Do narrative skills of bilinguals at preschool age predict literacy development in primary school?

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Background

Narrative skills (i.e., macrostructure) develop similarly in mono- and early bilinguals (e.g., Otwinowska et al., 2018; Pearson, 2002) and are shared between languages (e.g., Bohnacker, 2016; Paradis et al. 2011).

There are correlations between narrative skills and literacy in monolinguals and bilinguals (Bishop & Edmundson, 1987; Bliss et al., 1998; Uccelli & Páez, 2007; Westby, 1991).

Do narrative skills (story structure and story complexity) at preschool age predict reading and spelling in L2 German of bilingual primary school children?

Longitudinal design

Preschool

Primary school (1st and 2nd grade)

Narrative skills (MAIN; Gagarina et al., 2012)
- Story structure and story complexity

Intelligence (SON-R; Tellegen, Laros & Petermann, 2007)
- Nonverbal intelligence test (logical reasoning scale)

Background factors (Questionnaire, Gagarina, Klassert & Topaj, 2010)
- Age of acquisition (AoA) of German
- SES (parents’ education on a scale from 1 to 3)

Sample

59 bilinguals
- 54 % girls, 46 % boys
- Russian (n = 37) or Turkish (n = 22) as home language
- German as environmental and school language

Results

Reading:
- No significant correlations between narrative skills and all reading tasks (see table on the left)

Spelling:
- Significant correlations in 1st grade for story structure and complexity (see table and figures on the left)
- Insignificant correlations in 2nd grade, except for story structure and number of graphemes (see figures)
- Regression analyses (table on the right) reveal that story structure in preschool narratives predicts spelling in 1st, but not in 2nd grade

Correlations

<table>
<thead>
<tr>
<th>Grade</th>
<th>Story structure</th>
<th>Story complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Words 1st</td>
<td>.02</td>
<td>.03</td>
</tr>
<tr>
<td>2nd</td>
<td>.23</td>
<td>.22</td>
</tr>
<tr>
<td>Sentences 1st</td>
<td>-.07</td>
<td>.02</td>
</tr>
<tr>
<td>2nd</td>
<td>.2</td>
<td>.15</td>
</tr>
<tr>
<td>Texts 1st</td>
<td>.12</td>
<td>.16</td>
</tr>
<tr>
<td>2nd</td>
<td>.21</td>
<td>.08</td>
</tr>
<tr>
<td>Spelling Graphemes 1st</td>
<td>.34 **</td>
<td>.28 *</td>
</tr>
<tr>
<td>2nd</td>
<td>.25</td>
<td>.11</td>
</tr>
<tr>
<td>Words 1st</td>
<td>.29 *</td>
<td>.38 **</td>
</tr>
<tr>
<td>2nd</td>
<td>.21</td>
<td>.06</td>
</tr>
</tbody>
</table>

Spelling 1st grade: r = .34 **

Conclusions

In contrast to previous research, narrative skills did NOT predict early reading. Possible reasons:
1. Test characteristics: a) time limitations in the ELFE test and b) multiple choice selection in contrast to text reading
2. Small sample size and other background factors might influence outcomes

However, larger correlation coefficients in 2nd than 1st grade could indicate an increasing role of narrative skills over the course of primary school.

Story structure predicted spelling in 1st grade:
1. Since reading and writing correlate, we expected this result
2. Test characteristics: no time limit in HSP and possible repetitions of items reduce memory load

YES, story structure in bilingual children’s preschool narratives is predictive for spelling abilities in the 1st grade, but NOT for early reading in either 1st or 2nd grade.