The role of print exposure and language aptitude in adolescent writing complexity and receptive grammar

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According to usage-based models, children learn language from the input available to them using general cognitive mechanisms. This paper investigated the role of a particular type of input (printed texts) and a particular type of cognitive mechanism (grammatical sensitivity) on the development of grammar and writing complexity in English-speaking adolescents. The focus of the study was on language in the written modality and, given the large influence that exposure to written language i.e. print exposure has on lexical development (Mol & Bus 2011), spelling (Sparks et al. 2012), and the acquisition of complex syntax, it was one of two main predictor variables. Written language contains a higher proportion of lexically richer and syntactically more complex language than is found in spoken language (Biber 1986; Cameron-Faulkner & Noble 2013; Cunningham & Stanovich 1998) and this exposure aids in the comprehension of these complex structures (Just & Carpenter 1992). Print exposure has also been found to be a source of variation in grammatical abilities (Dąbrowska 2018; Street & Dąbrowska 2010).

The second predictor of grammar and complex structures in our study was grammatical sensitivity, an aspect of language aptitude. The role of aptitude as a strong predictor of foreign language acquisition has been firmly established since the 1950s (Li 2015). More recently and in contrast to the initial assumptions that aptitude plays no role in native language acquisition, it has been found to relate more strongly to grammatical proficiency in the native language than in the second language in adults (Dąbrowska 2018; Llompart & Dąbrowska (in press); Wickel & Dąbrowska (under review)). These findings raise the question of whether a similar relationship would be found in adolescents who are still in the middle stages of language development and in the process of becoming proficient writers.

89 English-speaking 11-13-year-olds participated in our experiment. They completed a grammatical sensitivity test of language aptitude and an author recognition test to measure print exposure. Our outcome variables were receptive grammar and the lexical richness and grammatical complexity of two writing samples. Participants wrote a personal narrative and a passage designed to elicit complex writing structures. The writing samples were transcribed and imported to INCEpTION (Klie et al. 2018) for annotation. In order to extract the measures of lexical richness and grammatical complexity that formed our outcome measures, we annotated for T-units, subordinate clauses, noun phrases, and spelling errors. We ran correlational and inferential analyses to determine the role of print exposure and aptitude in receptive grammar and writing complexity.

The results revealed that aptitude was an important predictor not only of receptive grammar, but also for the production of lexically rich and grammatically complex written language. We found that print exposure was also a significant predictor of expressive lexical richness. The interaction between aptitude and print exposure revealed a superadditive effect that demonstrates the importance of high-quality exposure to written language, as is found in books, for the development of grammatically complex writing, regardless of the aptitude of the individual.

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