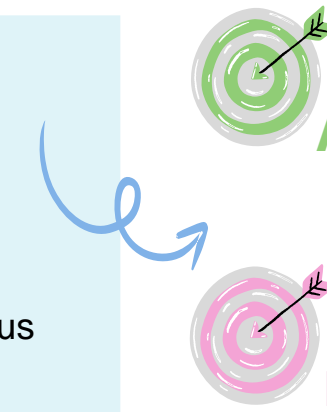


INTRODUCTION

- Vocabulary comprehension and production = fundamental aspects of effective communication (Ebbels et al., 2022)
 - Children with developmental language disorder (DLD) have difficulty learning, retaining and using vocabulary (McGregor et al., 2020)
 - DLD children present a comparatively reduced lexicon compared to their peers without DLD (Nash & Donaldson, 2005)
- Vocabulary assessment is an integral part of speech-language assessment in DLD

HOWEVER, in French-language assessment tools, there is no validated, computerized tool that includes the same lexical items for naming and designation

- Evaluating both the receptive and productive aspects of lexical items is crucial for ensuring the specificity of the diagnosis (e.g., lexical access difficulties versus lack of vocabulary) (Bragard et al., 2010)
- The integration of digital technology allows for greater standardization of measurements, particularly in encoding response time (Ecalte et al., 2021)



To **develop** a computerized French-language tool presenting the same lexical items in naming and designation tasks for children from kindergarten 3 to primary 5

To **calibrate** the lexical items of these tasks based on Item Response Theory (IRT). IRT creates a continuum on which both individual performance and item difficulty are linked by a probabilistic function. Because of this probabilistic link, it is not necessary to administer the entire item battery to each participant

WHAT STEPS HAVE BEEN TAKEN TO ACHIEVE THESE GOALS ?

1 Selection of lexical items

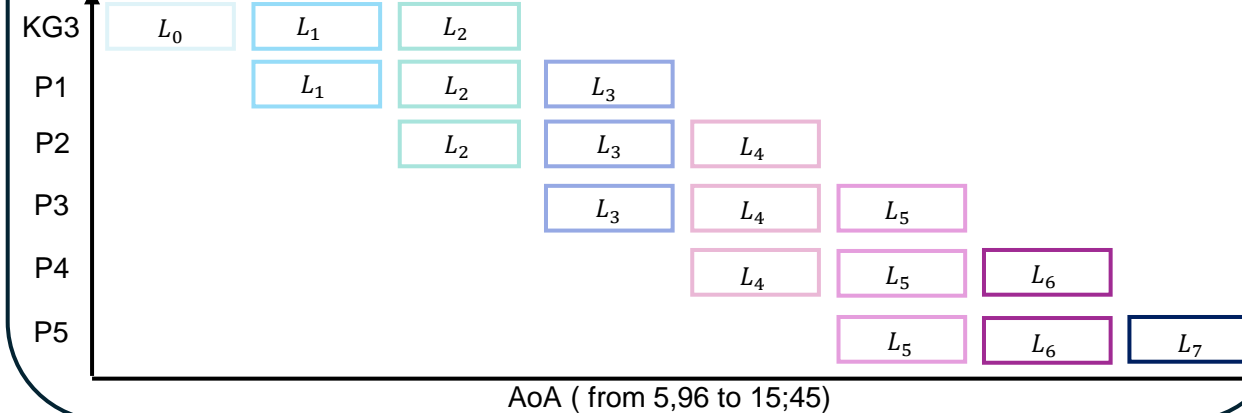
- 3 variables :
- Age of acquisition (mean + SD) → AoA_FreqSud_1493
 - Lexical frequency → Manulex
 - Imageability → Imag_1493
- 432 target lexical items

Then, choice of distractors for the designation task :

- 1 phonological distractor → 334 target lexical items
- 2 semantic distractors → 102 target lexical items
- 1 neutral distractor → **91 target lexical items**

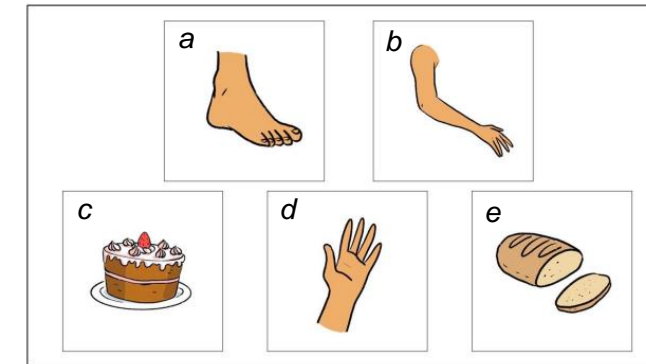
2 Distribution of lexical items by IRT

6 school levels → from kindergarten 3 to primary 5
Items' list (L) = 11 lexical items → 33 target items by grade level



3 Illustration of lexical items by an illustrator

Illustrations are drawn, in color, and the most prototypical



- a. "pied" = semantic distractor
- b. "bras" = semantic distractor
- c. "gâteau" = neutral distractor
- d. "main" = target lexical item
- e. "pain" = phonological distractor

Example of illustrations proposed during the naming task for the "hand" target item

4 Check that illustrations are unambiguous

24 👤 rated the image's relevance on a 1-5 Likert scale → μ = 86,99 %
"In your opinion, is this picture relevant to the target word?"

24 👤 spontaneously named the picture → μ = 82,92 %
"What word does this image bring to mind?"

48 👤 submitted suggestions for improving the image, possibly making it less ambiguous

If 1 of the 2 indices is < 80%, the illustrator is asked to make modifications based on a qualitative analysis of the verbatims expressed by the participants. The modifications made are then validated by 2 expert judges

5 Development of a computerized task

Use of PsychoPy :

- a free and open-source software for creating and running experiments
- provides naming and designation response times



PERSPECTIVES

Administration of naming and designation tasks to 300 children (50 children per grade, from KG3 to P5)

Analysis of the children's responses using the IRT, which will allow to assess the participants' ability according to the number of correct responses in relation to the difficulty of the item

SCAN for digital version of poster →

