

Unfolding interaction during reading with at-risk and not at-risk first and second graders

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Interactive book reading is an effective method to foster children's language development. Both the frequency and the quality of children's contributions during reading are important attributes to add to the quality of an interactive reading session and thus increase literacy and vocabulary acquisition. Previous studies pointed out that children's chance of being at risk for language and literacy impairments due to their socio-economic, ethnic or minority background or home language, is an important child characteristic defining the effects of the reading activity.

Therefore, this research aimed at providing an integrated view on input and interaction patterns during reading with two different groups of 1st and 2nd graders: a group of children with an at-risk background and a group of mainly not-at-risk children. Videos of small group reading sessions (n=30) were transcribed verbatim (i.e. 16h, 53m 23s of interactive book reading), divided in 18 995 single units of language and coded with a good interrater agreement ($\kappa=.84$, $p < .00$). A literature-based comprehensive coding scheme was used for this coding.

Notwithstanding the similar general interaction patterns in both groups, descriptive and chi square analyses showed significantly less child input in the at-risk group, indicating less qualitative reading activity. The use of evocative techniques to engage children in the story, just as questions and reinforcement, is significantly smaller in this group as well. This is striking, since interactive book reading with at-risk children could be a starting point to counter Matthew effects in reading acquisition and its associated effects on general language skills.

Extended summary

Today's society is characterized by an exponential increase of knowledge and technology, challenging people to successfully process the corresponding flood of information (Anderson, 2008). Literacy in general and vocabulary in particular are essential skills to participate successfully in this information society (European Commission, 2006) and should be fostered from a young age onwards (Pinkham & Neuman, 2006; Whiteburst & Lonigan, 1998).

The largest effects of educational interventions on vocabulary development - as the core component of literacy - are observed as a result of interactive book reading (IBR) (Mol, Bus & de Jong, 2009; Mol, Bus, de Jong & Smeets, 2008). Numerous studies pointed in this respect at different gains from IBR for children at risk for language and literacy difficulties (Barnes et al., 2017; Mol et al., 2009; Scarborough & Dobrich, 1994). The chance of being at-risk is thus an important child characteristic affecting the quality of the reading activity. Notwithstanding these findings, research comparing child input and interaction patterns in IBR with at-risk and non-at-risk children is lacking. Currently, the research almost solely focuses on one or the other group of children (e.g. Mol et al., 2009).

Therefore, the present study aims to provide a more holistic view on input from both adults and children during IBR for two different groups of first and second graders: a group of children with an at-risk background and a group of mainly not-at-risk children.

A sample of 30 trained research assistants and a small group of 3-5 first and second grade students per assistant (i.e., 120 students) were videotaped during 3 IBR sessions (i.e., approximately 17 hours of video data – 18 995 single language utterances). Half of the reading sessions were with at-risk 1st and 2nd graders, the other half with a not-at-risk group. The video-taped IBR sessions were transcribed verbatim and transcripts were analyzed via a self-developed and validated integrative coding scheme, following van Kleeck et al.'s (1997) coding scheme for input in IBR.

A combination of analyses is used to map IBR's microstructure: (1) Both teacher and child utterances were studied from a variable-oriented perspective by means of descriptive analysis of all variables, providing insight in the nature, frequency, and quality of utterances. (2) Connections between teacher, child, and peer utterances are studied by means of chi-square analysis to provide an in-depth, thick descriptive, and detailed insight on the interrelationship between children's and teacher's utterances. Descriptive and chi-square analysis showed significant differences in the child input during reading comparing the at-risk group and the not-at-risk group, including significantly less child input in interactive book reading with at-risk children. When we look more in detail at the interaction, significant differences in view of the form, focus and abstraction level of the language utterances can be identified as well. By example, the use of evocative techniques to engage children in the story, just as questions and reinforcement, is significantly smaller in IBR with at-risk children.

Adjusting interaction during IBR to the needs of at-risk children holds powerful opportunities for breaking the Matthew effect of literacy acquisition (Cunningham & Stanovich, 1998; Mol et al., 2008:

Mol et al., 2009; Stanovich, 1986; Wasik & Hindman, 2011). Unfortunately, however, the present results regarding the frequency of occurrence of child input during IBR indicate that this potential of countering the Matthew effect, is not been taking advantage of, at least not in terms of fostering equal child contribution in the IBR interaction for both at-risk and not-at-risk students.

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