easier to recall than verbs and imageability of the concept was an important factor in determining learnability. (Imageability of a word refers to the degree to which a word arouses a mental image.)

In a study which resembles ours in terms of the instructional second language context and the exposure to English received at school, conducted in India with 5 to 6 year old Telugu-speaking second language learners of English, Jangid (2004) demonstrated clear gains in speaking, reading, and writing abilities along with gains in second language vocabulary as an effect of a reading programme implemented at a private school. The development of speaking captured in this study showed a noun advantage in the group of 35 children who were divided into groups of six. At all the four trials in this study, nouns were the dominant category in the vocabularies of the entire group showing the maximum rise across the period of ten months as compared to other categories studied–verbs,

determiners, auxiliaries, conjunctions, pronouns, prepositions, and adjectives.

In another study significant for us, R. Dietrich (1990) found, " At the very beginning, the adult learner, like the child, picks up more referential items than predicative ones."   Dietrich draws attention to the fact that most "crucial and important parts of the lexical material" for adult second language learners seem to be nouns. Dietrich (1990: 19) studying adults, two Italian (Angelina and Tino), and one Turkish learner of German (Ilhami) as a second language, had shown that "the adult learner, like the child, picks up more referential items than predicative ones". The study was conducted over a period of 2 ½ years over three different trials at the intervals of 7 to ten months of the same task asking the informants to narrate the events seen in a silent movie clip. Two out of three informants showed a strong presence of nouns in the first trial (Angelina: 40.7 % nouns and 18.5% verbs; Ilhami: 34.3% nouns and 17.1% verbs). Tino showed equal percentages of nouns and verbs: 28.6%. Over the two trials, it was found that Angelina showed a growth from 40.7 % nouns to 45.5% nouns. Development of nouns showed a uniform steady growth for all the three informants ranging between 33.3% and 37.5%. It was observed that better learners showed a higher increase of the verbal lexicon. The child who showed maximum growth (94.2%) also showed best growth in terms of the verbal category. It is interesting to note that "[T]he nominal category seems to be independent of the general development..." (Dietrich, 1990: 18).

For first language, Gentner (1982, 2001) had attributed the noun advantage in child vocabularies to greater perceptual salience and stability of concrete objects, while Dietrich (1990) stressed the importance of nominal reference for basic communication from a pragmatic point of view for his adult second language learners.

Since there is no longer the problem of making sense of the perceptual world, no need for simultaneous concept formation along with the semantic learning, one would expect the growth of L2-lexicon to be determined by the communicative needs of the learner, the linguistic parameters of L2, and the structure of the learner's L1 background.

Dietrich, 1990: 15

Dietrich rightly argues that for adult second language learners the cognitive explanation of Gentner (1982) is no longer valid. Our contention is that the factor that he mentions as only one among the three–the linguistic parameters of second language–assumes centrality in the context of Gentner and Boroditsky's (2001) relational relativity hypothesis. Given the relational relativity hypothesis, the differences between first and second language are likely to be magnified for the category of predicates.

Research Tool

First and the foremost, a research tool for the study had to be identified and trialled keeping in view the problem being addressed, before initiating the actual study. Of the four wordless picture storybooks identified for the study two stories were taken up for trailing in the pilot study. The stories consisted of an equal number of pictures—8 pictures. We wanted the spoken data from the two stories to be comparable. The stories were chosen on the basis of their potential to elicit verbs and nouns. The first story was, "A visit to the city market" and the second story was, "The story of a mango". The major differences between the two sets of pictures are:

-Story 1 on a average contains more objects than Story 2

-Story 2 provides a well knit story (about the journey of a mango from the tree to the children) whereas, story 1 is centered around a routine event: shopping.

We conjecture that if the children focus on the story, more than the density of objects in the picture, they would produce more language (more words) for story 2 than story 1. If they focus more on objects, they shall produce more language for story 1.

Hypothesis:

1) The L2 data shall show a noun advantage.

2) The frequency of nouns shall exceed the other categories e.g., predicates like verbs, determiners, prepositions and conjunctions)

3) The number of words produced by each child shall be less for "The story of a mango".

The third hypothesisr anticipated a difference between the language elicited by the two pictures. "The story of a mango" would elicit less language than "A visit to the city market".

Subjects:

For the study we were looking for Hindi-English bilinguals. In a cross-sectional study, 24 students from the first standard of a Central Government School, Kendriya Vidyalaya, situated at Uppal in Hyderabad (Andhra Pradesh) were chosen. Choice of a government school as against other private schools was governed by languages we wanted the study to focus on. Since we were planning to work with Hindi-English bilinguals in Utter Pradesh, for the pilot study we looked for a comparable population. Kendriya Vidyalayas are more likely to have a Hindi speaking population of students in case of our location. The study was conducted in Andhra Pradesh, a state where Telugu is the dominant language. For the second task (described in the next section) therefore, which demanded interaction in Hindi, L2 mother-tongue speakers of Hindi were chosen. The average age of all the students was 5 to 6 years. All of them spoke/understood three languages: English, Hindi, and Telugu. All of them belonged to middle class families.

The students were divided into four groups of six each. Group 1 and group 4 were given Story 1, whereas, groups 2 and 3 were given Story 2. The task was administered in Hindi on groups 1 and 3 and in English on groups 2 and 4. Group 1 and 2 served as the control group for testing the second hypothesisr. (See Table below)

Table 1: Groups of students for study

Group 1	Group 2	Group 3	Group 4

Hindi	English	Hindi	English
Story 1	Story 2	Story 2	Story 1

Task:

The students were shown one of the two wordless storybooks and asked the following questions in one of the two languages-Hindi or English:

English	Hindi
What are they doing ?	kya kar rahe/raha/rahe hain?
What is this?	ye kya hai?
What else?	HA!
And?	aur?
What is happening?	kya ho rahaa hai?

Children were taken to a quiet room in groups of six, made to sit in a group in one corner of the room. While one of them was called for the task and called one at a time for the task, the rest were kept engaged with the help of extra picture books that the researcher carried for the purpose.

When the student was required to speak in Hindi, she was given instructions in Hindi and when they were required to speak in English, they were given instructions in English, to lead them onto the task. The instructions were as follows:

English:

"I am going to record your voice in this tape recorder. I will show you some pictures. You will have to tell me the a story. Fine?" (To ensure whether the child had understood the instructions, she was asked to explain what she understood)

Hindi:

Main aapki awaaz record karoongi is tape recorder me

Main aapko kuch tasveeren dikhaaoongi

Aapko mujhe uske bare me kahaani sunaani hogi

Language Recording:

The students were visited at the school. At each visit some of them were taken to a separate room for recording (in the absence of the teacher). Before administering the task, the researcher talked to them for a while about their family (parents and siblings) and a few other things to make them feel comfortable in talking to the researcher. The task was administered personally by the researcher on each of the students one at a time.

Language Coding:

The English as well as Hindi data was transcribed and analyzed by the researcher herself. Words were counted for each transcript individually. Each word was then assigned to one of the following categories: nouns, verbs, pronouns, auxiliaries, possessives/determiners/numbers, prepositions and others. Compound nouns (verb +noun) were counted as two separate items: one noun and one verb.

The categories of determiners, possessives and numbers were clubbed together. The category named as 'others' included adverbs and all categories other than nouns, verbs, auxiliaries, pronouns, determiners and conjunctions. For the final analysis, only the English data was analyzed in terms of categories. The Hindi data served as a control to be used for comparison.

Results:

On the whole, for story 1 students seem to be producing more nouns than verbs. A comparison of frequencies of nouns versus verbs elicited from the five speakers chosen for analysis yields the following results: (Fig. 1)

FIG 1: NOUNS VS VERBS (ENGLISH-MARKET STORY)
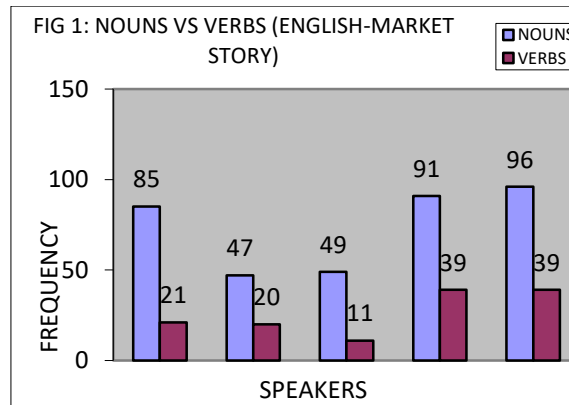
The figure clearly shows a dominance of nouns in the data as compared to verbs. This points towards a significant issue: nouns seem to be dominating early vocabularies of children in a second language setting as well. The most important aspect of the finding is that this data was collected in an instructed setting where the input is argueably inadequate and modified. (We also know that most of the children did not speak English at home). Krashen (1982: 64-65) sums up the characteristics described by Hatch (1979) which he considers may be common to teacher talk, caretaker speech, and foreigner talk. Among the characteristics described by Hatch are:

- Slower rate and clearer articulation

- More use of high frequency vocabulary

- Syntactic simplification and shorter sentences

Therefore, showing a noun dominance for children learning a second language inspite of being exposed to a modified input and also quantitatively less language is a step towards finding evidence for the Gentner's hypothesisr in he context of for second language learning situation.

The data obtained form the second story also falls in with the data from the first story. I the figure below one can see that nouns are the dominant of the two categories here as well.

FIG. 2: NOUNS VS VERBS (ENG-MANGO STORY)
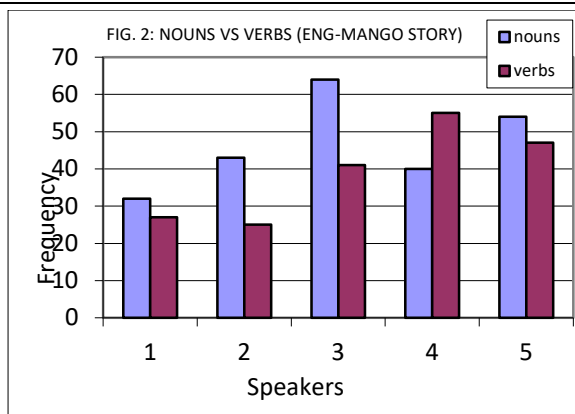
A comparison of various categories produced by all students shows another significant fact vis-à-vis Gentner's (2001) claims. Subjects producing a lot of verbs seem to be producing more number of closed class items as well. Also, students producing more language seem to be the ones producing a wide range of form classes. Speaker 3 (English – Mango Tree) produced 65 words, the least compared to other five students, produces only nouns and a few verbs. All the other categories are missing (except 3 pronouns).

FIG. 3: FREQUENCIES OF CATGORIES PRODUCED BY STUDENT 3 AND 4
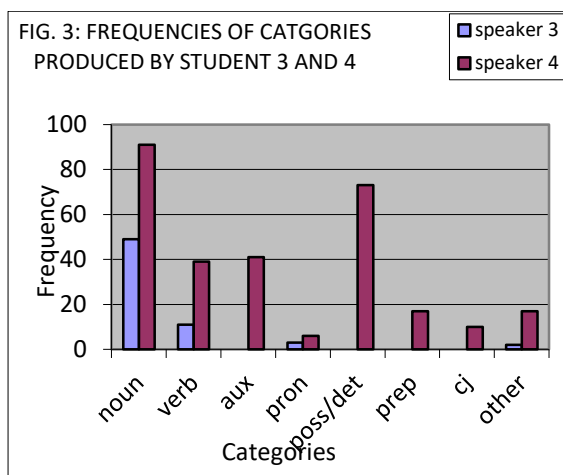
These results based on the raw scores obtained from our pilot study bring us closer to the claim that linguistic dominance holds for close class categories. In her later work, Gentner (2001) had argued that the differences between open and close class items can be viewed in terms of a continuum: verbs and prepositions appearing between nouns and other close-class items like determiners and prepositions. Cognitive dominance holds for nouns because they are easily individuable and *linguistic dominance would hold for conjunctions and determiners, which purely depend on language for individuation.* The data seems to support the linguistic dominance with children producing more words also producing more close class items.

Comparing the data obtained from the Hindi groups roughly with the data obtained from the English groups, it is evident that students are able to produce more language when they speak in their L1. The number of words produced by subjects in L1 vary between 300 to 800 words; whereas, the number of words produced by students in L2 range from 130 to300 words.

A comparison of the data obtained from the two pictures does not show that the story on a visit to the market elicits more language than the story of a Mango Tree as we had expected. This disproves our third hypothesisr. The effect of the stimulus is not evident here. In order to understand it better, we needed to conduct a more refined analysis.

This preliminary round of experimentation showed us that there could be a noun bias in the early vocabularies of L2 learners as predicted by Gentner and acquisition of verbs is indeed accompanied by acquisition of other predicates as well. Broeder et al (1993) have suggested "an increase in the proportion of verbs corresponds to a development in the structuring of learner's utterances." Therefore, the larger number of words would be accompanied by greater variety of form classes (encompassing the close class ones). (Speaker 4 above, fig 3)

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