

## INTRODUCTION

Constructivist approach (Goldberg, 1995; Tomasello, 2003) considers that analogical reasoning is a cognitive process which underlies the abstraction of the linguistic forms and the construction of more abstract linguistic schemas. When children hear two utterances such as "John eats an apple" and "She sees a bird", they can infer the abstract schema [Subject Verb Object] by realizing analogies between the two utterances.

Morphosyntactic disorders encountered by children with specific language impairment (SLI) could be caused by problems with analogies, what would hinder their abstraction of construction schemas. Consequently, children with SLI would be less productive with their language and would use more fixed linguistic forms. Owing to these problems of generalization, the morphosyntactic development of children with SLI would be slow down.

## STUDY

- To test analogical reasoning in children with SLI (i.e., the understanding of the functional interrelations of the components parts of the two entities to be analogized across (Markman & Gentner, 1993))
- Creation of a non linguistic task of analogical reasoning in order to test the preservation or not of the underlying cognitive processes

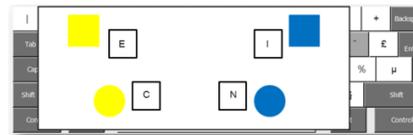
## METHODOLOGY

### PARTICIPANTS

- 15 children with SLI**
  - Aged from 6 to 11
  - Monolingual French speakers
  - QIP (WISC IV) > 82
  - Language skills below 1.25 SD from the mean in 2 or more of 5 language areas
  - No neurological or auditory disorders
- 15 children with NL**
  - No history of language disorders
  - Monolingual French speakers
  - Matched with children with SLI based on chronological age and IQ performance

### TASK

- Children have to **complete a test pattern** by choosing which form among three others "goes best" in the test pattern in comparison with the standard patterns.
- The **4 possible solutions** are linked to a touch of the keyboard:



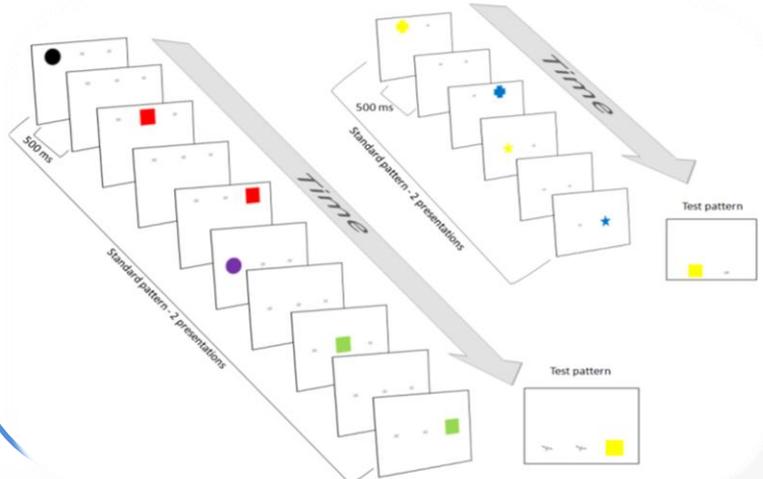
### 2 conditions

#### 3-items sequences

Children have to complete the test pattern with 2 responses

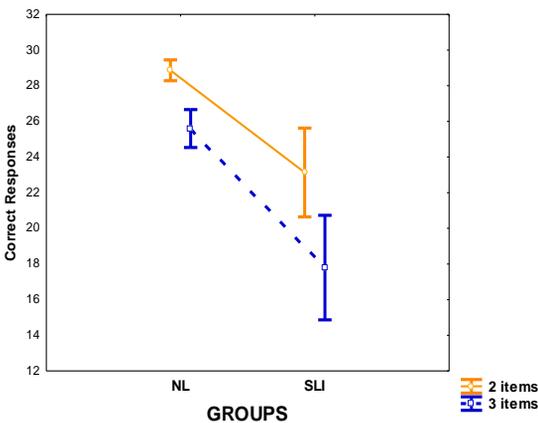
#### 2-items sequences

Children have to complete the test pattern with only one response



## RESULTS

- Significant effect of « groups » ( $F(14,1)=26,604, p < .001$ )
- Significant effect of « items » ( $F(1,14)=162,404, p < .001$ )
- Significant effect of interaction ( $F(1,14)=5,309, p < .05$ )



### To summarize

- Children with SLI have more difficulties than children with NL whatever the number of items in the sequences
- Differences between children with SLI and children with NL are more important for the 3-items sequences.

## DISCUSSION

- More difficulties to discover the functional similarities which link the different elements of the standard patterns, more specifically when the complexity of the task increases
- Limitations on the cognitive resources involved in processing with as consequences conflicts between perceptual and relational features (Richland, Morrison, & Holyoak, 2006)
- Weak inhibition functions: influence of the competition between relations and attributes of the objects involved and between the sequences

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