

Speech and language therapy for multilingual children

The promise of dynamic assessment and cross-linguistic intervention methods

Introduction

Challenge for SLTs across the world: provide adequate services to growing population of bi-/multilingual children

At the heart of many international research programs during the last decade (Cost actions Bi-SLI, DLD...)

Here: First results on assessment and intervention from Neuchâtel (French-speaking Switzerland)

Language-fair Tasks

Main question: Can tasks tapping into (nonverbal) analogical reasoning and generalization (of novel labels) help with detecting DLD in multilingual children?

- **Pilot study:** 42 bilingual children (age 5-7 years, French + X), with and without DLD (pre-test: nonword repetition in French)
- **Analogy:** no significant differences
- **Generalization:** significant effect of clinical status
- **Diagnostic potential:** tbc



Authors

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Dynamic Assessment

- **Main idea:** Test **multilingual children's learning potential** (cf. Vygotsky), rather than accumulated knowledge, in order to bypass ubiquitous exposure effects when diagnosing DLD
- **Study 1:** Compare diagnostic potential of learning process in
 - 2 situations: autonomous game vs. interactive reading
 - for different tasks (receptive/ productive) and
 - item types: invented nouns, verbs, inflections
- 49 mono- and bilingual children (French + Portuguese, age 5-7 years) with / without DLD (clinical diagnosis+ pre-tests)
- Large effects of clinical status, but few effects of language background (even during reading)
- Most distinctive: interactive situation, mostly receptive tasks, mix of item types → all > 95% accurate, short version > 85%
- **Ongoing:** comparison with narration, modifiability scales, testing younger children

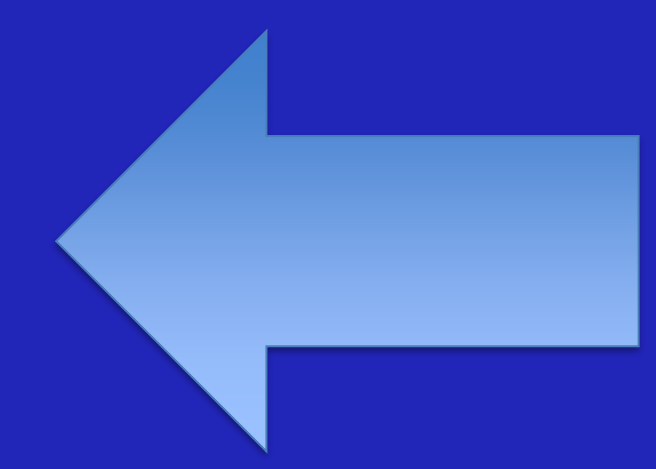
Cross-linguistic Intervention

- Main question:** How do SLTs take into account children's other language(s) during intervention?
- **Method:** Questionnaire (43 valid responses so far) and focus groups (6 participants so far) with French-speaking clinicians
 - Most SLTs (regardless of their background) adapt their practices during intervention (just as for assessment)
 - However, this is often done indirectly (→ parents), many SLTs are reluctant to use and link languages during sessions

Perspectives

- Assessment:** Short-term learning of new language skills as a promising diagnostic marker for DLD in multilingual children
- larger-scale, prospective studies needed, with robust, objective protocols in a variety of languages
 - in combination with other promising tools (nonword repetition, narration, early-skill-questionnaires)
 - in the clinic: Focus on trajectories!
- Intervention:** Continue to collect and research practices that link languages
- widely held (mis?)conceptions about roles & need for strictly monolingual situations in SLT



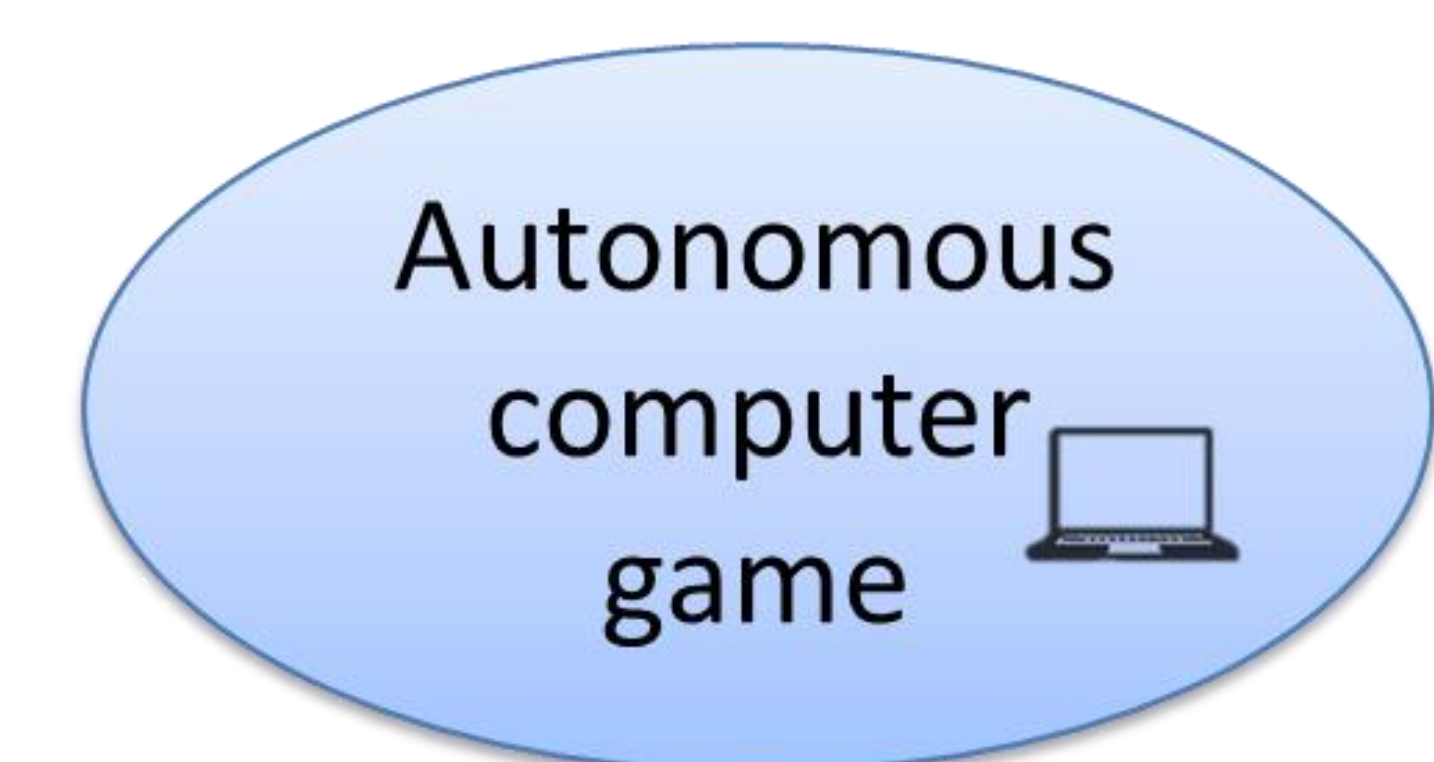


Dynamic Assessment

Main question: Which form of dynamic assessment contributes the most to distinguishing mono- and multilingual children with and without DLD?

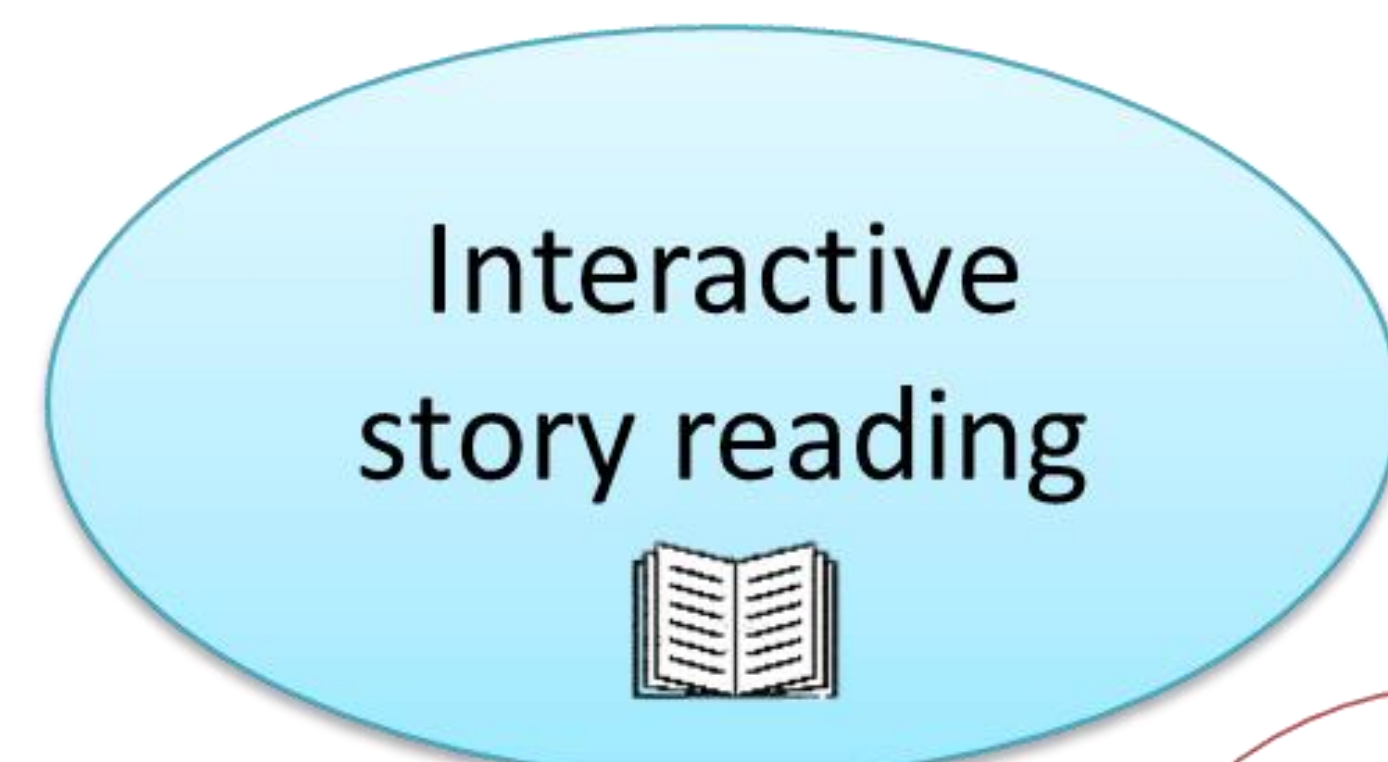
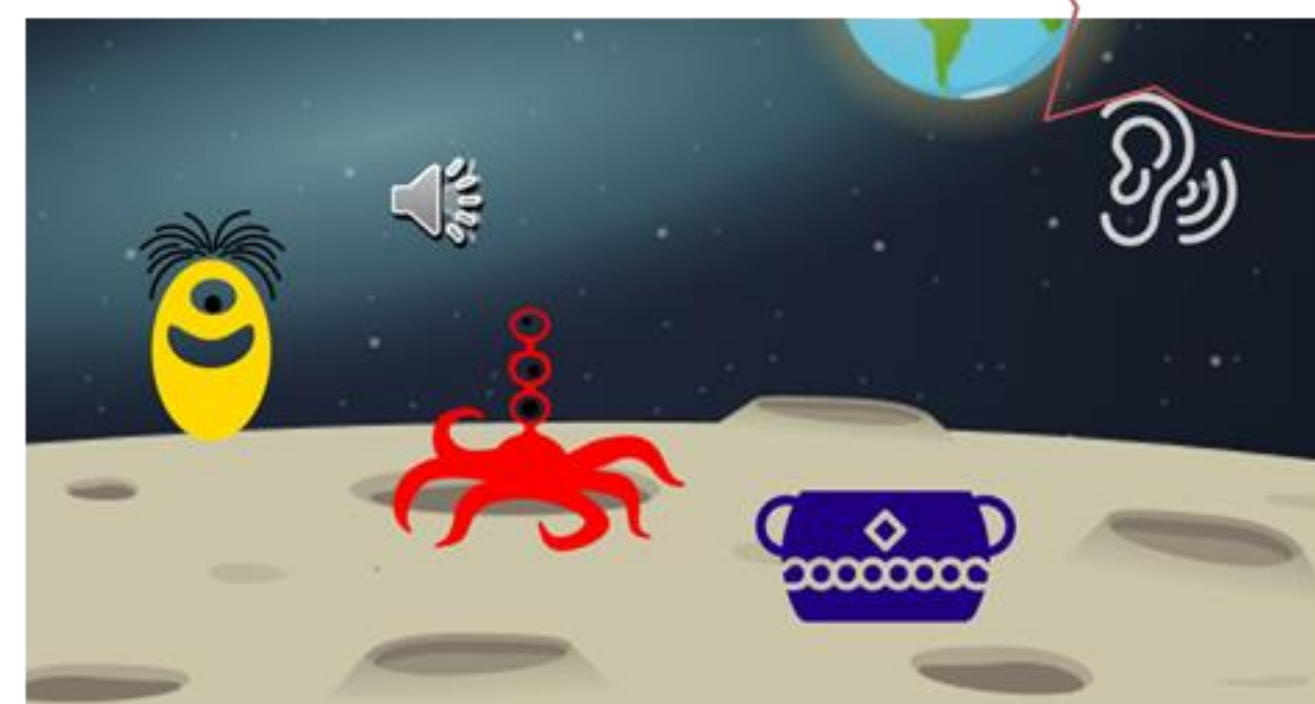
Participants : 23 children with and 26 children without DLD (clinical diagnosis + 3 pre-tests per language) speaking French (+ Portuguese), age 5-7 years

2 situations



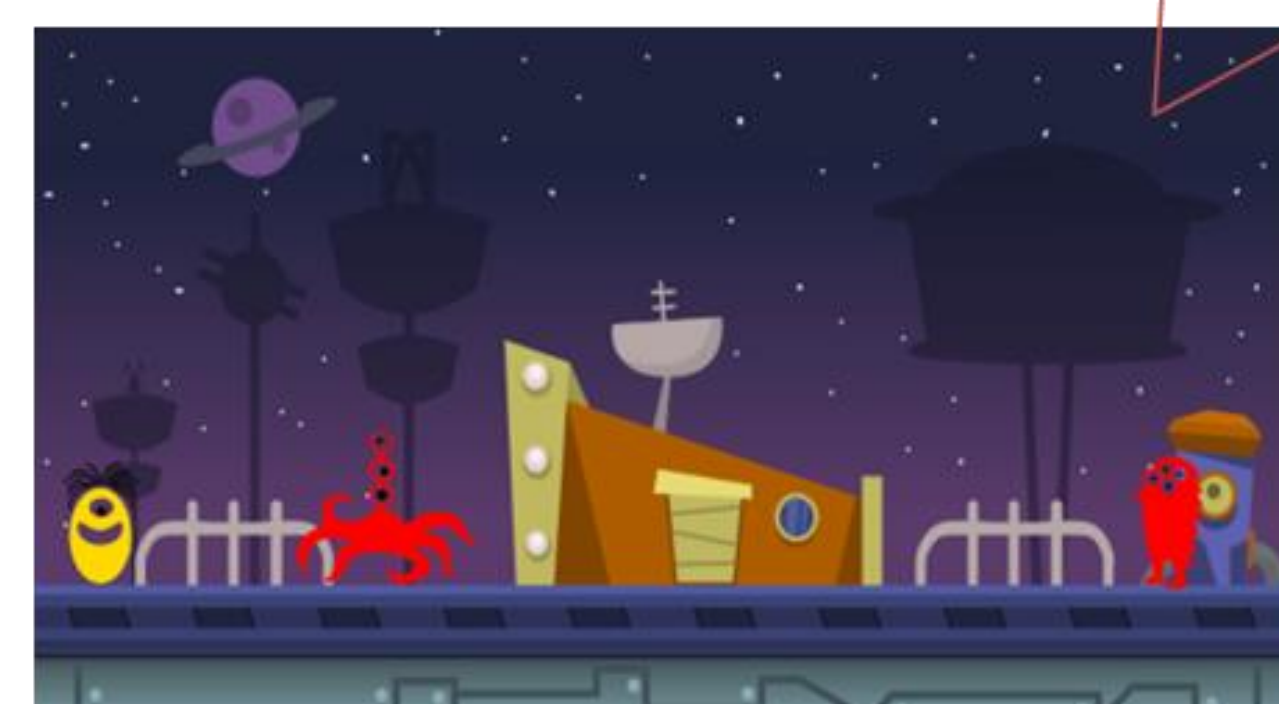
- Minimal pre-recorded instructions
- Only general feedback

«otu...
otu...
otu...»



Interaction in French
Graduated cues

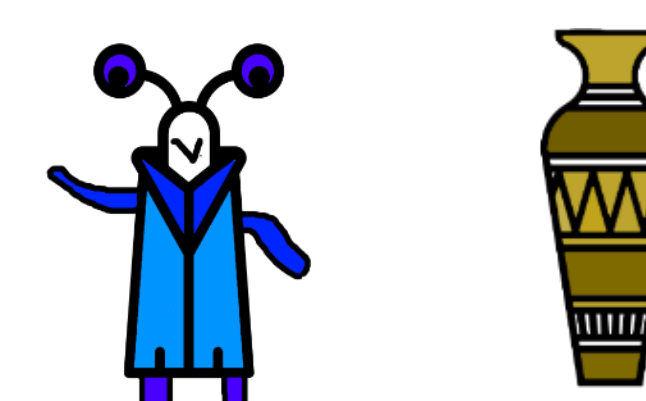
«Le stabi
et la otu
partent à
la chasse
au fli»



3 item types

Pseudowords with universally common, simple sounds + syllables

Nouns

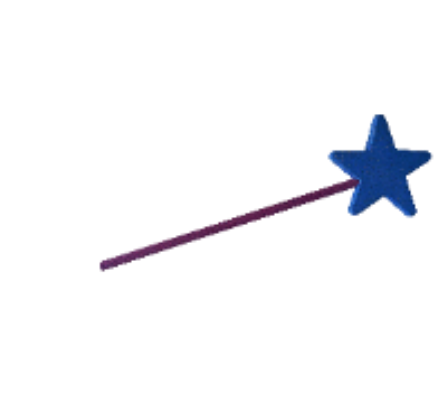


lati



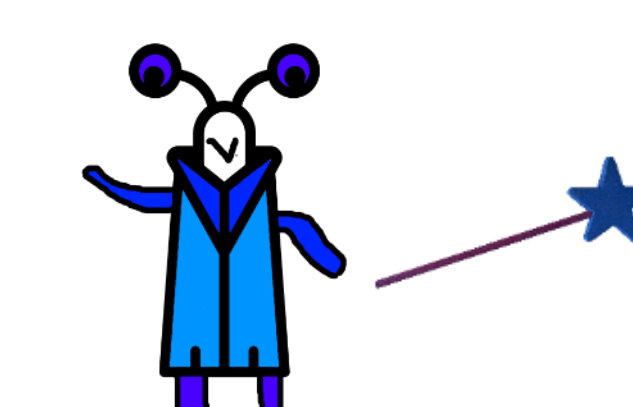
fli

Verbs

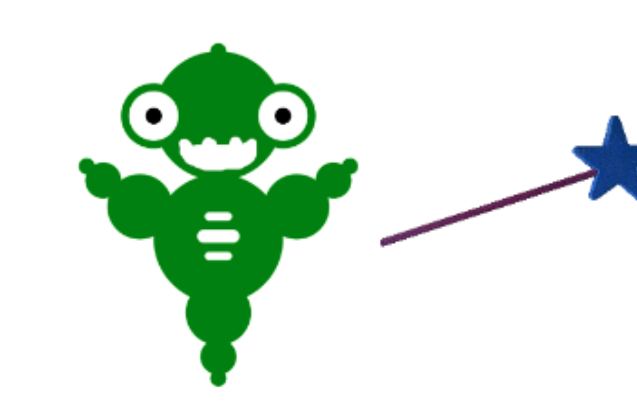


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Sentences with inflections

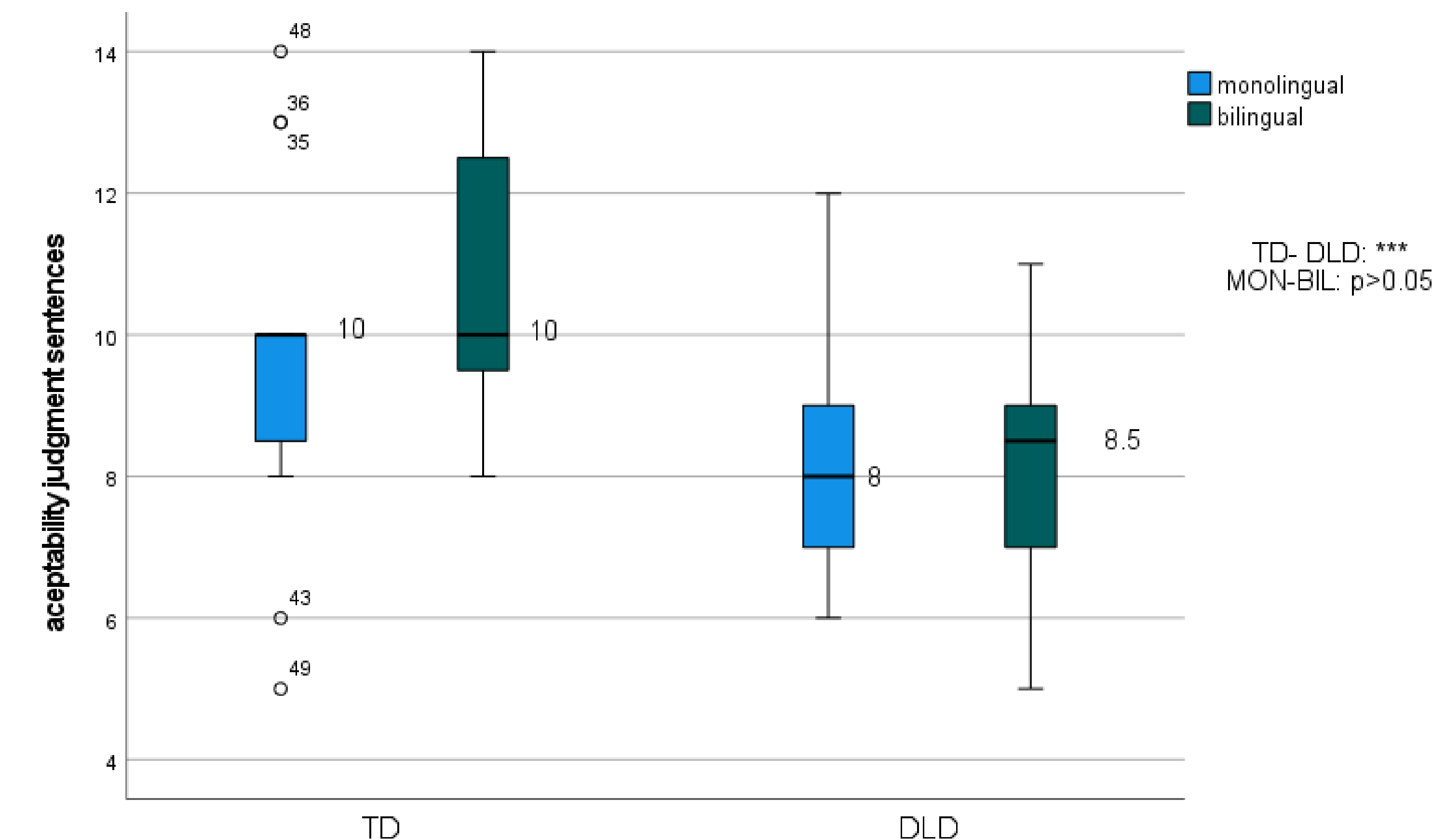


Lati lut.



Plifu lum.

Main Results



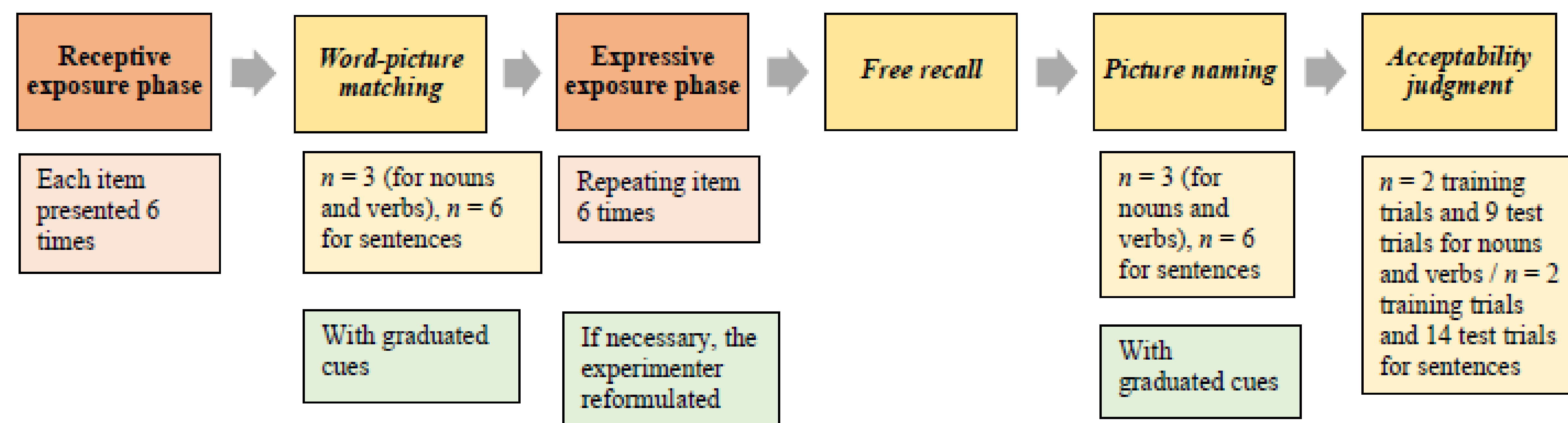
- Same picture for many tasks: significant group differences by clinical status, no differences by language background (régressions controlling for age and parental education)
- Prediction of clinical status (Lasso regression):
 - Interactive situation and receptive tasks most distinctive, mix of item types, but also age and parental education included (accuracy > 95%)
 - 4 best tasks (all interactive) yield accuracy > 85 %

Discussion

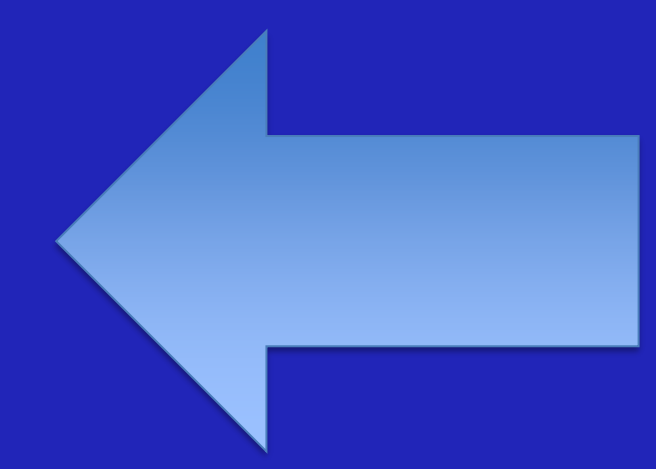
- Good clinical potential of interactive situation, but difficult to standardize
- Larger-scale, prospective studies with more languages needed
- Comparison with narration ongoing, also with younger children



Part of the PhD project by Salomé Schwob salome.schwob@unine.ch (Schwob, Tillé & Skoruppa, in revision, CLP)



4 tasks



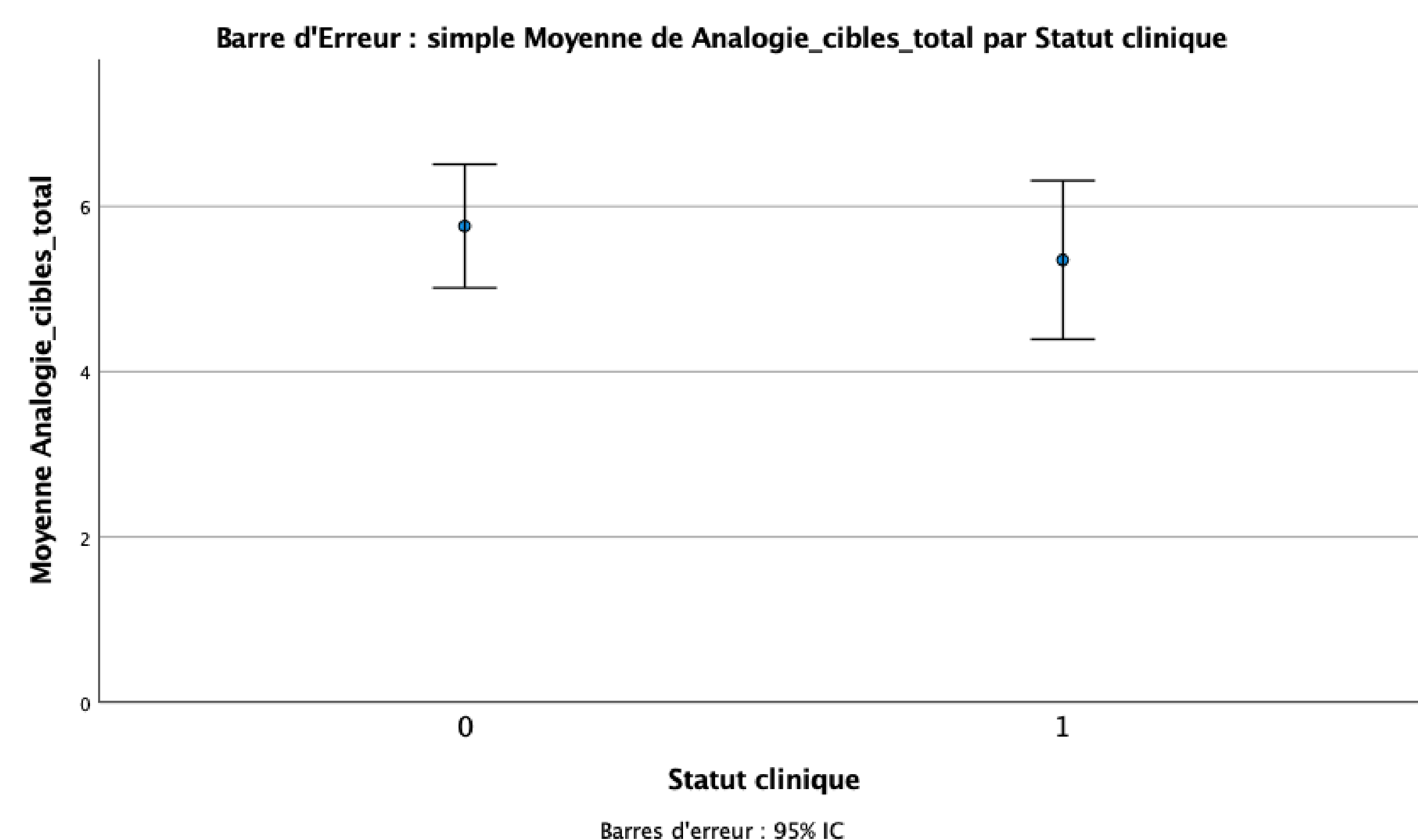
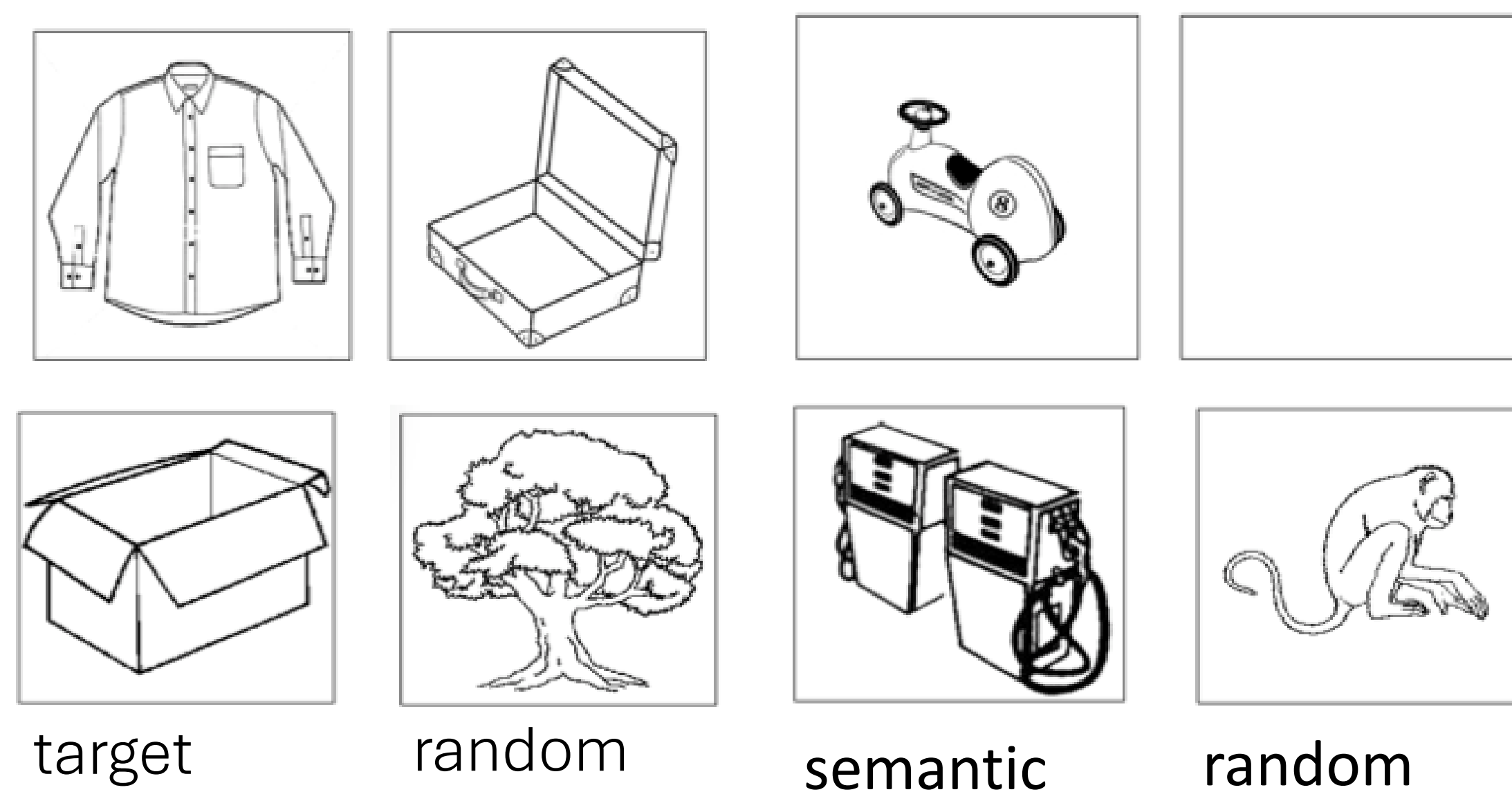
Language-fair Tasks

Rationale: Test the clinical potential of tasks for which previous studies document (slight) advantages (or equal performance) for bilingual children, but (large) disadvantages for (mostly monolingual) children with DLD

Participants so far: all bilinguals, 5-7 years; 21 children with, 21 without DLD (pre-test in French: nonword repetition)

Analogy task

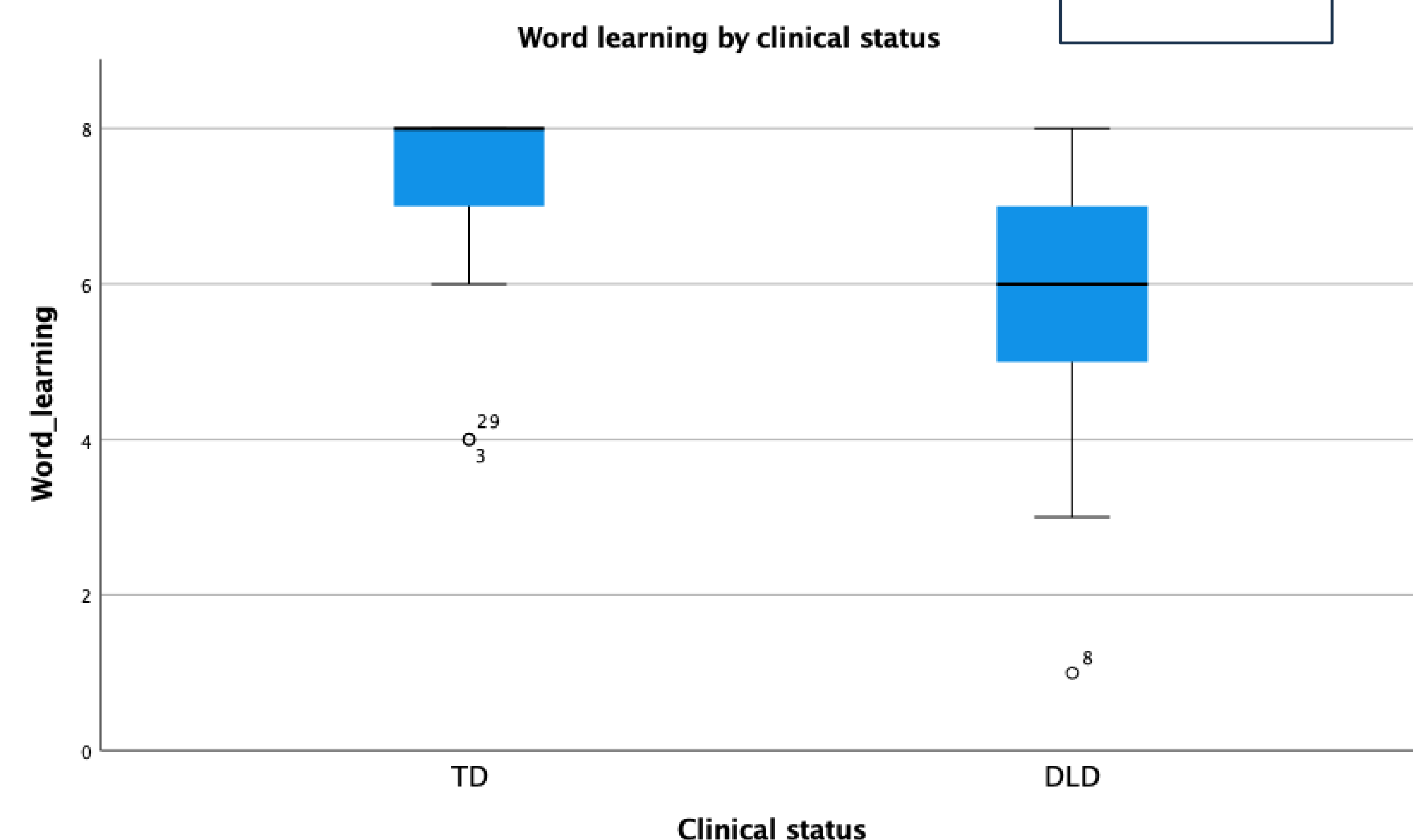
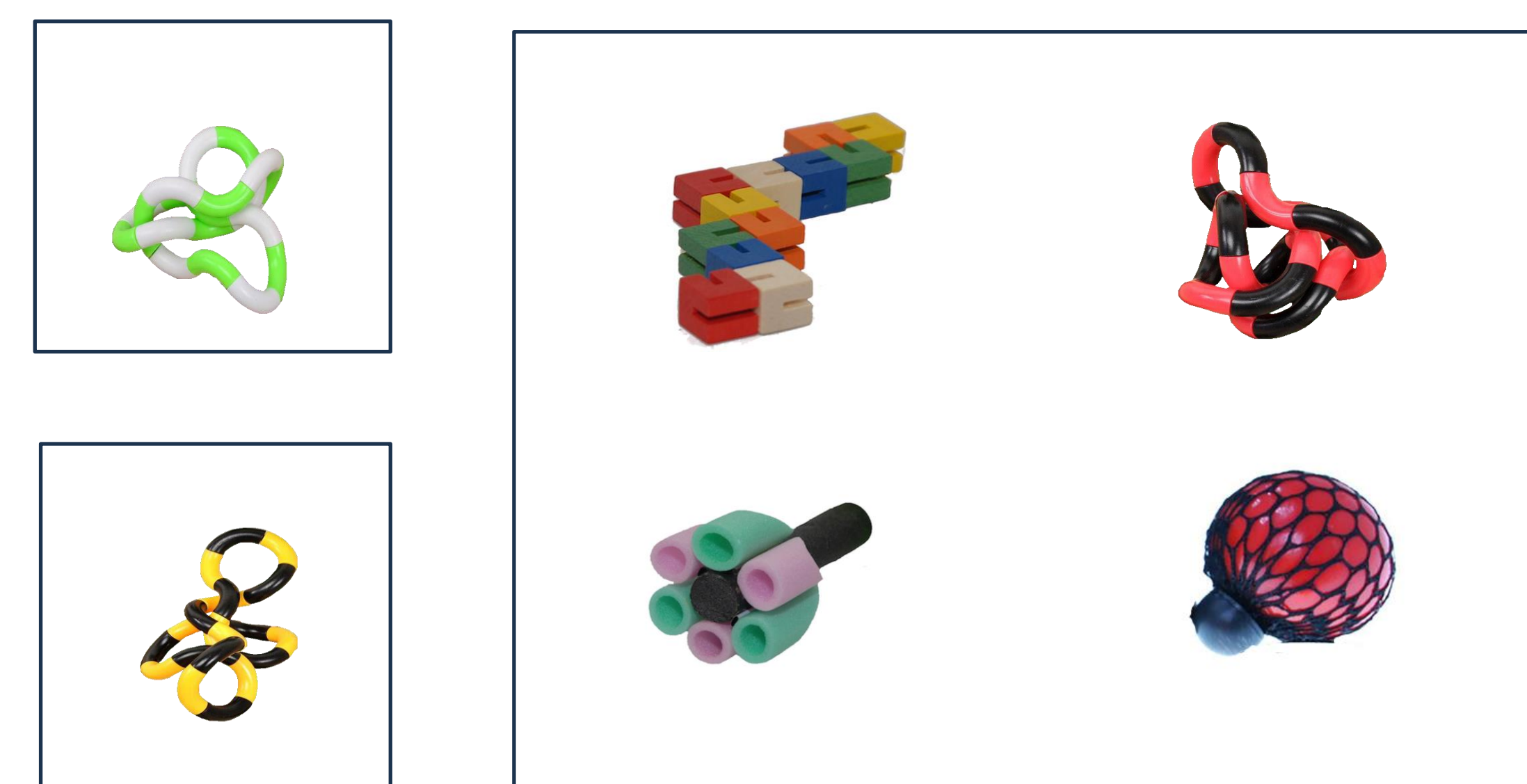
Velcro game: « Stick on the one that goes with C like A goes with B », 9 trials



Regression (with age & parental education)
Clinical status: $\beta = -3.4$, $p = .53$

Generalization task

Digital game: Extend new labels for unknown objects to objects of different colours/textures, X trials



Non-parametric test (independent Wilcoxon)
Word learning : $W = 346$, $p < .01$

Further tasks under investigation (with L. Volpin):

- Gesture recognition (ceiling effect)
- Short, but autonomous narrations (to be analysed)



Part of the PhD project by Solène Belogi,
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(article in preparation)

Discussion

- **Analogy** – no effect of clinical status
→ *Switch to perceptual distractors?* (difficult for DLD, Krzemien et al.)
- **Generalization** – possibly effect of clinical status
→ *Interesting to include generalization in dynamic assessment protocols!*

Cross-linguistic intervention

Main Goal: Examine French-speaking practitioners' intervention practices with multilingual children (in comparison with assessment)

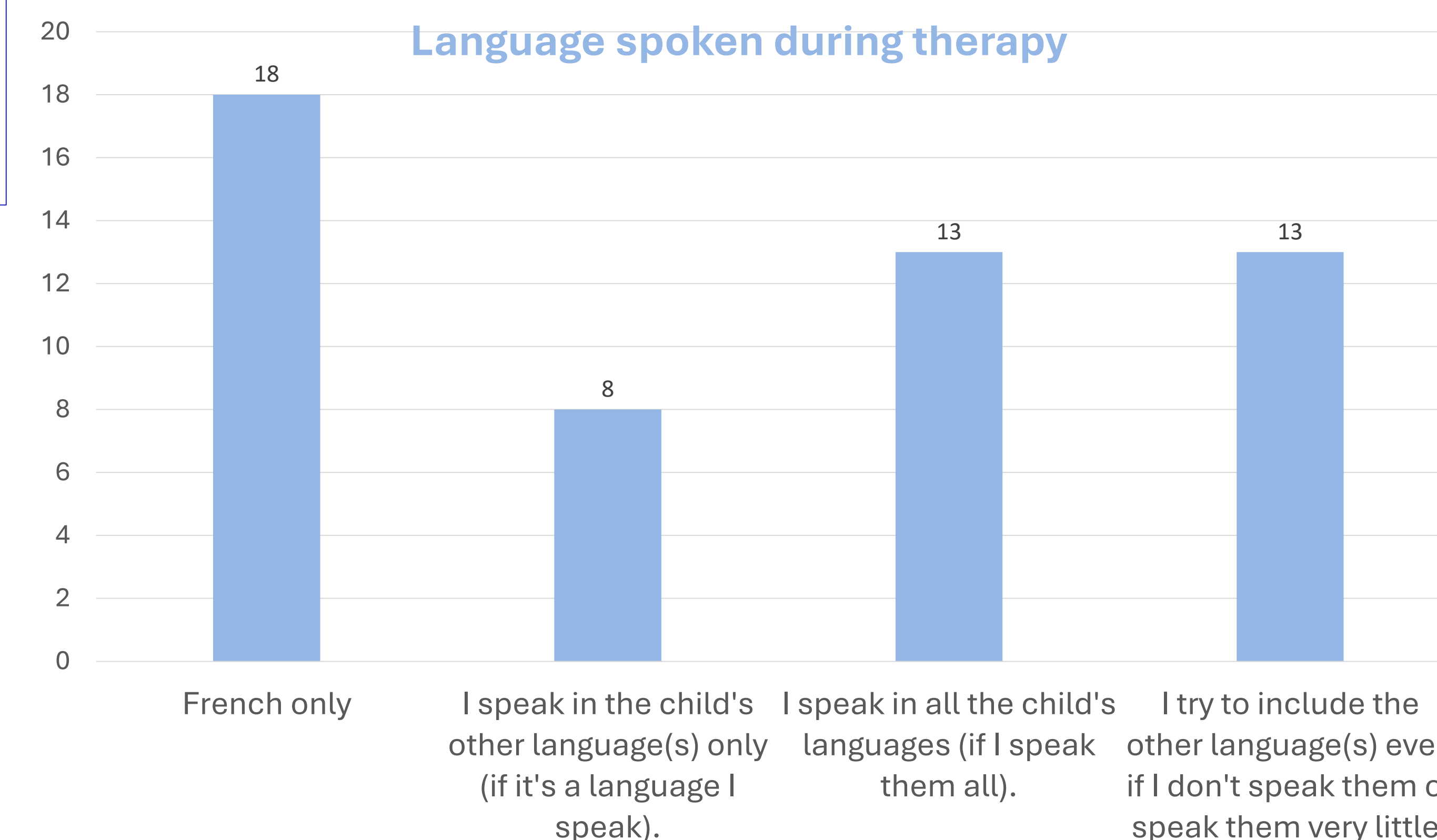
Questionnaire: 55 questions (QCM + open, 10-20 min), so far 43 valid responses (Switzerland, Tunisia, Canada, Belgium)

Focus groups: semi-structured interviews, so far 1 in person, 1 virtual, 6 participants (Switzerland, Canada, Tunisia)

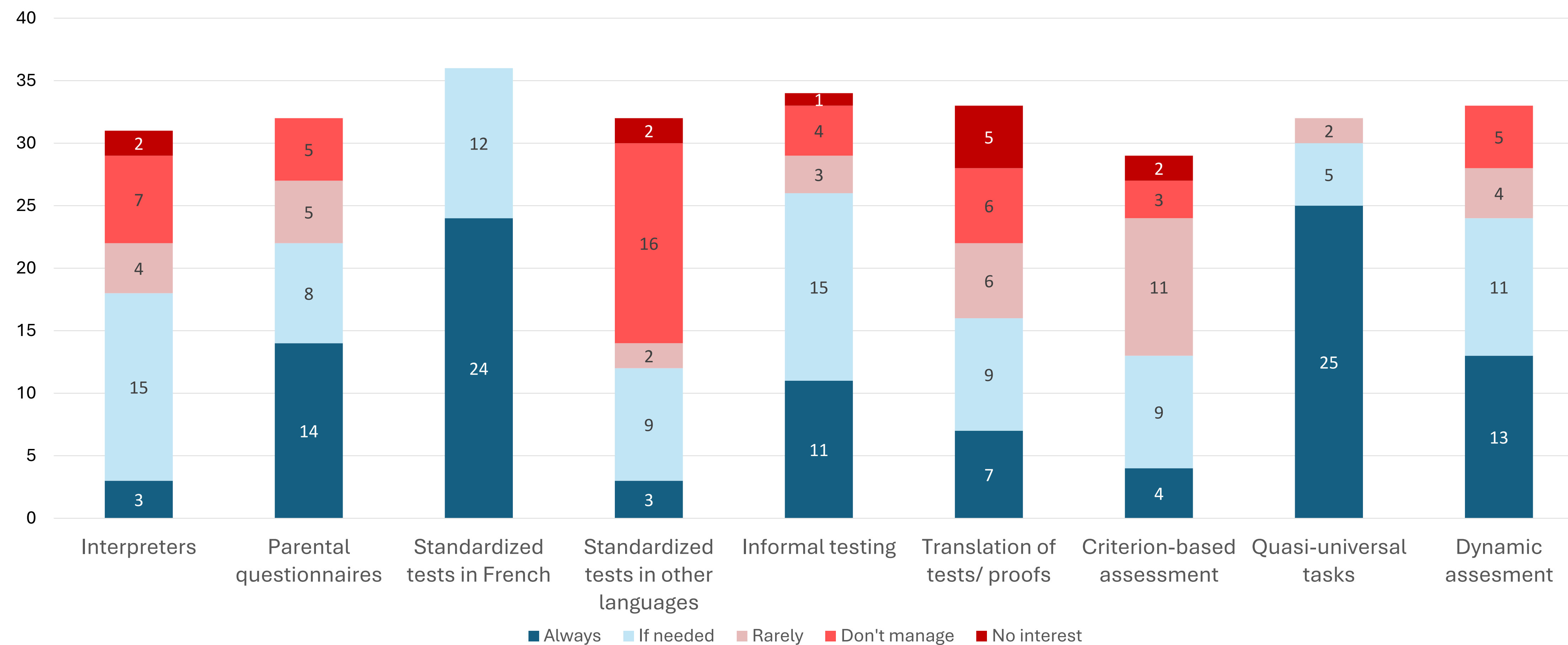


Questionnaire =
MA dissertation by Hyuna Varguet
(hyuna.varguet@unine.ch)

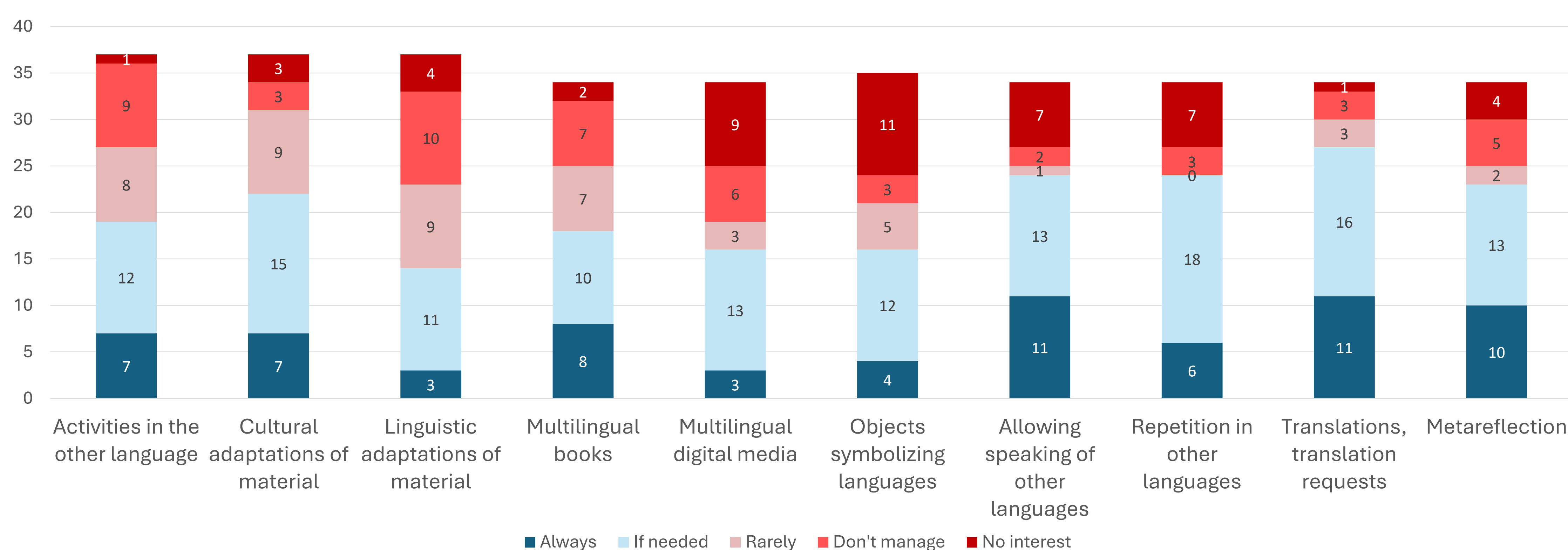
• **Does your practice differ for multilingual (vs. monolingual children)?**
→ Most SLTs select «some aspects differ» (33/43 for assessment, 39/43 for intervention, no sign. differences), no effects of background (number languages spoken, education about multilingualism), but some of self-perception (self-assessment as multilingual, limit to consider a child multilingual)



Assessment of multilingual children



Intervention with multilingual children



Qualitative analyses (questionnaire and focus groups)

Innovative tools/ strategies : translation apps (quality?), language portraits, language trees/plants

Main people involved in care : parents, teachers and sometimes siblings. Cost is the main reason why interpreters are not involved in therapy.

Main reasons why certain strategies and tools are not used : Lack of resources (interpreters, books, media, tests in other languages) and awareness (cultural and linguistic adaptations, object symbolizing languages), institutional/national policies (focus on French for education)

Advice given by speech therapists to families : nearly always: speak and promote the minority language, often: one person- one language, not to mix languages

General discussion and perspectives

• Adaptations for multilingual children both for assessment and intervention

→ More 'multilingual' practices than in Scharff-Rethfeldt et al. (2024) and Skoruppa et al. (2019)

• **General view :** Support all languages, but separately; reluctance to mix/ link languages, often focus on French during intervention for academic success (minority languages = parents' job)

Limitations :

• Sample not representative (relatively small, clinicians already interested in multilingualism)

• Social desirability bias, no explicit comparison with practices with monolingual children

Research perspectives :

• More (diverse) participants, and inclusion of other countries/languages

• Adaptation of the methodology (student interviews? direct observation of sessions?)