

# Stability of children's reading accuracy

Esther Steenbeek-Planting & Wim van Bon  
Radboud University Nijmegen, The Netherlands

## Introduction

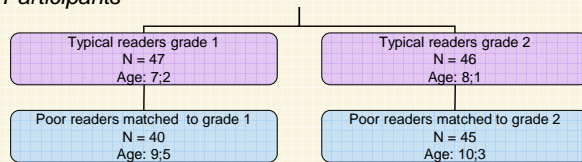
- Children's general reading performance level is stable (Verhoeven, ea, 2004).
- Reading errors of specific items are not consistent (Gough ea, 1992) → But study was very small.
- Remedial practices often focus on reading errors (Bender, 2004).
- If reading errors are not systematic, practicing on failures might not be most effective, and reading automaticity might be more enhanced by practicing on successes.

## Research questions

- Are children's reading errors consistent over time?
- Do poor readers make more inconsistent errors than typical readers?
- Does consistency change with age?

## Method

### Participants



- Participants with a reading score below 10th percentile, were assigned to the group 'poor readers'.
- Poor readers were matched with typical readers on Dutch word decoding, but differed significantly in decoding pseudowords.

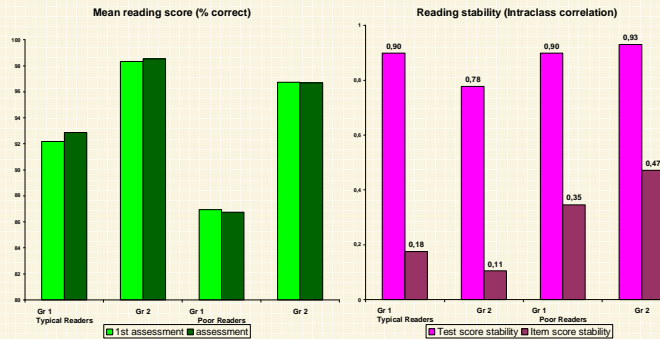
### Procedure

- Participants read a representative sample of 200 Dutch CVC words separated by an interval of a few days.
- Items were drawn randomly with chance proportional to frequency of use.
- Participants read words in isolation presented on a computer screen, word visibility ended at the beginning of participant's vocalizing.
- Accuracy and naming latencies were recorded.

## Results

Is item score stability comparable to test score stability?

→ No, lower than test score stability → Errors are not made systematically.



Is the number of consistent mistakes related to the mean test score?

→ Yes, the number of words read incorrectly at both occasions is almost entirely determined by the reading score (i.e., mean number correct). 95% of variance is explained in four subject groups.

		2 <sup>nd</sup> assessment		Total
		0. incorrect	1. correct	
1 <sup>st</sup> assessment	0. incorrect	n00	n01	n0. / N errors1
	1. correct	n10	n11	n1.
total		n.0. / N errors2	n.1	n = 200

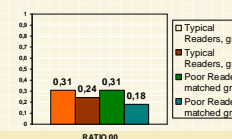
Are the number of consistent mistakes higher than could be expected from chance, i.e., product of marginal totals?

→ Yes, consistency is higher than expected from chance for all groups.

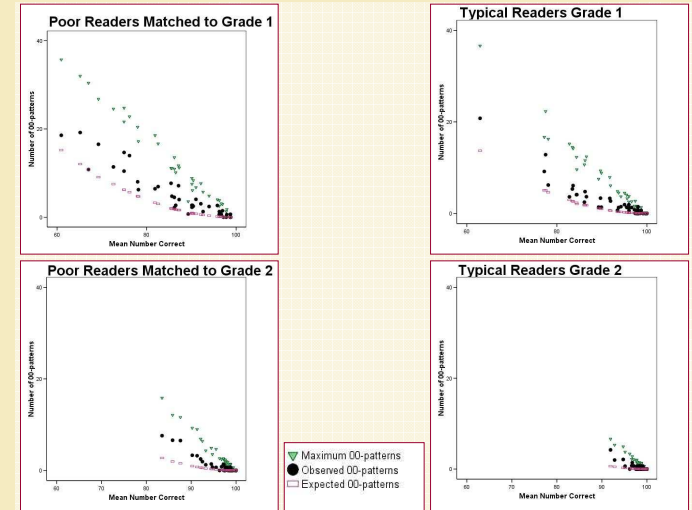
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How far between expected and maximum is the position of the actual number of 00-patterns (RATIO 00 = (observed - expected)/(maximum - expected)?

→ Less than half-way,  
→ however significantly above 0\*.  
→ Children are far from fully stable.



\* Tested against 0



Is reading consistency (RATIO 00) determined by Grade (1 vs 2) and Reading Ability (Poor vs Typical)?

→ Main effect of Grade

→ Poor Readers matched to Grade 2 are significantly less consistent than Poor Readers matched to Grade 1 ( $p = .023$ ).

## Conclusions

- Children's general reading ability is stable.
- Errors are not made systematically however.
- Error consistency is higher than expected from chance, but children are far from fully stable.
- Consistency decreases with age.
- Reading consistency of poor readers is comparable to typical readers.
- Poor readers' consistency decreases with age.

## Practical Implications

- Focusing on failures in remedial practices might not be most effective, especially for older poor readers, since errors are not fully stable.

For more information please contact:  
e.steenbeek@pwo.ru.nl