Early literacy proficiency in kindergarten: cognition or school environment dependent?

Christel Van Vreckem, Annemie Desoete and Saar Callens

artevelde hogeschool
LID VAN DE ASSOCIATIE UNIVERSITEIT GENT

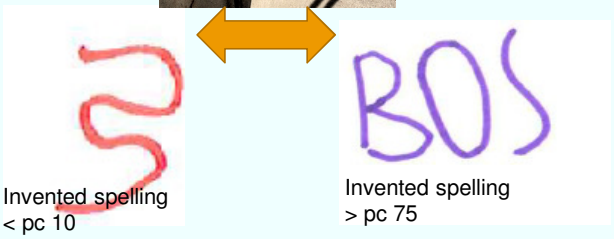
Theoretical background and Research question

- Early detection of kindergartners at risk, especially those growing up in poverty: early interventions reduce the gap with peers growing up in families with a higher socio-economic status (Hattie, 2009; Whitehurst, & Fischel,2001).
- Cognitive predictors for reading and spelling skills across all languages: Rapid Naming (RAN), letter knowledge and phonological awareness (Dandache, Wouters, & Ghesquière, 2014; Verhagen, 2009).
  Recently: invented spelling: better predictor, especially for transparent languages (Bigozzi, Tarchi, Pezzica, & Pinto, 2014; Sénéchal, Ouelette, Pagan, & Lever, 2012; Werfel,& Schuele, 2012).
- In Belgium, the Dutch speaking part using a semi-transparent language: no test available to assess these four predictors in kindergarten
  ≠ The Netherlands: Protocol Dyslexia group 2 (kindergarten)
- Belgium and The Netherlands:
  - the same language
  - different curriculum
    In the Netherlands: a more formal literacy instruction is already given in kindergarten, whereas in Belgium formal instruction starts in grade 1.
- ***Research question***
  Can cognitive skills of kindergartners be assessed with a standardized tool, developed in another educational environment using the same language?

Method: instruments and participants

- Protocol Reading Problems and Dyslexia for kindergartners (Wentinck et.al., 2012):
  - blending, segmentation, letter knowledge, RAN and invented spelling.
  - January 3th year kindergarten
  - June 3th year kindergarten
- Teacher rating at a 7-point rating scale.

Results



Invented spelling
< pc 10

Invented spelling
> pc 75

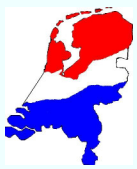
Table 1: Skills kindergartners in January (*n*=151)

Predictors	Cut off score in the Netherlands in January	% compared cut off in Belgium	Pc 25 in Belgium January (*n*= 151)	Pc 50 in Belgium January (*n*= 151)
Segmentation	20		8	16
Blending	7		0	1
RAN	≥30"	7% slower		
Letter knowledge	6		3	5
Invented spelling	0	40%		

Table 2: Skills kindergartners in June (*n*=189)

Predictors	Cut off score in the Netherlands in June	% compared cut off in Belgium	Pc 25 in Belgium June (*n*= 189)	Pc 50 in Belgium June (*n*= 189)
Segmentation	20		14	18
Blending	9		3	6
RAN	≥30"	8% slower		
Letter knowledge	12		5	9
Invented spelling	0	19%		

Discussion



- Protocol DL: advice: <pc. 25: extra playful literacy support at school
- Group: evolution January kindergarten → June kindergarten
- Belgium and The Netherlands: the same language
  BUT: Belgian children < the kindergartners from the Netherlands
  Nearly 60 % of the Belgian children should get extra support according to the Protocol used in the Netherlands
  ≠ curriculum!

Conclusion

- Choosing an assessment tool for cognitive skills in kindergarten, we should take into account the curriculum of the country and other environmental influencing factors, even if we use the same language. Adaptation of the instrument or 'restandardizing' can be necessary.
- Early detecting kindergartners at risk and early interventions in the classroom can help to close the gap for kindergartners at risk, especially those growing up in poverty.
  Playful literacy support and functional tasks as dramatic play motivate these children to learn implicitly early literacy skills.

References

Whitehurst,G.E., & Fischel,J.E.. (2001). Reading and Language Impairments in Conditions of Poverty. In D. Bishop, & L. Leonard. *Speech and Language Impairments in Children: Causes, Characteristics, Intervention and Outcome*. Psychology Press: Sussex.
Hattie J. (2009). *Visible Learning. A synthesis of over 800 meta-analyses related to achievement*. Routledge: London
Dandache, S., Wouters, J., & Ghesquière, P. (2014). Development of Reading and Phonological Skills of Children at Family Risk for Dyslexia: a Longitudinal Analysis from Kindergarten to Sixth Grade. Dyslexia, 20: 305-329
Verhagen, W. (2009). Predicting early word recognition and spelling. Nijmegen: Ipskamp drukkers B.V.
Bigozzi, L., Tarchi, C., Pezzica, S., & Pinto, G. (2014). Evaluating the Predictive Impact of an Emergent Literacy Model on Dyslexia in Italian Children: A Four-Year Prospective Cohort Study. *Journal of Learning Disabilities*.49 (1-14). doi:10.1177/0022219414522708
Sénéchal, M., Ouelette, G., Pagan, S., & Lever, R. (2012). The role of invented spelling on learning to read in low-phoneme awareness kindergartners: a randomized-controlled-trial study. Read Writ, 25(917-934)
Van Vreckem, C., & Callens, S.(2015). Voorbereidende lees- en spellingvaardigheden van Vlaamse en Nederlandse kleuters: meer verschillen dan gelijkenissen… Logopedie, 28 (6):31-45
Werfel, K. ,& Schuele, C. (2012). Segmentation and representation of Consonant Blends in Kindergarten Children's spellings. Language, Speech, and Hearing Services in schools. 43, 292-307.

Corresponding author: Christel Van Vreckem University college Arteveldehogeschool Ghent, Voetweg 66, 9000 Ghent, Belgium christel.vanvreckem@arteveldehs.be
Study supported PWO-project University college Arteveldehogeschool Ghent Belgium