Evaluating Syntactic Production In Young Children With and Without Language Delays

Jenny Roberts, Ph.D., CCC-SLP (Hofstra University)
Evelyn Altenberg, Ph.D. (Hofstra University)
Hollis Scarborough, Ph.D. (Haskins Laboratories)

Introduction

Deriving measures of syntax from spontaneous language samples is an excellent method of determining a child’s syntactic ability, developing syntactic goals, and monitoring progress over time (Evans & Craig, 1992). There are a limited number of language sample tools available for analyzing and describing a child’s syntactic abilities and each has significant problems prohibiting its practical use in a clinical setting.

The Index of Productive Syntax (IPSyn; Scarborough, 1990) was created in order to quantitatively, qualitatively, and efficiently measure syntactic development in preschool-aged children. It involves searching a 50 or 100 utterance language sample for the presence of 0-2 exemplars of various syntactic structures organized into 4 subscales (noun phrases, verb phrases, questions and negations, and sentence structures).

The IPSyn can serve as a valuable goal formation tool because items are developmentally ordered and it can provide a quick “snapshot” of what syntactic structures are and are not yet emerging.

While the IPSyn’s use as a research tool has been growing since its introduction in 1990, its clinical use has, to date, been minimal. Resscora et al. (2000) found that overall late talkers scored lower on the IPSyn than age-matched peers, but little data have been published describing which structures differ between groups. Scarborough and Dobrich (1990) characterized the use of 28 of the IPSyn’s structures for 4 late talking children, and Hadley & Short (2005), using selected structures of the IPSyn, found late emergence of verb forms for children with later language impairments.

An analysis of the frequency of use of each of the IPSyn structures is needed, both for typically developing and late-talking children.

Questions

1. What is the percentage of typically developing children at 30-month and 42-month of age who produce each structure of the IPSyn?

2. How does the production of IPSyn structures of late-talking 30-month and 42-month old children compare to those of typically developing children?

Method

Participants

Participants were drawn from the Weismer corpus of The Child Language Data Exchange System (CHILDES; MacWhinney, 2000), which consisted of typically-developing (TD) children (30-months, N=33; 42-months, N=30) and late-talking (LT) children (30-months, N=12; 42-months, N=14).

Spontaneous Language Samples

Spontaneous language samples were obtained from the CHILDES system as CHAT transcripts and were imported into the Systematic Analysis of Language Transcripts (SALT) program (Miller and Chapman, 2000). Transcripts were hand checked by the first two authors for usable utterances (utterances which did not consist of partially or fully unintelligible utterances or were sound effects). Transcripts containing 95-100 C&I utterances were used for this analysis.

Procedure

The original IPSyn was slightly revised for consistency of coding. Three research assistants, who underwent an extensive training procedure, were randomly assigned transcripts, which they hand coded for the use of 59 IPSyn structures. Seventeen percent of the transcripts were recoded by a second assistant. Reliability of coding of individual structures was 95%.

Results and Discussion

IPSyn Total Score

As expected, LTs had lower total IPSyn scores than their TD peers at 30 months (t(43)=6.8, p<.0001) and 42 months (t(42)=2.7, p<.01). TDs at 30 months had lower scores than at 42 months (t(18)=6.3, p<.0001).

Specific IPSyn Structures

For high frequency structures (those occurring in at least 75% of the transcripts), verb and sentence structures accounted for the majority of IPSyn items differentiating groups from one another.

With the exception of NB, the structures that distinguished 42 month old TD children from same aged LT children also distinguished them from 30 month old TD children. This suggests that, with respect to syntactic structures, delays are best characterized as developmental lags.

Selected References


Rescorla, L., Dahlsgaard, K., & Roberts, J. (2000). Late-talking toddlers: MLU and IPSyn outcomes at 3;0 and 4;0. Journal of Speech Research, 48, 643-664.