THE INFLUENCE OF AGE ON VOCABULARY ACQUISITION
IN ENGLISH AS A FOREIGN LANGUAGE

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To Montserrat and Lluís
SUMMARY

This dissertation analyses the effects of age on the acquisition of vocabulary in English as a Foreign Language (FL). It focusses on productive vocabulary because it is a crucial aspect in language learning which is also vital in communication, both oral and written, and it has often been the neglected component in research on age.

Studies on age in naturalistic contexts have usually shown that ‘the earlier one starts learning the language, the better’. Although in the short term Early Starters (ES) are outperformed by Late Starters (LS), due mainly to the superior cognitive maturity and the quickest rate of development of the latter, in the long run ES will catch up with LS and will eventually overtake them. Our educational system also promotes an early start to the FL, as the age at which English is first introduced at schools has progressively been brought down in the recent years. However, results in instructional settings are not as clear-cut as the ones obtained in natural contexts and ‘the earlier the better’ assumption does not always seem to apply in a straightforward way. The present work analyses the oral and written production of two groups of Catalan/Spanish bilinguals who learn English at school as a FL. One of the main aims of the research is to determine if, in the long term, towards the end of secondary education, there are consistent differences between a group of ES (who started at 8) and one of LS (who started at 11) as regards productive vocabulary. The design presented also allows to study the development and draw comparisons between the groups from primary education onwards (data collections were carried out after 200, 416, 726 and 800 hours of exposure). Therefore, the analyses are performed by controlling the Amount of Exposure that learners have received, their Cognitive Maturity (Age at Testing) and their Age of Onset (Starting Age).

In order to analyse the participants’ production, both intrinsic and extrinsic vocabulary measures are used. It is also a research purpose of the present work to survey some of the widely-used measures of lexical richness and to evaluate new ones, such as $D$ and $P_{Lex}$. In addition, as the Second Language Acquisition research field is very much in need of testing tools, especially as regards vocabulary, this thesis presents one of the first methods to compute estimates of productive vocabulary size for different tasks. The process to carry out the estimations has been automated into $V_{Size}$, a new computer tool.

Results show that in the long term, ES do not surpass LS in a formal context as far as lexical production is concerned. The same takes place even if ES receive some more exposure. This LS advantage seems to be present since the first stages of learning the FL, even though both groups show a boost in vocabulary from the age of 13 onwards. The findings are discussed in the light of other results found in natural and formal contexts for lexis and other language components. They are also interpreted in relation to other factors that may contribute to a successful learning apart from an early start. Results on different lexical measures are considered for research in the field and potential advantages of the new $V_{Size}$ are described. Therefore, not only does the thesis bring new evidence to research on age and FL acquisition, but it also offers new insights into productive vocabulary testing.
RESUM

Aquesta tesi analitza els efectes del factor edat en l’adquisició de vocabulari en anglès com a llengua estrangera. Es centra en vocabulari productiu perquè és un aspecte crucial en l’aprenentatge de llengües que també és molt important per la comunicació, oral i escrita, i ha estat sovint el component oblidat en recerca sobre edat.

Els estudis sobre el factor edat en contextos naturals mostren que és millor començar a aprendre un idioma el més abans possible. Tot i que a curt termini els aprenents més grans siguin millors que els joves, sobre tot a causa del la maduresa cognitiva i del ritme ràpid de desenvolupament dels primers, a llarg termini els més joves atrapen els grans i arriben a depassar-los. El nostre sistema educatiu també promou un començament primerenc de l’anglès, ja que l’edat en què l’idioma estranger és introduït a les escoles és cada vegada més baixa. Tanmateix, els resultats en contextos d’instrucció no són tan clars com els obtinguts en contextos naturals i la suposició de ‘quan abans millor’ no sembla del tot certa. Aquest treball analitza la producció oral i escrita de dos grups d’estudiants bilingües català/castellà que aprenen anglès com a llengua estrangera a l’escola però que començaren a edats diferents (uns als 8 i els altres als 11). Un dels propòsits de la recerca és determinar quin dels dos grups serà més competent a llarg termini, al final de la Secundària, pel que fa al vocabulari productiu. El disseny permet també estudiar el desenvolupament i establir comparacions entre els dos grups des de l’educació primària (es portaren a terme recollides de dades després de 200, 416, 726 i 800 hores d’aprenentatge). Les anàlisis controlen, per tant, les hores d’exposició, la maduresa cognitiva i l’edat d’inici de l’anglès.

Per tal d’analitzar la producció dels aprenents s’han utilitzat mesures de vocabulari intrínsec i extrínsec. És també objectiu d’aquesta tesi estudiar algunes de les mesures més utilitzades en lèxic així com a noves com la D i el $P_Lex$. A més, com que el camp de recerca en Adquisició de Segones Llengües necessita eines d’avaluació, especialment en vocabulari, es proposa en aquest treball un dels primers mètodes per realitzar estimacions del tamany de vocabulari productiu dels aprenents per diferents tasques. Aquest procés d’estimació ha estat computeritzat en el programa $V_Size$, una nova eina informàtica.

Els resultats indiquen que, a llarg termini, els aprenents més joves no avantatgen els més grans en contextos formals i que a vocabulari productiu, encara que els més joves hagin començat abans; tampoc si aquests han rebut més hores d’exposició. Aquest avantatge dels més grans sembla ser present des dels estadis inicials d’aprenentatge, tot i que hi ha un desenvolupament notable als voltants dels 13 anys en ambdós grups. Els resultats són posats en relació a altres estudis en contextos formals i naturals tant pel que fa a vocabulari com per altres components lingüístics. Així mateix, són interpretats en relació a altres factors que poden ser tan o més importants que una jove edat d’inici. També els resultats obtinguts de les diferents mesures lèxiques són considerats per recerca en el camp i es descriuen els possibles beneficis derivats del nou mètode d’estimació de tamanys de vocabulari. Per tant, la tesi ofereix no només noves evidències a la recerca sobre el factor edat en l’adquisició de llengües estrangeres sinó també nous mètodes d’anàlisi de vocabulari productiu.
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<th>Description</th>
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<tbody>
<tr>
<td>AE</td>
<td>Amount of Exposure</td>
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<tr>
<td>AO</td>
<td>Age of Onset</td>
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<td>AT</td>
<td>Age at Testing</td>
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<td>AWL</td>
<td>Academic Word List</td>
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<td>BICS</td>
<td>Basic Interpersonal Communicative Skills</td>
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<tr>
<td>BNC</td>
<td>British National Corpus</td>
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<tr>
<td>CALP</td>
<td>Cognitive/Academic Language Proficiency</td>
</tr>
<tr>
<td>CATSS</td>
<td>Computer Adaptive Test of Size and Strength</td>
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<tr>
<td>CHILDES</td>
<td>Child Language Data Exchange System</td>
</tr>
<tr>
<td>CP</td>
<td>Critical Period</td>
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<td>CPH</td>
<td>Critical Period Hypothesis</td>
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<tr>
<td>EFL</td>
<td>English as a Foreign Language</td>
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<td>ERP</td>
<td>Event-Related Brain Potentials</td>
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<td>ES</td>
<td>Early Starters</td>
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<td>EVST</td>
<td>Eurocentres Vocabulary Size Test</td>
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<td>FL</td>
<td>Foreign Language</td>
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<td>GSL</td>
<td>General Service List</td>
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<td>LC</td>
<td>Language Centre</td>
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<tr>
<td>LD</td>
<td>Lexical Density</td>
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<td>LFP</td>
<td>Lexical Frequency Profile</td>
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<td>LS</td>
<td>Late Starters</td>
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<tr>
<td>LSD</td>
<td>Language-Specific Details</td>
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<tr>
<td>LV</td>
<td>Lexical Variation</td>
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<tr>
<td>L1</td>
<td>First Language (Mother Tongue)</td>
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<td>L2</td>
<td>Second Language</td>
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<tr>
<td>NS</td>
<td>Native Speaker</td>
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<tr>
<td>NNS</td>
<td>Non-Native Speaker</td>
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<tr>
<td>OLS</td>
<td>Ordinary Least Squares</td>
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<tr>
<td>PPVT</td>
<td>Peabody Picture Vocabulary Test</td>
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<tr>
<td>SL</td>
<td>Second Language</td>
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<tr>
<td>SLA</td>
<td>Second Language Acquisition</td>
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<tr>
<td>TTR</td>
<td>Type-Token Ratio</td>
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<td>UG</td>
<td>Universal Grammar</td>
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<td>University Word List</td>
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