University of Tikrit

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Department of English

Post-Graduate Studies

A Course in Applied Linguistics

M.A. in English Language and Linguistics

(Psycholinguistics)

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Psycholinguistics

Psycholinguistics is the study of the cognitive processes that support the acquisition, comprehension and production of language. Traditionally, psycholinguists investigated these processes in healthy monolingual or native speakers whose performance was taken to reflect the universal principles engaged by all language users.

Two major factors have shaped the changes that have occurred in the field

. One is that variation in language experience is now seen as the rule rather than the exception. More people in the world are bilingual or multilingual than monolingual. Far from representing a complication to language learning and language processing, multilingualism provides a lens through which the interactions between language, cognition and learning mechanisms can be observed. Likewise, information about how language processing changes across the lifespan, in healthy children and adults and also in the presence of developmental or acquired language disorders, has become a primary source of evidence for psycholinguistics. The second factor concerns the methods that are used to investigate language learning and language processing. There has been nothing short of a revolution in the availability of new tools to examine language processes in the mind and the brain. Some of these new tools reflect technological advances in neuroscience that enable sensitive measures of the timing and location of brain activity that occur during language processing. Other tools enable the manipulation of large data sets that provide statistical insights into patterns of language use that cannot be seen easily in the context of individual studies.

Characterizing variation in language experience

Psycholinguistics aims to understand the impact of language experiences on linguistic and cognitive processing. Understanding individual variations in language experiences is challenging due to the fluid nature of language experiences and various internal and external factors. For instance, second language proficiency, age of acquisition, usage, and exposure can vary significantly among bilinguals. Monolinguals also have varying proficiency levels, as not all have the same vocabulary size, reading abilities, or exposure to similar complexity. Environmental language contexts, such as single language environments, dual language environments, and dense codeswitching environments, impact linguistic and cognitive processing. The Adaptive Control Hypothesis suggests that single language environments are where one primary language is consistently heard and used, while dual language environments involve multiple languages used with different speakers. The environmental context of language use is crucial for both proficient bilinguals and second language learners. Immersion in a country where the L2 is spoken can improve fluency for L2 learners. Early language exposure can also have lasting effects, such as better learning outcomes when studying another language as a second language after childhood.

Methods to characterize language experience

One method that has been widely utilized to measure language experience has been language history questionnaires. In the typical language history questionnaire, participants are asked what languages they know or are learning, the age at which they acquired each of their languages, their proficiency in their languages, as well as any immersion or codeswitching experiences.

Another method by which to characterize an individual's language experience is to administer an online, lab-based task that taps into some aspect of linguistic processing ability. Verbal fluency tasks have been widely utilized to assess lexical access and have been additionally utilized as a proxy for language proficiency.

Two kinds of verbal fluency tasks have been widely administered: semantic and letter fluency. In a semantic verbal fluency task, the participant is presented with a

category (e.g., animals) and is instructed to name as many things that belong in that category as they can within the time limit. By comparing how many items each participant produces, the order in which they produce category exemplars, whether participants erroneously name items or repeat previously mentioned words, or whether participants are naming items in sub-categories (e.g., farm animals, pets, jungle animals), the size and nature of an individual's semantic network and the ease of their lexical access can be inferred. In letter fluency tasks, participants are presented with a single letter (e.g., 'f ') and are instructed to name as many words that start with that letter as they can within the time frame of one minute. This task is often considered by participants to be more difficult and has been proposed to both reflect lexical access as well more cognitive control processes.

Dual language activation One of the most important discoveries about bilingualism is that bilinguals'two languages are active and competing even when bilinguals are only speaking or listening to one of their languages. Initially, it had been proposed that only beginning learners of a second language (L2) activated their native language (L1) while using their second language in order to access meaning in the L2.

Lexicon

Dual language activation has been investigated at the lexical level extensively by using experiments in which bilinguals are performing a task in a single language with a hidden manipulation that indexes the co-activation of the lexicon of the language that is not in use. One manipulation that has been widely used to index language co-activation is using words with cross-language overlap, such as cognates, or translation equivalent words that have similar phonological and/or orthographic forms across languages. For example, the word car in English and its translation equivalent carro in Spanish are cognates.

Cognate facilitation has also been found in production tasks, such as picture and word naming. Because bilinguals are not likely to be able to think about cognate status while performing these speeded tasks, the fact that cognates are processed more quickly is thought to reflect the underlying architecture of the bilingual lexicon. Given the evidence that both of bilinguals' languages are active even when they are in a single language mode, one critical point to interpret those data is the stage at which the non-target language was activated. One possibility is that

bilinguals activate both languages in parallel from very early stages of language processing in a way that both languages compete. A second possibility is that the non-target language comes online much later due to its association to the target language.

Phonology

The question of how bilinguals represent speech sounds in their two languages has been investigated extensively in perception and production. Three influential frameworks have been proposed for understanding how the sound systems of two different languages are incorporated into the bilingual mind: the Speech Learning Model, the Perceptual Assimilation Model and the Native Language Magnet Theory.

The SLM was proposed to account for the differences in perception and production in late L2 learners. The SLM posits that bilinguals represent sounds as being the same across languages when they are blocked from forming a new L2 category. If bilinguals have a single category for an L1 and an L2 sound, their category will be different from monolingual norms because the category will tend to be somewhere in the middle of the two languages.

PAM

primarily addresses the differences in perception between L1 and L2 focusing on the factors that may cause bilinguals to form one or different categories for sounds in the two languages. These theories thus address fundamental questions about the factors that shape the organization of bilinguals' phonological representations. the NLMT seeks to account for differences in perception and production of the L2 between children and adult L2 speakers. The NLMT is grounded upon the discovery that infants are able to discriminate the sounds of all languages but tune to the language(s) they hear by the end of the first year of life (Kuhl et al., 1992). After the first year of life, the L2 sounds are perceived through the perceptual system tuned for the L1, resulting in non-native-like L2 perception.

Syntax

To investigate whether syntactic structures across the two languages influence one another, bilingualism researchers typically select bilinguals whose two languages have equivalent structures but very different preferences for use. Many studies evaluate how exposure to certain structures of one language (either naturalistically or in an experimental setting) can affect preferences of use in the other language. One paradigm that has been used to capture cross-language influence is syntactic priming (sometimes called structural priming). Syntactic priming is the tendency individuals show to repeat the same syntactic structures to which they have been recently exposed.

Language selection

One of the most influential accounts of bilingual language selection has been the Inhibitory Control Model (ICM; Green, 1998). According to this account, although bilinguals' two languages compete for selection and inhibition, some mechanism is applied to suppress the non-target language, resulting in the selection of the target language. Since the proposal of this ICM, there has been a wealth of research investigating how inhibition might be implemented, particularly in language production. Behavioural evidence for the role of inhibition in bilingual language production comes from studies that have used language-switching paradigms such as naming pictures ornumerals.