

# **Bilingualism as a cognitive phenomenon in psycholinguistics**

## **Political Theory**

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**This paper attempts to introduce the dimensions of bi/multi-lingualism as a cognitive linguistic phenomenon, which can be thought over in sociological, biolinguistic, cultural and psycholinguistic perspective. The main research question being asked as how bi/multilingualism is a cognitive phenomenon and what are the bilinguality problems and how do they represent in linguistics?**

**Linguistic interference, bilingual acquisition, and mental lexicons notions and multi lingual representation in the brain are the main problems of the subject. There are, at least, two different types of linguistic transfer, positive and negative or interference. The mental lexicon is the constituent of the grammar consisting of phonological, morphological, semantic, syntactic, and pragmatics information which speakers have stored about individual words and morphemes in their minds. The paper, therefore, is an attempt to answer and describe the above questions.**

**Key words: bi/multilingualism, cognitive linguistics, transfer, mental lexicon, bilingual acquisition.**

Through descriptive- analytic methodology, such as review of literature, taking note, collecting and classifying linguistic theoretical data in bi/multilingualism, this study has attempted to answer the research questions in two parts (a) theoretical and practical discussion, (b) acquisition of lexicon in bilingual acquisition category.

### **(a) Theoretical and practical discussion**

Bilingualism means the ability to speak two languages. It may be the property of an individual or of a whole community, but fluency in two different dialects is called bidialectalism. e.g. a Scot who can switch back and forth between Scots and standard English is bidialectal (Trask, 1997: 29).

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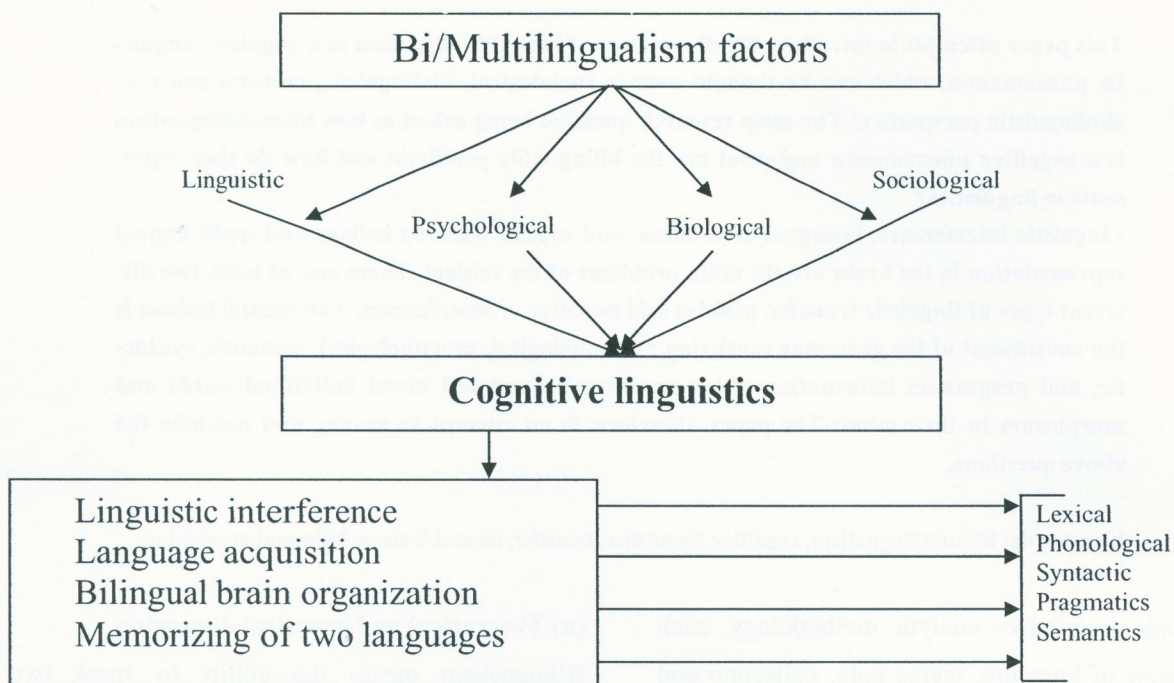
However, some linguists believe that if one can switch from one language or dialect to other is called bilingual or bidialectal. One of the main aspects of bi/ multilingualism in psycholinguistic perspective is the linguistic interference, which means, an unawareness usage of linguistic patterns or segments from one language to another making mistake (Hartmann and F.Stork 1972: 115). Linguistic interference may appear in lexical, phonological or grammatical forms.

There are two methods by which people feel being a bilingual: natural and educational

methods. On the other hand, bilingualism is also known as a multi- factors phenomenon, such as:

(a) Individual factor: e.g. individual abilities, age, motivations and individual purposes.

(b) Educational factor: e.g. cultural position, social values and the prestige of second or third language. As has been highlighted in the following diagram, the extension and dimensions of bi/multilingualism are determined by the interactional relationship among the following factors, leading to cognitive linguistics



There is reason to believe that humans have a specialized “organ” dedicated to the use and interpretation of language, known as “the faculty of language” (FL). We can take FL to be common to the species, assuming states that vary in limited ways with experience. Interacting with other

systems (cognitive, sensorimotor) these states contribute to determine the sound and meaning of expressions (Chomsky, 2000:168). In cognitive linguistics various facets of meaning are more or less central to our understanding of expressions (Paradis, 2003:207) thus, bi/multilingualism can be



called as a cognitive process in the brain.

Cognitive linguists are interested in understanding the structure and functioning of language in terms of human perception and cognition (Trask and Mayblin, 2000:50), whereas the Sapir-Whorf linguistic relativity hypothesis holds that our language at least partly determines the way we perceive the world, cognitive linguistics adopts the opposite view: that the way we perceive the world, at least partly determines the structure of language (Ibid).

For example, the gender of the word for “table” is usually unpredictable from its meaning. It is, masculine in German (der tisch), feminine in French (la table) and Arabic (menza dat) but neuter in English.

Vivian Cook (2002: 66) in replying the question “what does bilingualism imply for cognition in the individual?” states that recent research with monolinguals has revived the Sapir-Whorf hypothesis that people who use different languages, “think” differently. The L2 issue is the extent to which L2 users have different concepts from people who speak only one. Cook believes that there is a single universal “cognition” component that is pre-language. Either L2 users need two cognitive components, possibly merged into a unique system for some aspects, or they retain the cognitive component acquired through their first language. According to Cook, the basic paradigm is to replicate work which shows cognitive differences between monolinguals with L2 users who know two languages, (Ibid).

Pavlenko (2002: 68) has suggested that when a second language is learned in late childhood or in

adulthood, the two languages may differ in their emotional impact. He discussed about three types of relationships between languages and emotions in late bilingualism. Rosemary Wilson (2002:68) believes that another language is another soul. The emphasis in language learning is on the importance of knowing another language and culture for communication with others but what about the impact of speaking a second or third language on our sense of self? Wilson’s findings reflect the positive aspects of feeling “different” in another language (P:69). We should try to exploit the attraction of new identity. Yet, how can we overcome the potential interference arising from the bilingual environment? Ben Zeev (1997) postulated four mechanisms for solving such interference at the structural level of language:

- 1- greater capacity for language analysis;
- 2- improved sensitivity to feed back cues from surface linguistic structure and/or verbal and situational context;
- 3- maximization of structural differences between languages;
- 4- neutralization of structure within the language.

Bilingualism in childhood is a positive phenomenon. The result of the investigation of Mcamara (1966), Paradis and Lebrun (1984) have been known as cognitive-flexibility – bilingualism in childhood easily makes the cognitive flexibility – and divergent thinking, such as bilingualism in childhood trains the divergent thinking. These findings have been confirmed by Pour Aminy (2000). In her paper entitled “the impact of bilingualism Ashori language L1 and Persian L2,

on learning Tehranian students. The result of investigation illustrated that:

those Ashori bilingual students who are master in Persian; in some courses like mathematics which require thinking and reasoning, learn better in their mother tongue than L2.

(b) The bilingual students are more creative than monolingual.

(c) the bilingual students in learning the third language have been more successful than monolinguals. They also pay more attention in details than monolinguals do.

(d) The bilingual and monolingual students have different interests

According to this investigation one hundred primary school teachers in two provinces, Ardabil – in the northwest – and Khozestan – in the southwest of Iran were asked through questionnaires whether the bilingualism has been problematic for their students who were not fluent in Persian which is the national and formal language of educational system in Iran. It is to be noted that the Arabic and Turkish are the first language or mother tongue of students in Khozestan and Ardabil respectively and Persian, in fact, is their second language or language of instruction. Data based on these questionnaires showed that, 98% percents of respondents in two provinces strongly believe that the bilingualism is a problematic phenomenon for those students who are in early years of primary school without mastery over Persian language. It seems that the main such problem refers to the lack of Persian linguistic knowledge and interference

phenomenon.

In my opinion it's better to interpret the interference in a larger category i.e. transfer which makes difference among adults and children. In fact, it is a cognitive difference since it has to do with knowledge and the processing of knowledge. Language learning adults are obviously different from children as they already have knowledge of a language. In addition they have analytic abilities, and metalinguistic knowledge: ability to talk about the language and how it works. e.g., adults use this knowledge to try to figure things out, and adults have expectations about learning, including an expectation, generally, for things to make sense. Earlier knowledge influences the acquisition of later knowledge, and this process is termed as transfer.

I think transfer in language learning can be good or bad, positive or negative. Positive transfer results when categories of second or foreign language are very similar to those of the first language. Although such similarity is rarely perfect, categories of the first and later-- learned language are usually different in one of three ways. According to Grover (2000) only the third of which, reinterpreted categories, results in problem of transfer.

(a). Those categories of the first language may be absent in the second language. These won't present a problem for learning the second language e.g: A phoneme /θ/ is an absent category for Persian – speaking learners of English, and a phoneme (X/kh) is an absent category for English speaking learners of Persian.

(b). Those categories of the second language



may be new, being absent in the first language. These present problem for learning, but not of transfer. e.g: English (θ) is a new category for Persian – speaking learners of English, and Persian/X/kh/is a new category for English speaking learners of Persian.

(c) Those categories of the first language may be interpreted in the second, being similar in some ways but different in others. These may present persistent problem of transfer.e.g. Spanish/d/is a reinterpreted category for English speaking learners of Spanish, and English/d/is reinterpreted category for Spanish speaking learners of English. Recall that/d/has the allophone [ð] and [d], of which the latter is absent after vowels, where [ð] occurs, whereas both/d/( [d] ) and/ð/[ð] are phonemes of English, both of which occur after vowels (Grover, 2000,169).

Reinterpreted categories result in negative transfer, also known as interference. Here are two examples of negative transfer concerning phonemes.

English speaking learners of Persian transfer their/k/into Persian and pronounce their/k/in words such as/kodā/(means:God) instead of/xodā/.

Persian speaking learners of English transfer their/s/or/t/into English and pronounce allophone (θ) in words such as (θIn) thin /and pronoune it as [sIn] instead of [θIn].

As a conclusion of disucsion, positive transfer, which contributes to success in adult language learning, usually goes unnoticed, but negative transfer results in errors. Foreign accent which typifies adult language learning, is largely owed to negative transfer of phonological categories.

Transfer, therefore, whether positive or negative (interference) form is a cognitive phenomenon in bilinguality.

### **(b) Bilingual acquisition:Acquisition of the lexicon**

Cognitive linguistics offer a distinctive perspective on the nature of language, its organization, bilingual acquisition (Shu.2004).What is meant by bilingual acquisition? While detrining, there is general agreement that “bilingual acquisition” refers to the acqisition of two language in childhood, but there is no consensus on how varying situations of bilingual acquisition can be categorized (M.Deuchar and S. Quay, 2000:1).The process of language learning, bilingual acqisition can be considered from the perspective of phonology, lexicon, syntax and language choice. Here, we notice only on acquisition of the lexicon.

Two questions have been raised in relation to the lexicon of developing bilinguals i.e. whether they have one or two lexical systems from the beginning of lexical development and how to study the mental lexicon. In practice, the first question has involved establishing how early developing bilinguals are able to produce two words with the same meaning, one from each language. Or, in other words, how early are they able to produce translation equivalents? One formulation of this idea is known as the “principle of contrast”.

According to Clark (1987:2), the principle of contrast states that any difference in the form in a language marks a difference in meaning’. Her justification for this principle, as outlined in Clark (1993:91), is that it enables children to acquire



language as quickly as they do because the principle of contrast limits the possible hypotheses they could make about the meanings of new words.

Clark (1987:13) suggests that contrast is reflected not only in monolingual but also in bilingual acquisition, bilingual children often accept only one label for a category despite exposure to a label from each language. She suggests that contrast will apply within each language only once the child realizes that he/she is “dealing with two system” (Clark, 1993:98).

The principle of contrast has been subjected to criticism by a number of researchers who discuss its limitations from a theoretical point of view or with reference to monolingual acquisition (M.Deuchar and S.Quay, 2000:48).e.g., Gathercole (1987) discusses empirical evidence from monolingual acquisition that casts doubt on the principle. Some other researchers as Golinkoff, Mervis, and Hirsh – Pasek (1994) accept Clark’s formulation of contrast as a pragmatic principle (Ibid). Yet it seems that contrast is a semantic and pragmatic principle which is used in realizing the distinctive features of things in both monolingualism and bilingualism with single cognitive system as well. An important point is needed to remind here about bi/multilingual mental lexicon. Hufeisen and Jessner (2000:73) believe that when one points out about it (the bi/multilingual mental lexicon) in fact, he/she talks about:

- the organization of the mental lexicon.
- activation and access to the mental lexicon.
- The learnability and development patterns of L3 vocabulary store

-The nature of transfer (i.e.L1>L3; L2>L3; L3>L1; L3>L2)

-The role played by cognates and by psychotypology in L3 acquisition.

-Role of monitoring in the organization of the lexicon

-Activation of prior knowledge in the foreign language acquisition process.

About the second question which has been raised in relation to how to study the mental lexicon, psycholinguists believe that mentality of lexicon can be investigated and confirmed by some techniques and linguistic and non – linguistic evidence. e.g. slips of the tongue in two ways: assembling errors as “you’re hissed all of my mystery classes” instead of “you’re missed all of my history classes” and selectional errors, which originated in meaning or sound similarities. e.g., “the teacher came tomorrow” instead of “the teacher came yesterday”. In the above slips example, the words “tomorrow, yesterday, come and came” show the closeness of the words in mind.

The other evidence are as follows: Aphasic patients, Psycholinguistic experiments as: Reaction time measurement, norms of words association, tip of the tongue and priming methodology. For instance, priming methodology means: affecting a response to a target by presenting a related item to it. In fact priming may have either inhibitory or facilitatory effects (Trevor A.Haley,2001).

To sum up, an overall aim of the above issues is to establish links between psycholinguistic investigation into the mental lexicon and pedagogically oriented studies of the

bi/multilingual acquisition process and cognitive linguistics offer a distinctive perspective on the nature of language, its organization, lexicon acquisition and use as well.

### Conclusion

In psycholinguistic perspective, linguistic realization such as, vocabulary, phonetics, phonology, grammar, meaning and language choice (pragmatics), are based on cognitive linguistics which contain linguistic transfer in positive or negative (interference) forms, language acquisition, learning memorizing and bilingual brain organization. In fact bi/multi-lingual is a complicated cognitive linguistic process in which cognitive flexibility, divergent thinking and conceptual elaboration can be stated as positive aspects but according to this investigation as a problematic pedagogical issue in educational system of Iran for pre-primary students and early years (first and second year) of primary school students who are not master in Persian in Ardabil and khozestan provinces as a negative aspect. For adults, positive transfer which contributes to success in their language learning usually is not significant but negative transfer or interference is remarkable and results in errors. Foreign accent which typifies adult language learning, is largely owed to negative transfer of phonological categories.

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