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**Bilingualism and working memory capacity [Recurso electrónico]: a comprehensive meta-analysis / John G. Grundy, Kalinka Timmer**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 336-340

Bilinguals often outperform monolinguals on executive function tasks, including tasks that tap cognitive flexibility, conflict monitoring, and task-switching abilities. Some have suggested that bilinguals also have greater working memory capacity than comparable monolinguals, but evidence for this suggestion is mixed. We therefore conducted a comprehensive meta-analysis on the effects of bilingualism on working memory capacity. Results from 88 effect sizes, 27 independent studies, and 2,901 participants revealed a significant small to medium population effect size of 0.20 in favor of greater working memory capacity for bilinguals than monolinguals. This suggests that experience managing two languages that compete for selection results in greater working memory capacity over time. Moderator analyses revealed that largest effects were observed in children than other age groups. Furthermore, whether the task was performed in the first (L1) or second (L2) language for bilinguals moderated the effect size of the bilingual advantage; this factor is often overlooked and our results point to the importance of defining language variables that influence critical cognitive outcomes.

Second language research. -- 2017 (July), v. 33, n. 3, p. 325-340

1. Attention 2. Bilingualism 3. Cognitive control 4. Executive function 5. Working memory

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2

**Longitudinal effects of working memory on L2 grammar and reading abilities [Recurso electrónico] / Nuria Sagarra**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 358-363

Adults demonstrate difficulty and pronounced variability when developing second language (L2) grammatical knowledge and reading skills. We examine explanations in terms of individual differences in working memory (WM). Despite numerous studies, the association between WM and adult second language (L2) acquisition remains unclear, and longitudinal studies are scarce and contradictory. This study investigates whether WM affects L2 grammar and reading development in beginning classroom learners, using WM tests with (Waters and Caplan's 1996 test) and without (Daneman and Carpenter's 1980 test) a demanding processing task. In Experiment 1, 82 beginning first language (L1) English learners of Spanish completed Daneman and Carpenter's test, and grammar and reading pretests and posttests one year apart. In Experiment 2, 330 beginning English learners of Spanish completed the same tests as in Experiment 1 and Waters and Caplan's test. The results reveal that only Waters Caplan's test (response time, recall span) yielded WM effects, and that response time (processing) negatively correlated with recall span (storage). These findings reveal longitudinal WM effects on L2 grammar and reading development at early acquisition stages, support resource-sharing WM models, and urge scholars to adopt WM tests with a processing task performed under timed conditions, and to analyse response time.

Second language research. -- 2017 (July), v. 33, n. 3, p. 341-363

1. Grammar development 2. Individual differences 3. Reading 4. Working memory

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3

**Modularity, working memory and language acquisition [Recurso electrónico] : a research program / John Truscott**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 321-323

Considerable reason exists to view the mind, and language within it, as modular, and this view has an important place in research and theory in second language acquisition (SLA) and beyond. But it has had very little impact on the study of working memory and its role in SLA. This article considers the need for modular study of working

memory, looking at the state of common approaches to the subject and the evidence for modularity, and then considering what working memory should look like in a modular mind. It then sketches a research program to explore working memory within a modular mind and particularly its role in SLA. This is followed by a brief look at the way that the Modular Online Growth and Use of Language (MOGUL) approach can serve as a framework for such a program.

Second language research. -- 2017 (July), v. 33, n. 3, p. 313-323

1. Activation 2. Modularity 3. MOGUL framework 4. Second language acquisition 5. Working memory

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#### 4

##### **Modularity, working memory and language acquisition [Recurso electrónico] / Alan D. Baddeley**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 309-311

The concept of modularity is used to contrast the approach to working memory proposed by Truscott with the Baddeley and Hitch multicomponent model. This proposes four sub components comprising the central executive, an executive control system of limited attentional capacity that utilises storage based on separate but interlinked temporary storage subsystems. One, the phonological loop, is concerned with the temporary storage of verbal materials and another, the visuo-spatial sketchpad stores visual information. A fourth component, the episodic buffer, allows the various components to interact and enables their content to become available to conscious awareness. After a brief description of the relevance of the model to language acquisition, an account is given of the way in which it has developed in recent years and its relationship to other approaches to working memory.

Second language research. -- 2017 (July), v. 33, n. 3, p. 299-311

1. Modularity 2. Phonological loop 3. Short-term memory 4. Working memory

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#### 5

##### **(Working) memory and L2 acquisition and processing [Recurso electrónico] / Tom Rankin**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 399

This review evaluates two recent anthologies that survey research at the intersection of cognitive psychological investigations of (working) memory and issues in second language (L2), and bilingual processing and acquisition. The volumes cover similar ground by outlining the theoretical underpinnings of models of (working) memory as well as providing empirical tests of a range of topics in bilingual and L2 acquisition and use. However, while one volume focuses specifically on issues of working memory and L2 acquisition and processing, the other provides a broader overview of the interface between memory and bilingualism more generally. Taken together, the volumes present a large array of research and will be a valuable resource for students and researchers interested in issues in bilingual memory, processing and acquisition.

Second language research. -- 2017 (July), v. 33, n. 3, p. 389-399

1. Bilingualism 2. L2 processing 3. SLA 4. Working memory

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#### 6

##### **Working memory effects on L1 and L2 processing of ambiguous relative clauses by Korean L2 learners of English [Recurso electrónico] / Ji Hyon Kim, Kiel Christianson**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 386-388

In this study, we report the results of two self-paced reading experiments that investigated working memory capacity effects on the processing of globally ambiguous relative clauses by advanced Korean second language (L2) learners of English. Consistent with previous monolingual literature on the processing of temporary ambiguity, we found that working memory capacity was a factor that also affected the processing of globally

ambiguous relative clauses. High working memory capacity was positively correlated with a processing disadvantage reflected as slower reading times at the region where the ambiguity becomes detectable, and longer response times to decide on a correct disambiguation for the target structure. Furthermore, a similar pattern was also found in the same participants' processing of L2 ambiguity. We conclude that for highly advanced L2 learners, the processing strategies employed for ambiguous structures are not qualitatively different between the same individual's first language (L1) and L2, but rather differ across readers of different working memory capacities.

Second language research. -- 2017 (July), v. 33, n. 3, p. 365-388

1. Global ambiguity resolution 2. Relative clause attachment 3. Second language processing 4. Working memory capacity

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## 7

### **Working with working memory and language [Recurso electrónico]/ Michael Sharwood Smith**

Este artículo se encuentra disponible en su edición electrónica. Su acceso electrónico es a través del enlace de 'Acceso al documento'.

References: p. 296-297

Working memory is generally understood to refer to a limited storage facility for information temporarily needed during online processing. It figures with increasing frequency both in studies on second language development and more widely in research on bilingual and multilingual acquisition and attrition studies. The importance of the concept to our understanding justifies the appearance of this special issue, in which both general and specifically second language (L2) oriented topics related to working memory are discussed. Unsurprisingly, working memory is a theoretical concept that remains subject to controversy since we still have much to learn about how the mind and brain work. Many researchers do not do research that focuses on the nature of memory itself but at the same time still rely on the concept and the various types of related measures that have been developed in psychology for their own investigations: for these researchers, it is still important to keep abreast of developments in memory research both within and beyond their own area.

Second language research. -- 2017 (July), v. 33, n. 3, p. 291-297

1. Language processing 2. Modularity 3. Psycholinguistics 4. Second language acquisition 5. Working memory

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