# Chapter 8 Context Effects in Bilingual Language Processing

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#### **ABSTRACT**

Previous studies show that the presence of a context word in picture naming either facilitates or interferes with the naming. Although there has been extensive research in this area, there are many conflicting findings, making it difficult to reach firm conclusions. This chapter aims to delve into the dynamics of such processing and understand the nuances involved in experimental manipulations that may influence the pattern of results and be responsible for differences in outcomes. The series of experiments reported in this chapter was aimed at refining our understanding of mechanisms in the way bilinguals process language production by examining two different paradigms—primed picture naming and picture-word interference. This was investigated by manipulating both the type of visual context words presented with the picture and the time interval between the presentation of context word and picture. The results are interpreted within the context of current models of lexical access.

#### INTRODUCTION

Psycholinguistics has greatly enriched the field of bilingualism research by providing insights into the bilingual mind in order to better understand the cognitive basis of bilingualism and the logic of experimental and formal approaches to language

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science. A fundamental question which has dominated bilingual psycholinguistic research in terms of language processing is whether bilingual individuals activate or access lexical representations selectively or non-selectively. In order to determine language selectivity in bilinguals, a pivotal investigation has been using words that are similar across languages. In both bilingual word recognition and production research, a substantial part has been dedicated to investigate how cognates and noncognates are represented and processed. Previous research shows that regardless of what languages or bilingual populations are used, cognate words are likely to be recognized faster than non-cognate words, and this may influence the results. This general finding in the psycholinguistic literature is known as the cognate facilitation effect which indicates the activation of lexical items in both languages, simultaneously. Moreover, the way bilinguals can vary as a result of their Second Language (L2) Age of Acquisition (AoA) and proficiency can also influence the co-activation of languages. The majority of the studies in the past have investigated bilinguals differing in their L2 AoA and over the years, numerous studies which have made use of different tasks and paradigms have demonstrated differences in processing as a function of L2 AoA. For example, Kim et al., (1997), Weber-Fox & Neville (1999) and Wuillemin & Richardson (1994) have shown contrasts between early and late bilinguals. Several studies investigating the degree of co-activation and interaction between the two languages of a bilingual have observed that variation in L2 proficiency also differentially affects cross-language interactions at various levels. For example, studies employing cross-language semantic priming and translation priming paradigms have observed that differences in proficiency affect semantic and translation priming effects (Frenck and Pynte, 1987). The fact that AoA and proficiency are highly intertwined complicates the situation even more. For example, the influence of both factors has been observed in Silverberg and Samuel's (2004) study. Further, studies addressing the role of script in either bilingual word recognition or production generally assume that script is nothing but a normal orthographic difference which bypasses redundant search of both lexicons and helps in guiding the lexical search to the lexicon appropriate for the task. However, this assumption is not supported by enough experimental evidence as numerous studies have examined lexical processing in same-script bilinguals, but the number of published studies examining these questions in different-script bilinguals is few. Overall, the evidence in support of non-selective access is substantial, and much stronger than for selective access.

Multifarious models have evolved over time depicting the representation of words in dual languages and the inherent inter-connectivity between them. Models of lexical access in bilingual speech production are generally categorized into two theoretical camps: selective/language-specific vs. non-selective/language-non-specific. As per the assumptions of the selective view, lexical access in bilingual word production

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