

COMPREHENSION OF DEFINITE AND INDEFINITE ARTICLES IN CHILDREN WITH SLI

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INTRODUCTION

Recent research on the language of children of SLI shows a marked delay in their acquisition of grammatical morphemes, especially those associated with the verbal system (e.g., Rice and Oetting, 1993; Rice, Wexler and Cleaver, 1996). In English, the nominal system is morphologically poorer than the verbal system, which may account for the discrepancy observed in the two systems of children with SLI. Researchers of SLI in other languages have found that there are deficits in the nominal system as well, for example children with SLI learning German show difficulty using gender agreement and case marking on articles and nouns (e.g., Clahsen, 1989). English articles are not inflected, but children with SLI often omit articles in their spontaneous language productions (Leonard, 1995).

Maratsos (1976) proposed that to distinguish between the definite and indefinite article children must be able to associate the former with specificity and the latter with non-specificity, as well as to overcome egocentrism to determine specificity from the point of view of the listener. Maratsos devised comprehension and production tasks to test how well three- and four-year-olds can differentiate between the two types of articles, and found that even three-year olds can discriminate between the two types of articles. Though children with SLI show difficulty producing articles, there is no data on the acquisition of this distinction in children with SLI.

Some researchers have examined the possibility that children with SLI have difficulty acquiring functional categories (e.g., Leonard, 1995), which are necessary for feature specification associated with grammatical morphemes. Roeper (1995) proposed that the Determiner Phrase (DP, or the nominal functional category) is always specific, while the Noun Phrase (NP, or the nominal lexical category) is non-specific. Therefore a DP/NP distinction is necessary to fully comprehend the definite/indefinite distinction.

This study replicated some of Maratsos' (1976) tasks to determine whether the specific/non-specific distinction is available for children with SLI. Their spontaneous language production was also examined to determine the rate at which articles are omitted and used incorrectly.

The acquisition of articles depends on complex interactions between syntax, semantics, and pragmatics. The study reported here only tested a very narrow contrast between definite and indefinite articles, which is established by contrasting one item that is part of a set with one that was previously mentioned. This task was not intended to provide a thorough description of how

well children with SLI and their peers understand articles. It was simply assumed that a syntactic deficit within the nominal system should cause difficulty in the acquisition of this distinction, but not that such deficit would be the sole cause of this difficulty nor that this would be the only distinction affected.

METHOD

10 subjects participated in each of 3 groups:

SLI

- ages 4;9 to 5;5 (mean = 5;0).
- passed a hearing screening at 25 dB (500, 1K, 2K, 4KHz).
- passed the Articulation subtest of TOLD2-P.
- obtained a non-Verbal IQ score of at least 90 on the Columbia Mental Maturity Scale (CMMS).
- received a z-score of -1.14 or lower on the Syntax Quotient composite of TOLD2-P.
- had no history of neurological, behavioral, or emotional difficulties.

LM

- ages 3;7 to 4;5 (mean = 3;11).
- passed a hearing screening at 25 dB (500, 1K, 2K, 4KHz).
- passed the Articulation subtest of TOLD2-P.
- obtained a non-Verbal IQ score of at least 90 on the (CMMS).
- scored within one standard deviation from the mean on the Syntax Quotient composite of TOLD2-P (if age > 4 years).
- passed school-wide speech-language screening.
- each subject matched to one SLI subject with +/- .2 MLU.

AM

ages 4;7 to 5;7 (mean = 5;2)

each subject matched to one SLI subject by age (+/- 2 mos)

A spontaneous language sample containing at least 140 utterances was obtained from each SLI and LM subject to determine their Mean Length of Utterance in morphemes (MLU), and for analysis of article production.

Maratsos' (1976) tasks were replicated with minor changes in the stories to accommodate objects available to the experimenter. Subjects were given toys to act out the stories as they were told. Each subject listened to 3 stories containing a total of 2 definite articles and 2 indefinite articles. The use of the definite article "the" and the indefinite article "a" was alternated for each child in the underlined positions in the stories below, so that half the children were presented with the sequence, "the, a, the, a" and the other half with the sequence "a, the, a, the."

Story 1. The Table Story: Four dogs, a boy, a plastic table, and 4 plastic chairs were used.

Subjects were instructed to "listen to the story carefully and we will move the toys just as the story says. You move the dogs and chairs and I'll move the boy." The four chairs were set around the plastic table and the dogs were lined up in front of the subject.

"This boy came and sat down in one of the chairs. And just as he sat down, suddenly [a, the] chair fell over. Now one of the dogs jumped onto the table. The boy looked at him, but he just barked, 'woof, woof'. And now [the, a] dog ran under the table."

Story 2. Dogs and Cars: Four cars, a boat, 4 boys, 1 dog, and a plastic ramp were used. The four cars and the boat were laid out in a line with a boy beside each car, and the plastic ramp was set up nearby. Subjects were told, "now I'll move the dog and you will move everything else."

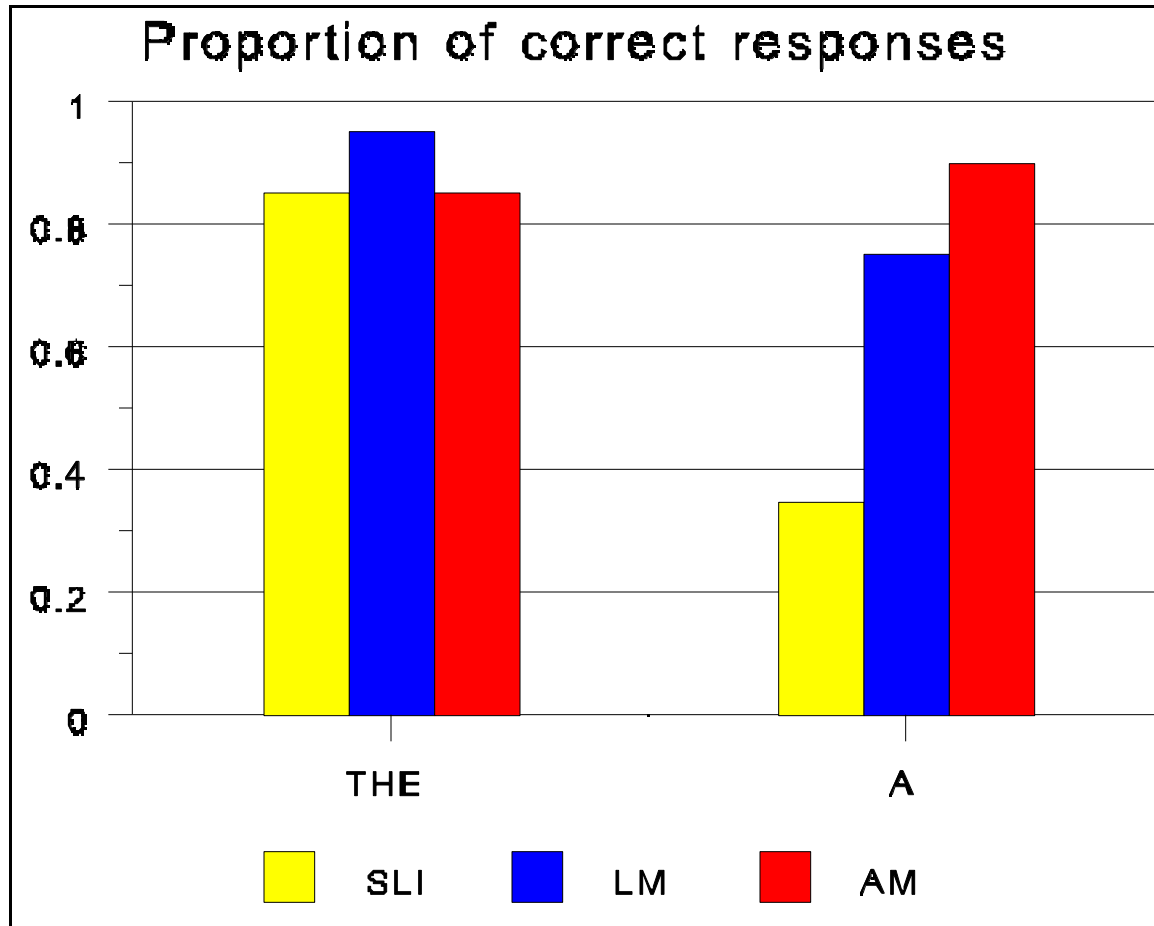
"One of the boys got into a car. He drove up the hill and he drove down again. Then he came back. Good. Now [he, one] got into the boat." After each boy is placed in one car, the story continues. "Now, this little dog came along. He went up and started talking to one of the boys. See them talking? Well, they talked and talked, and now, while they were talking, suddenly [a, the] boy drove away."

Story 3. elephant, zebra, and tigers: A plastic elephant, a plastic zebra, and four plastic tigers were used. Subjects were told, "now you move the tigers and I'll move the elephant and zebra."

The tigers were lined up in front of the subjects and the elephant and zebra in front of the experimenter.

“The elephant and zebra saw the tigers, and they walked up to them. One of the tigers went over to the zebra. He said hello to the zebra. Now [a, the] tiger went over to the elephant. He said hello to him.”

RESULTS



Significant differences were found for comprehension of the indefinite article “a”:

SLI < LM (chi-square = 4.91, $p < .05$)

SLI < AM (chi-square = 12.91, $p < .05$)

Results show that SLI children lag behind both their language matches and their age matches, and do not fully differentiate between definite and indefinite articles. Their apparent accuracy in comprehension of the definite article “the” may be due to a pragmatic preference for always selecting the specific object, which would artificially inflate accurate responses for the

definite article.

In spontaneous language production, LM subjects never omitted articles. Only 2 LM subjects ever used the indefinite article “a” when the definite article would be more appropriate (5 out of 6 substitutions were produced by one child, who was the youngest LM subject and had the shortest MLU).

In contrast, 9 SLI children omitted articles a total of 28 times (4.6% of total article contexts). SLI children also used the indefinite article where the definite article was more appropriate (a/the substitution) a total of 27 times (4% of all article contexts). These numbers seem small when compared with the total number of articles used (551 used by the SLI group, and 480 used by LM subjects), but when they are examined in conjunction with results from experiment 1, where SLI subjects were only 35% accurate comprehending the distinction between the definite and indefinite articles, they suggest that the spontaneous production data are only telling a partial story. Even though evidence of article difficulty in spontaneous production is scarce, they suggest a marked difficulty with articles.

DISCUSSION

It seems clear that children with SLI show more difficulty than their language-matched and age-matched peers distinguishing between specific and non-specific determiners (definite and indefinite articles). This difficulty may be related to a more general difficulty projecting functional categories, in this case the nominal functional category DP.

Because the distinction between definite and indefinite articles is dependent not only on syntactic but also on semantic and pragmatic relations, the DP/NP distinction is probably only one of many factors impacting on comprehension of articles. All that can be concluded after testing comprehension of articles is that children who can fully comprehend them must have all the necessary factors in place. On the other hand, if children with SLI have difficulty with the NP/DP distinction, they must show some difficulty in their understanding of articles.

Results of this study suggest that a syntactic deficit in the nominal system of children with SLI prevents them from fully comprehending articles as well as from using them consistently. Further research is necessary to clearly establish the nature of this syntactic deficit as well as to determine how syntax interacts with semantics and pragmatics in the process of article acquisition.

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