Children with Developmental Language Disorders (DLD) have difficulties in word learning (Kan & Windsor, 2010).

Processes of categorization and generalization are required to make lexical acquisition efficient.

Bayesian theories of cognition offer an interesting approach to study this phenomenon (Xu & Tenenbaum, 2007). These theories:

- suppose that learning is the result of a strong mechanism of inductive inference, combining prior knowledge with environmental data;
- can account for fast and abstract acquisitions (Tenenbaum, Griffiths, & Kemp, 2006), which are hierarchically organized.

Our aim is twofold:

- Determining if children with DLD can use prior knowledge as efficiently as their typically developing peers when they learn new categories;
- Determining if children with DLD can make inferences (generalize) at two levels of abstraction.

Participants:

- \( n = 23 \)
- Functional impact: Special schools
- Severe language disorders
- Non Verbal IQ in the normal range

Control groups:

- Age-matched children
- (Language-matched children)

Methods:

- Procedure:
  - Word/Category Learning Task
    - 1st order inference
    - Bias acquisition
    - 20 items from 2 categories
    - Stop after 5 RC
  - Generalization Task
    - 2nd order inference
    - Generalization of the bias: extension to other members of the superordinate category
  - Learning association Task
    - How do children use their prior knowledge?
    - Physical characteristics associated with environment

Predictions:

- In line with the hypothesis of a deficit of Bayesian inference, we expect that children with DLD:
  - would need more presentations before acquiring the two categories of the first task;
  - would not be able to extend the bias to other members of the category, or would perform worst than their peers;
  - would less efficiently refer to their prior knowledge, thus would have poorer results at the 3rd task.