

Construction generalization in children with Developmental Language Disorders

Introduction

Constructions associate a form with a function, and construction generalization leads children to abstract schemas which can be used productively (Goldberg, 1995; Schmid, 2017). This process occurs through **analogical reasoning**, as analogies are performed between utterances to abstract a common relational structure (Bybee, 2010; Tomasello, 2009).

Children with **Developmental Language Disorders (DLD)** have difficulty in analogical reasoning and generalization (Hsu & Bishop, 2010; Leroy et al., 2014a).

Analogies and generalization are facilitated by an input involving **similarity**, but also **variability**, especially in children with DLD (Casenhiser & Goldberg, 2005; Leroy et al., 2014b; Plante et al., 2014; Wonnacott et al., 2012). These variables are united in **progressive alignment**, which refers to a progressive introduction of variability and which has been shown to facilitate analogies in typically-developing (TD) children (Kotovsky & Gentner, 1996).

Are children with DLD impaired when generalizing a novel construction?



Do children with and without DLD benefit from an input involving progressive alignment?

Method

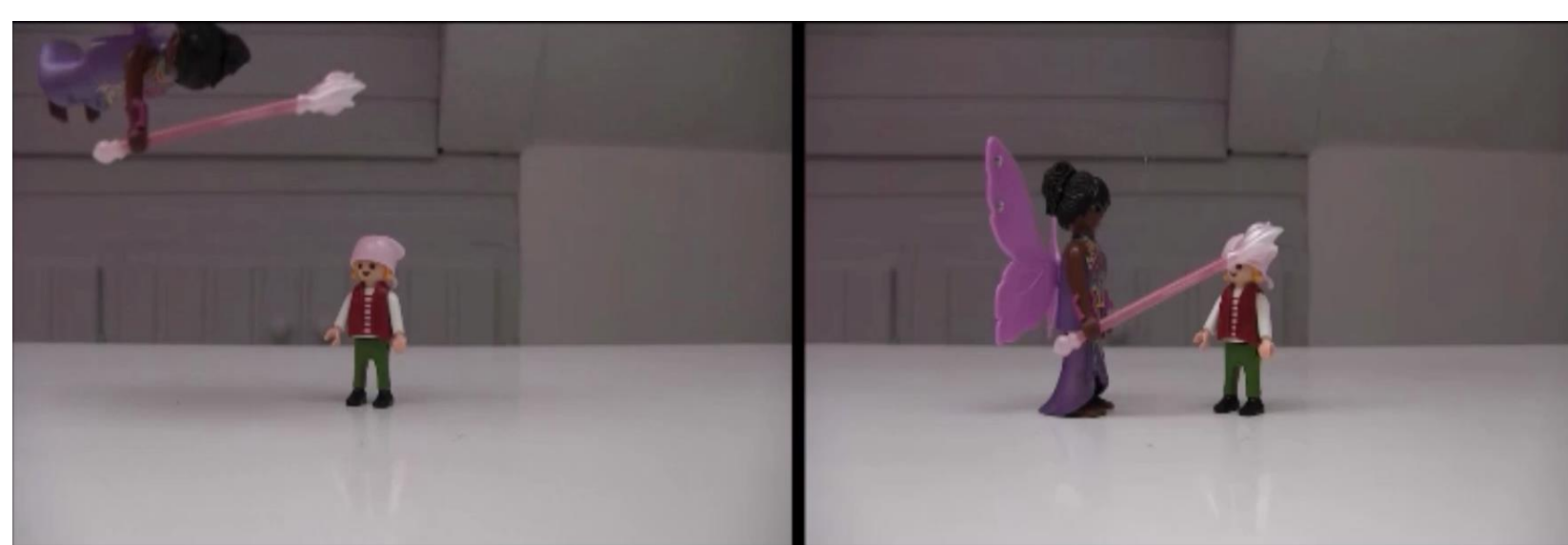
Group	Age	Sentence comprehension	Non-verbal IQ
DLD (N=30)	9;11 years old	14 errors	94
TD (N=30)	7;7 years old*	13 errors	99

Paradigm adapted from Casenhiser & Goldberg, 2005

L'oiseau le jardin tuffe.



La fée lonte l'enfant.



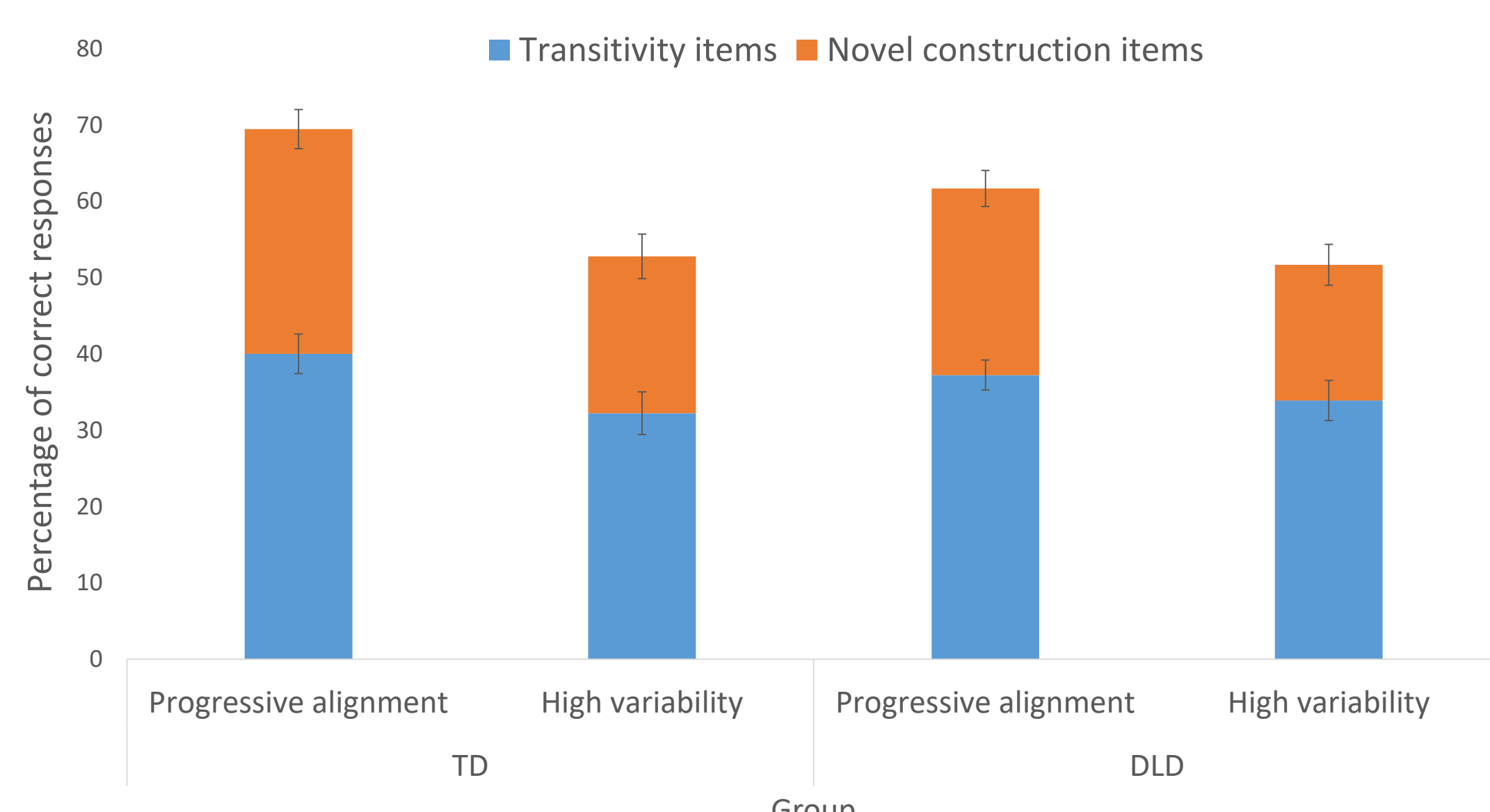
Training phase involving a novel construction with a **SOV structure** and a **meaning of appearance**:

- Each sentence is associated with a video
- A sequence of 8 stimuli is presented twice
- **Two training conditions** are created, one with a **high variability** input (no words in common), one following the **progressive alignment** principle (some words are common at first and variability is progressively introduced).

Test phase involving **novel construction items** and **transitivity items**:

- Each sentence is associated with two videos
- The stimuli were different from the testing phase
- Half of the sentences are **SOV** structures and the other half are **SVO** structures
- Children must choose the video which pictures the sentence presented.

Results



DLD children performed similarly as their peers.

Progressive alignment led to better results than high variability.

Total scores were above chance level for the progressive alignment condition, but not for the high variability condition.

Discussion

Children with DLD **perform similarly** as language-matched peers in a novel construction generalization task.

Progressive alignment (which involves similarity at first and the progressive introduction of variability) **facilitates construction generalization** in children with or without DLD.

Progressive alignment led to better results than high variability even for transitivity items, which were not included in the training phase. This means that learning a novel construction through progressive alignment does not disrupt the mastery of known constructions, but quite the reverse.

Progressive alignment could represent an interesting trail in **intervention** with DLD children in order to improve their generalization ability.