

INTRODUCTION

- **Lexical comprehension and production** = key components of communication and developmental language disorder (DLD) assessment (Ebbels et al., 2022)
- **DLD** is characterized by persistent difficulties in vocabulary acquisition, consolidation and use (McGregor et al., 2020)
- **Vocabulary assessment**: highly influenced by environmental factors → diagnostic bias (e.g.: over- or under-diagnosis of DLD)
- **Dynamic assessment (DA)** : focuses on learning potential = a promising approach to reducing diagnostic bias (Kan & Windsor, 2010)
- BUT there is currently **no validated French-language dynamic vocabulary assessment using real words**

1 Development of two vocabulary assessment tasks using the same lexical items from Kindergarten 3 to Primary 5

- Production: picture naming
- Comprehension: picture identification

A total of **432 candidate lexical** items were selected based on 3 variables : age of acquisition (AoA_FreqSub_1493), lexical frequency (Manulex) & imageability (Imag_1493)

For the picture-identification task, each target item was paired with four distractors: one phonological, two semantic, and one neutral → The final selection included **91 target lexical items**

Administration of two vocabulary assessment tasks to 303 children from Kindergarten 3 to Primary 5

Inclusion criteria:

- French-language schooling
- non-verbal reasoning above -2 SD, assessed with WNV Matrices
- no dyslexia/dysorthographia
- no ADH/D, hearing impairment, or uncorrected visual impairment
- no grade skipping or repetition

→ Initially, 33 items were administered at each grade level. Item selection was then based on the percentage of correct responses in picture naming and identification.

Items with success rates > 95% or < 5% were excluded. Six items were consistently too easy or difficult across all administrated grade levels.

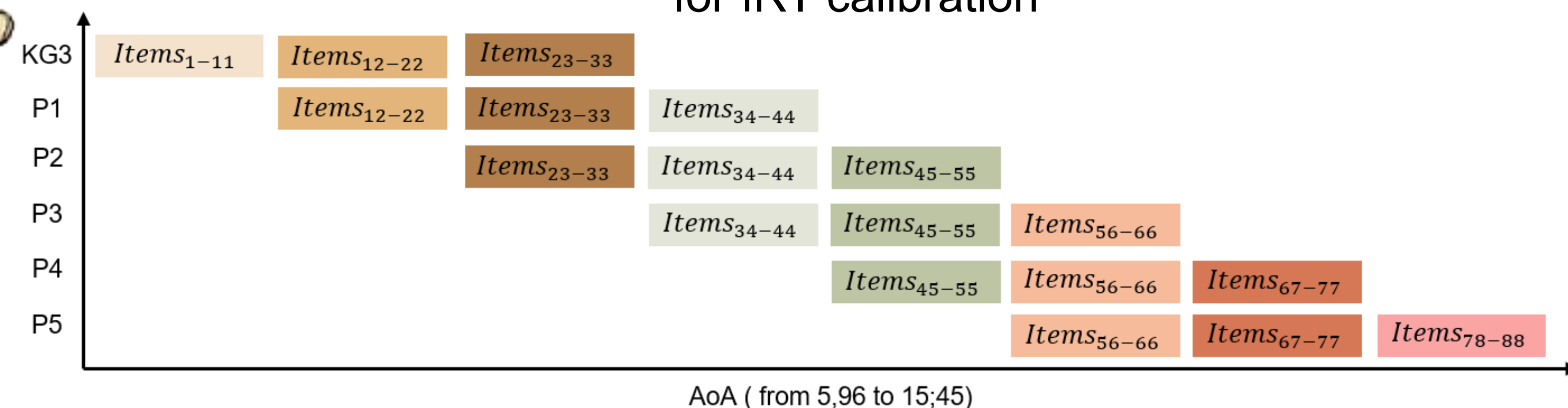
A total of **82 items** were retained, yielding grade-specific lengths: 32 (K3), 28 (P1 & P3), 26 (P2), and 21 (P4).

2 IRT-based item distribution

Item Response Theory (IRT) was used to estimate the probability of a correct response from participant ability (θ_i) and item difficulty (δ_j). Items for the DA task will be selected based on each participant's picture-naming performance, using a fixed probability of **0.15**

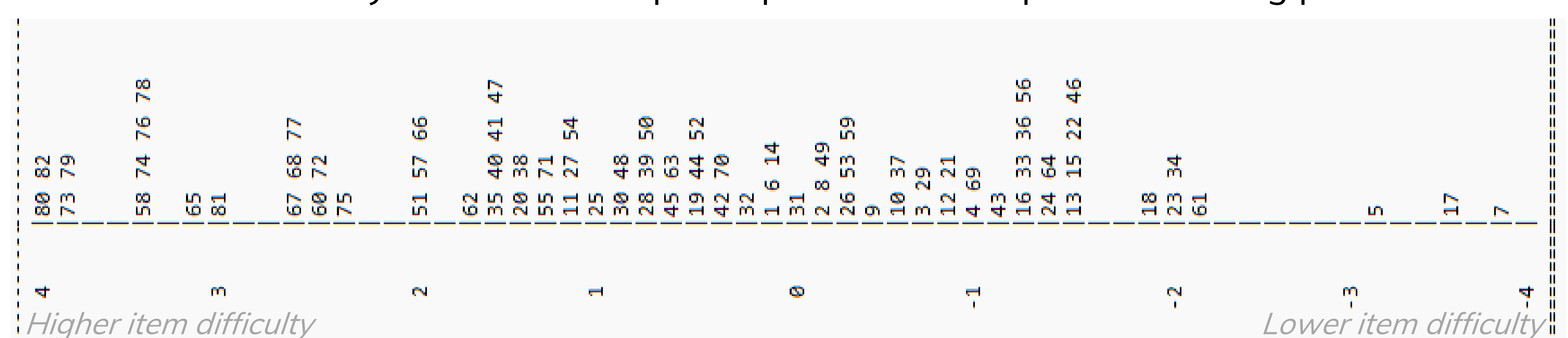
→ Distribution of the 91 items across grade-specific subgroups (Kindergarten 3 to Primary 5). Each grade level included the same 3 practice items and 33 target items.

Twenty-two anchor items were shared across adjacent grade levels for IRT calibration



IRT Analysis

- an item difficulty continuum for the 82 picture-naming items
- an IRT ability score for each participant based on picture-naming performance



5 Development of dynamic vocabulary production assessment task

→ Selection of seven lexical items, including **five to be learned during the dynamic assessment task**, tailored to each participant's estimated ability based on their picture-naming IRT score

Pre-test

Presentation of seven target pictures to ensure that the child is **unable to name five items** and has **limited semantic knowledge** of them (word definitions)

Learning

Target items were taught through using a **standardized oral storytelling procedure**. The story was adapted to each child's selected lexical items while standardizing presentations of the four semantic characteristics, one phonological characteristic, and the target lexical items, as well as the number of elicited productions

Post-test

Recall of the learned target items. If picture naming failed, hierarchical phonological cues were provided (initial phoneme, initial phoneme + determiner, recognition, repetition). **Semantic recall** was then assessed using hierarchical semantic cues (additional information and specific questions) based on the semantic information presented during learning

Retention

Approximately **20 minutes** after the learning phase, recall of the learned target items and semantic knowledge was assessed using the same procedure as the post-test

Perspectives : Future validation of DA task in monolingual and bilingual children with and without DLD (5-10 years)



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References

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