Annexes

Error analyses: Adults

Sequential conditions

A 2x2 ANOVA for repeated measures was computed using Condition (“tens-first” and “units-first”) as within-group factor and Language-Group (French-speaking, German-speaking) as between-group factor. Main effect of condition and language were both non-significant (Condition effect: *F*(1, 48) = .482, *p* = .491, η2 = .01; Language-group effect: *F*(1, 48) = .315 , *p* = .577, η2 = .007). Moreover we did not observe significant interactions between language-group and condition with respect to error rates (*F*(1, 48) = .482, *p* = .491, η2 = .01).

Simultaneous condition

The two-sided t-test performed on the error rates for “simultaneous” condition did not indicate any differences between French- and German-speaking participants (Simultaneous: *t*(48) = 1.452, *p* =.153, d = .412) (see table 6).

Table 6.

Descriptive statistics of Error Rates (in %) for French- and German-speaking participants.

|  |  |  |
| --- | --- | --- |
|  | **Means** | **Standard deviations** |
| **Conditions** | **French-Speakers** | **German-speakers** | **French-Speakers** | **German-speakers** |
| Tens-first | 1.68 | 2.38 | 1.96 | 2.59 |
| Units-First | 2.29 | 2.38 | 3.13 | 3.87 |
| Simultaneous | 1.5 | 2.69 | 2.57 | 3.23 |

Error analysis: Children

Sequential conditions

A 2x2 ANOVA for repeated measures was computed with Condition ( “tens-first” and “units-first”) as within-group factor and the Language-Group (French-speaking, German-speaking) as between-group factor. Main effect of Condition and language were both non-significant (Condition effect: *F*(1, 40) = .354, *p* = .555, η2 = .009; Language-Group effect: *F*(1, 40) = 2.195 , *p* = .146, η2 = .052). Moreover we did not observe a significant interaction between Language-Group and Condition (*F*(1, 40) = .007, *p* = .933, η2 = 0).

Furthermore, contrasting the two sequential conditions with two-sided paired t-tests separately for each language group did not show any significant differences between error rates during “tens-first” and “units-first” conditions (French-speaking language group : *t*(20) = -.645, *p* =.526, d = -.141; German-speaking language group : *t*(20) = -.37, *p* =.715, d = -.081).

Simultaneous condition

The two-sided t-test performed on the error rates for “simultaneous” condition did not indicate any differences between French- and German-speaking participants (Simultaneous: *t*(40) = .101, *p* =.92, d = .031) (see table 7).

Table 7.

Descriptive statistics of Error Rates (in %) for French- and German-Speaking Children.

|  |  |  |
| --- | --- | --- |
|  | Means | Standard-deviations |
| Conditions | French-Speakers | German-speakers | French-Speakers | German-speakers |
| Tens-first | 2.72 | 4.19 | 2.74 | 4.32 |
| Units-First | 2.38 | 3.74 | 2.61 | 4.91 |
| Simultaneous | 3.63 | 3.51 | 3.5 | 3.74 |