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Reading acquisition in alphabetic languages is traditionally taught through phonics explicit instruction (EI), where teachers explicitly introduce grapheme–phoneme correspondences (GPCs). The effectiveness of EI from Grade 1 has been consistently demonstrated over the past two decades [1, 2]. However, recent studies [3, 4] showed that GPC can also be learned before EI are provided, thanks to a cognitive mechanism called Statistical Learning (SL). SL refers to the cognitive ability to detect and extract regularities and structured patterns from sensory input [5, 6]. In the context of learning to read, when pre-readers learn letters-to-syllable pairs that share the same letters and phonemes (‘**BA**-/ba/’ and ‘**BI**-/bi/’), the statistical system can extract regular correspondences between letters and phonemes (the GPC ‘**B**-/b/’). Although the contribution of EI and SL in reading development are well documented, relatively little research has examined how they interact during the initial stages of reading acquisition [7].

To address this research gap, we conducted a study examining the effect of the order of these two processes with a T1-Training-T2-Training-T3 protocol on the initial literacy skills of French-speaking pre-readers ($N = 37$, average age=5;6, $SD=0.3$) divided into two groups according to the order in which the processes were trained ('EI-SL' and 'SL-EI'). The SL process was promoted by training on letters-syllable pairs that comprise GPCs regularities [8, 9], while phonics instruction served as the basis for EI training. At T1, T2, and T3, we assessed three skills: letter knowledge, phonemic awareness, and syllable reading.

Preliminary results showed that for letter knowledge, both groups progressed with no statistical differences. For phonemic awareness (Figure 1), improvements are observed between T1 and T2 in the ‘SL-EI’ group, suggesting an early benefit of SL exposure. However, in the ‘EI-SL’ group, children show greater gains between T2 and T3, suggesting that subsequent SL may benefit from prior EI exposure. A similar pattern is observed for syllable reading (Figure 2), with greater gains between T2 and T3 in the ‘EI-SL’ group, indicating that EI may facilitate subsequent SL performance. These findings suggest that SL supports early reading acquisition in synergy with EI, highlighting their interaction before orthographic–phonological representations are established.

References

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Figures and Tables

Figure 1: Percentage of correct responses in the phonemic awareness task for 'SL-EI' and 'EI-SL' groups at T1, T2 and T3

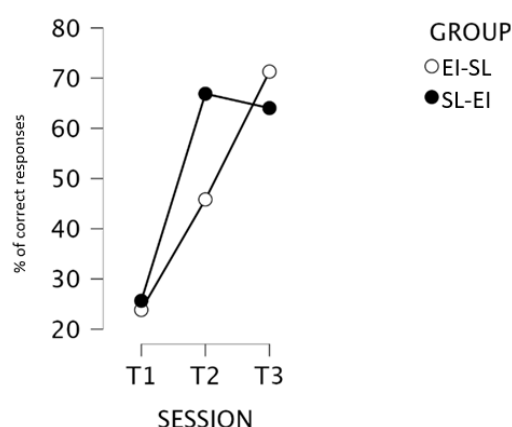


Figure 2: Percentage of correct responses in the syllables reading task for the 'SL-EI' and 'EI-SL' groups in T1, T2 and T3

