

Testing spelling skills that relate on morphosyntactic information in a multilingual context



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Context

Multilingual education:

Luxembourg is officially trilingual: Luxembourgish, German and French.

German is the language in which children learn how to read and write from grade 1 on. Written French is added to the curriculum in grade 3.

Luxembourgish remains the language of communication throughout primary school.

More languages are present due to a high percentage of immigration (50,3% in 2013) of which most are Portuguese, Slavic, French, Italian,....).

Aim

Orthography does not only include phonological but also morphosyntactic information.

In German any word that has the position of the **nucleus of a nominal phrase** is highlighted with an initial **capital letter**. The spelling difficulty of capitalization depends on the lexical-semantic characteristics (concrete nouns, abstract nouns, nominalization), syntactical position and frequency.^{1,2}

In French plural is generally only marked in writing. Nominal plural is marked by <-s> and verbal plural by <-ent>. The difficulty to acquire the (correct) plural marker is dependent on the word category (noun, adjectives, verbs) and position as well as the frequency of both.³

The aim is to verify if the difficulty patterns of morphosyntactic information only marked in writing (but not distinguishable in speech) found for monolinguals are confirmed for pupils acquiring the two writing systems (German: capitalization, French: plural endings).

Method

Overall 337 grade 5 children (mean age = 12 yrs) enrolled in Luxembourgish schools participated (about 50% female). Testing was divided over 2 counterbalanced sessions (German, French).

Tasks

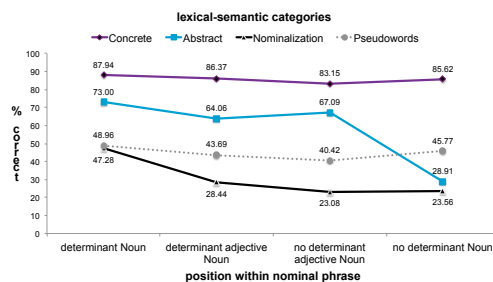
Children were asked to fill in words within preprinted sentences containing gaps. The words contained target spellings. The dictations (German/French) were presented via audio CD recorded by two different female native speakers.

- German dictation (n=313)
 - 64 target spellings (4 per category)
 - 32 filler spellings
- French dictation (n=317)
 - 48 target spellings (6 per category)
 - 23 filler spellings

Test Design: German

position	lexical-semantic characteristics			
	concrete	abstract	nominalization	pseudowords
determinant Noun	der <i>Maier</i>	die <i>Angst</i>	das <i>Rot</i>	das <i>Druchen</i>
determinant adjective Noun	der <i>alte Hund</i>	die <i>tolle Idee</i>	das <i>laute Singen</i>	das <i>leichte Frand</i>
no determinant adjective Noun	<i>bunte Vögel</i>	<i>gute Nachrichten</i>	<i>lautes Sprechen</i>	<i>schöne Spobeln</i>
no determinant Noun	<i>Milch</i>	<i>Sorgen</i>	<i>Pfeifen</i>	<i>Frog</i>
	frequent		pseudoword	
	frequency			

Results: German



- effect of position ($F_{3,310} = 218.44, p = 0001$)
- effect of lexical-semantic category ($F_{3,310} = 538.76, p = 0001$)
- interaction position * category ($F_{9,304} = 96.68, p = 0001$)
- Interpretation
 - determinant Noun > determinant adjective Noun > no determinant adjective Noun > no determinant Noun
 - concrete > abstract > pseudowords > nominalization
 - effect of position is different depending on lexical-semantic category: e.g. for the no determinant Noun position performance is lowest esp. for abstract nouns; whereas performance for concrete nouns remains relatively stable across positions

Test Design: French

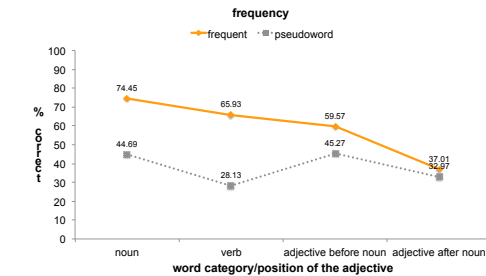
frequency	word category			
	noun	verb	adjective	
frequent	<i>les trains</i>	<i>les parents racontent</i>	<i>les pauvres chiens</i>	<i>les avions bleus</i>
pseudoword	<i>les fadures</i>	<i>les enfants prassent</i>	<i>les daves téléphones</i>	<i>les jouets tavres</i>
	before noun		after noun	
	position			

Results: French

- effect of frequency ($F_{1,316} = 418.65, p = 0001$)
- effect of word category ($F_{3,314} = 143.54, p = .0001$)
- interaction frequency * category ($F_{3,314} = 107.99, p = .0001$)

Interpretation

- frequent words > pseudowords
- noun > verb > adjective before noun > adjective after noun
- effect of frequency different of word categories: larger for verbs and nouns, than for adjectives for which general performance drops however



Conclusions

Children acquiring German and French at school show similar difficulty patterns as shown in the literature for German/French monolinguals. The morphosyntactic difficulties under study are thus specific to the acquisition of writing skills within each writing system.

For German: The spelling results of frequent nominalizations were significantly lower than the spelling of pseudowords. In German, nominalization seems to be extremely difficult for pupils even more than pseudowords. This could be due to the necessary process of re-categorization of words that are more frequently used in different lexical-semantic categories.

For French: The hypothesized sequence of difficulty (noun > verb > adjective before noun > adjective after noun) only confirms for frequent words. Performance on pseudowords show that pupils use the <-s> marker more frequently than the <-ent> plural marker.

References

- ¹Betzl, D. (2015). Zum weiterführenden Erwerb der satzinternen Großschreibung. Eine leistungsdifferenzierte Längsschnittstudie in der Sekundarstufe I. Baltmannsweiler. Schneider Verlag.
- ²Funke, R., Wieland, R., Schöenberg, S., & Melzer, F. (2013). Exploring syntactic structures in first-language education: effects on literacy-related achievements. L1- Educational Studies in Language and Literature, 13, 1–24.
- ³Fayol, M., Totereau, C., & Barrouillet, P. (2006). Disentangling the impact of semantic and formal factors in the acquisition of number inflections: Noun, adjective and verb agreement in written French. Reading and Writing, 19(7), 717–736.

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