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Spelling words at the end of first grade:
Is it easier to spell after hearing the word than after seeing its picture?

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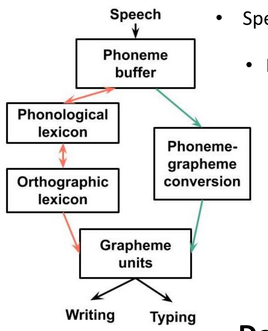
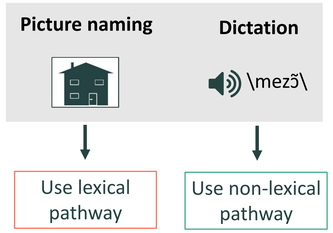
1 Introduction

- Learning to read and spell: encoding tasks seem highly beneficial (Henbest & Apel, 2017)



- Spelling a word involves 2 pathways: **lexical** or **non-lexical** (Bates and al., 2007).
- Different tasks to practice spelling words:
  - Spelling performance of adults is modulated by the type of task (Bonin, Méot, Lagarrigue, & Roux, 2015).
  - In France, teachers are advised by institution to use one task rather than another (Bosse, Boggio, & Pobel-Burtin, 2019)

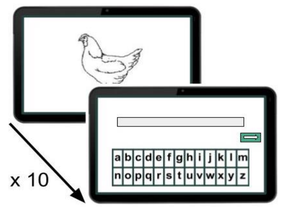


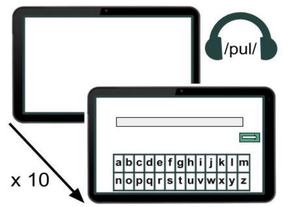
Does the type of task influence children performance ?

2 Method

70 French children (32 girls; mean age = 7 years) were tested at the end of their 1st grade.

Procedure:





Within-subject factor: Picture naming vs. Dictation

Measures:
- The number of correctly spelled items
- The response time

Material: 2 sets of 10 items paired in frequency and phoneme-grapheme consistency (Manulex, Lété, Sprenger-Charolles, & Colé, 2004), counterbalanced between students.

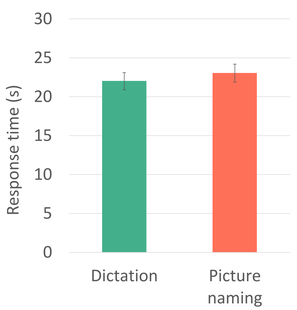
Items	singe	poire	balai	bague	vache	avion	robot	arbre	table	porte	Means
Pictures											
Frenquency	64	71	108	131	176	235	282	398	480	545	249
Consistency	59	82	92	67	84	88	73	92	94	97	82,8
Items	crabe	piano	zèbre	niche	poule	fleur	pluie	lapin	route	livre	Means
Pictures											
Frenquency	54	63	120	132	184	205	294	387	424	609	247,2
Consistency	75	81	81	84	77	90	81	81	81	98	82,9

Provided by Cannard, Bonthoux, Blaye, Scheuner, Trinquart (2006)

Registered by ourselves

3 Results

Response time



- Mixed model analysis

$t(52,23) = 0.88$, $p = .38$
$d = 0.08$

MRT <- lmer(logRT ~ Condc + (1 | Sujet) + (0 + Condc | Sujet) + (1 | Item), data = dfRT_encodage)

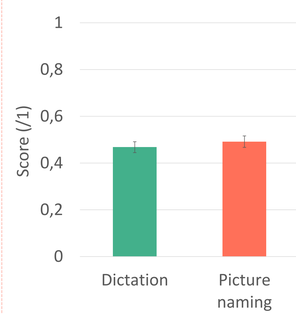
→ No significant difference

- Bayesian model comparison

Null hypothesis: $BF_{01} = 5.69$
Alternative hypothesis: $BF_{10} = 0.18$

→ Moderate evidence of the absence of difference

Score



- Mixed model analysis

estimate = 0.16, $z = 1.06$, $p = .29$
$d = 0.08$

MScore <- glmer(Score ~ Condc + (1 | Sujet) + (1 | Item), data = dfSc_encodage, family = "binomial")

→ No significant difference

- Bayesian model comparison

Null hypothesis: $BF_{01} = 13.86$
Alternative hypothesis: $BF_{10} = 0.07$

→ Strong evidence of the absence of difference

4 Discussion

Picture naming or dictation in 1st grade?

The same time to write a 5-letter word
The same number of errors

As opposed to adult experts (Bonin and al., 2015), the type of task does not influence students' spelling performance at the end of grade one.

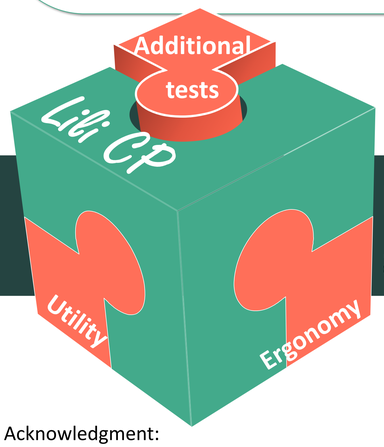
→ Children's global spelling performance seems equivalent in the two tasks.
→ No evidence suggesting to avoid picture naming task.

A classical spelling exercise in 1st grade (Hatier, 2016):

Unlike adult spellers (Bonin et al., 2015), 1st graders seem to use the same processes in these two spelling tasks. We hypothesis that the lexical pathway is poorly used by beginning spellers.

To go further

- Investigate more : various tasks (e.g., typing vs. handwriting (Longcamp, Zerbato-Poudou, & Velay, 2005)), more subtle measures (e.g., latency, type of errors (Bonin et al., 2015)), control variables (e.g., word frequency and consistency).
- Develop evidence-based learning tools and teaching methods.



Developing a reading method and evaluating it

Lili-CP from the lab to the classroom

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