

An Introduction to Psycholinguistics

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### **Abstract**

This paper is written to have a preliminary introduction about psycholinguistics. Psycholinguistics or psychology of language is the study of the interrelation between linguistic factors and psychological aspects. The main subject of research in psycholinguistics is the study of cognitive processes that underlie the comprehension and production of language, and the way the cultural environment interact with these two (Harely, 2005, p.13). The field of psycholinguistics has been defined by reaction to Chomsky's supporters and opponents. In this paper a selective review of some recent illustrative psycholinguistics research on L2 acquisition will be provided. In psycholinguistics researchers try to develop models to describe and predict specific linguistic behavior. Since the linguistic revolution of the mid -1960 the field has brooded to encompass a wide range of topics and disciplines. Psycholinguistics is interdisciplinary and is studied in different fields such as psychology, cognitive science and linguistics. Here after a brief introduction to psycholinguistics, how psycholinguistics illustrates language comprehension from words to texts will be explained.

**Key words:** psycholinguistics, psychology, language, comprehension, acquisition process

## An Introduction to Psycholinguistics

Psycholinguistics that means psychology of language is the study of the psychological and neurological factors that enable humans to acquire, use, comprehend and produce language ("Altman", 2001, p.1). Due mainly to a lack of cohesive data on how human brain functions, modern research makes use of biology (natural science concerned with the study of life and living organism), neuroscience (the scientific study of how information concerning faculties such as perception, language, reasoning, and emotion is represented and transformed in a human or other animal nervous system or machinery, linguistics and information theory( a branch of applied mathematics and electrical engineering involving the quantification of information .

To study how brain processes language, there are a number of sub- disciplines with non-invasive techniques for studying the neurological workings of the brain, for example neurolinguistics has become a field in its own right. Psycholinguistics covers the cognitive processes that make it possible to generate grammatical and meaningful sentences out of vocabulary and grammatical structure as well as the processes that make it possible to understand utterances, words, texts, etc. (Miller & Ermas , 1983) .

Psycholinguistics concerns with the study of the cognitive process that supports the acquisition and use of language. The scope of psycholinguistics includes language performance under normal circumstances and when it breaks down, For example following brain damage.

Historically the focus of most psycholinguists has been on first language (L1), acquisition of first language in children and in research on adult comprehension and production (Schmitt, 2002, p.133-140). The findings and concepts of psycholinguistics is used and studied by people in a variety of fields. Such as psychology, cognitive science linguistics, and neurolinguistic .There are several subdivisions within psycholinguistics that are based on the components that make up the language.

### *Linguistic related areas*

Phonetics and phonology are concerned with the study of speech sounds within psycholinguistics, research focus is on how the brain process and understand that sounds.

Morphology is the study of word structure especially the relationship between related words (such as dog and dogs) and the formation of words based on rules (such as plural formation).

Syntax is the study of the patterns which dictate how words are combined to form sentences.

Semantics deal with the meaning of words and sentences where syntax is concerned with the formal structure of sentences.

Pragmatics is concerned with the role of context in the interpretation of the meaning.

### *Psychology related areas*

The study of word recognition and reading examines the processes involved in the extraction of orthographic, morphological, phonological and semantic information from patterns in printed texts.

Developmental psycholinguistics studies infants and childrens' ability to learn and process language, usually with experimental or at least quantitative methods (as opposed to naturalistic observations such as those made by Jean Piaget, in his research on the development of children).

### *Review of Literature*

The field of psycholinguistics has been developed and redefined by reaction to Chomsky. Chomsky's view about creating syntactic sentences was that language exists because human possess an innate ability and was highly critical of skinner's book in 1959. That review started what has been termed the cognitive revolution in psychology. The review of Chomsky still holds that the human ability to use syntax is qualitatively different from any sort of animal communication; this ability may have resulted from a favorable mutation or from an adaptation of skills evolved for other purposes (Anderson, 1998).

One of the supporters of this view is that the theory that language serves group needs. Better linguistic expressions may have produced more cohesion, cooperation, and potential for survival. The con view still holds that that language –including syntax – is an outgrowth of hundreds of thousands of years of increasing intelligence and tens of thousands of years of human interaction.

Contemporary theories besides Chomsky, working in the field of theories of psycholinguistics includes George Lackoff and Steven Pinker. More recently, psycholinguists have recognized the importance of extending the study of language processing to individuals who are acquiring or actively using more than one language. In this paper the term bilinguals is used to refer to such individuals, even though their

additional languages may not be as strong as their first language. Because bilinguals outnumber monolinguals in the world's population, bilinguals more than monolinguals provide a genially universal account of the cognitive mechanisms that underline language performance (Schmitt, 2002, p.133-149). Furthermore the use of two or more languages provide a powerful tool for investigating issues of cognitive representation and processing that are otherwise hidden from view.

*Specific questions with respect to bilinguals are*

Is L2 acquisition different from L1 acquisition?

To what extent does the L1 play a role in using the L2?

Are there rules governing code-switching (the use of More than one language in an utterance)?

How do speakers of more than one language keep the two languages apart?

How are languages acquired at some point in time Lost or maintained over time?

(Schmitt, 2002, p.133-149)

### **Aim and purpose of the study**

In this paper a selective review of some recent illustrative psycholinguistic research on L2 acquisition and competent bilingual performance will be provided. This work according to Schmitt (2002) is framed by an important set of assumption about language and cognition (p.133-137). First it is assumed that the cognitive process that are revealed as individuals acquire proficiency in a second language share a common bases with the process that are in place for competent bilinguals . Here, first of all the basic assumption is that L2 learners and proficient bilingual relay on similar cognitive mechanisms that are generally universal across languages , although the relative

importance of some factors may differ depending on the structural properties of the language involved . For example where the L2 shares the same alphabet with the L1 can have profound consequences for the nature of cross language interactions. Yet we assume that fundamentally the same cognitive resources are used when a native Persian speaker learns English or a native English speaker learns Persian. Thirdly it is assumed the same cognitive recourses are universally available to all learners although individuals will differ in some respects that that may have specific implications for success in L2 learning. For example the degree to which individuals can devote memory and intentional resources to processing and storage, may play an important role in their ability to develop automaticity in the L2, to resolve ambiguities during sentence comprehension and to inhibit the L1 when required to do so.

This study is outlined as follows. First we focus on the way in which psycholinguistics construct cognitive models to characterize to representations and process that underline language performance. Due to the fact that our review will be necessarily brief, our illustration is restricted to a model of language production that has been extended to bilingual speaker. The model captures many of the core problems that need to be resolved when speakers have more than one language available. The model may also be used the way in which psycholinguistics formulate hypotheses and conduct experiments to test theoretically based predictions.

Second we will illustrate the contribution of psycholinguistics research by considering a set of selected questions that have been the focus of empirical selective nature of lexical in word recognition and the development of lexical proficiency in second language and aspects of language retention and attrition. One of our purposes

in this paper is to illuminate the general logic and method of psychological approaches to research.

### **Significance of the studying of psycholinguistic**

In psycholinguistics researchers try to develop models to describe and preferably predict specific linguistic behavior (Gernsbacher, 1994, p.75). The significance is that it captures all aspects of language use. Ultimately psycholinguistics tries to have a model that describes how language is processed in our brain. The other significance of studying of psycholinguistics is that it uncovers universal processes that governs the development, use , and breakdowns of language (Bates et.al ,1995 , p.96 ) .

However to the extent that research in a given subfield of psycholinguistics is dominated by English, we cannot distinguish between universal mechanisms and English-specific facts. Psycholinguistics present a research on language development in children, language symptoms in brain injured adults, and language processing in normal adults, in an order that reflects the impact that cross language variations have had on theoretical framework within each field ( Duffy , et all .,1998).

### **Research questions**

In this research the following questions will be answered:

What is psycholinguistics?

Who is psycholinguist?

What is the main focus of psycholinguistics?



### *What is psycholinguistics?*

The earliest use of the term „psycholinguistics“ was in J.R Kantor Objective Psychology of Grammar (1936), in which Kantor as an ardent behaviorist attempted to refute the idea that language reflected any form of intended cognition or mind. According to Kantor the German psycholinguistics tradition was simply wrong. The term more firmly established with the publication in 1954 of a report of a working group on the relationship between linguistics and psychology entitled psycholinguistics. The report was published simultaneously in two journals, that separately served the linguistics and psychology disciplines. Almost 50 years on, research into the many different aspects of the psychology of language is published in a vast range of journals, and account for around 10 percent of all publications in psychology.

According to the Wikipedia-world wide web free encyclopedia Psycholinguistics is the branch of cognitive psychology that studies the psychological basis of linguistic competence and performance. Psycholinguistics studies the psychological and neurological factors that enable human to acquire, use and understand language. Psycholinguistics mainly concern with the use of psychological / scientific / experimental methods to study language acquisition, production and processing.

In summary we can define psycholinguistics as a scientific study of mental processes and elements employed in language. Psycholinguistics is the empirical and theoretical study of the mental faculty. Since the linguistic revolution of the mid-1960s the field has developed to encompass a wide range of topics and disciplines.

Psycholinguistics started (as did the rest of psychology) in the early to mid-1960s. The Chomskian revolution (e.g. Chomsky, 1957, 1965, and 1968) promoted language

and specifically its structure, as obeying laws and principles in much the same way as say chemical structures do. The philosopher Bertrand Russell (1959) was sensitive to this emerging legacy when he wrote:

*The linguistic philosophy which was only about language, and not about the world, is the boy who preferred the clock without the pendulum because although it no longer told the time, it went more easily than before and at a more exhilarating pace.*

Subsequently psycholinguistic research has nonetheless recognized the inseparability of Language from its underlying mental machinery and external world. *Who is psycholinguist?*

A psycholinguist is a social scientist who studies psycholinguistics. The main interest of a psycholinguist is language development; language use and language breakdown. Perception, attention, motor planning and memory, that is critical for language but are not unique to language is the other areas of psycholinguistic interest. More specifically a psycholinguist studies language, speech production and comprehension, using behavioral and neurological methods which traditionally are developed in the field of psychology though other methods such as corpus analysis are also widely used. Due to its interdisciplinary nature psycholinguistics, can be found in linguistics, psychology, cognitive science, communication science, communication disorders and other departments. The main purpose of psycholinguistics is to outline and describe the process of producing and comprehending communication ("The language", 2001, p.148). In the tradition of psychology, various models are used to further this understanding.

Psycholinguistic currently represents a widely diverse field. Many and are also considered to be linguists, nerolinguists, cognitive linguists neurocognitivist psycholinguistics. There are subtle differences between these titles, though they are all attempting to use different facets of similar issues.

*What are the main interests of psycholinguistics?*

Interest in psycholinguistics is not confined to psychology and linguistics. Many have been stimulated by its practical possibilities. One thinks of medical applications to the diagnosis and treatment of a heterogeneous variety of language disorders ranging from a simple stammering to the overwhelming complexities of aphasia. One thinks too of pedagogical applications of potential improvement in our methods for teaching reading and writing of second language.

If psycholinguistic principles were made sufficiently explicit, they could be applied to those technical concepts of the twentieth century. In George A Miller view the central task of psycholinguistics is to describe the psychological processes that go on when people use sentences (Field , 2006 , p-93 ) .

As we mentioned psycholinguistics is interdisciplinary. Harely (2005) states that the main object of research in psycholinguistics is the Study of the cognitive process that underlies the comprehension and production of language and the way cultural environment interacts with these two. More detailed subsections of psycholinguistics describes the language abilities of infants as they acquired their first words and develop their first grammatical skills (Mhler , 1990 , p.143-187 ) , the representation and access of words (spoken and written ) in the mental lexicon , the representation and process implicated in sentence processing and discourse comprehension , and finally the

manner in which as we speak words and sentences. Psycholinguistics is as much about the study of the human mind itself as it is about the study of minds ability to communicate and comprehend (Altmann , 2001 ,p.129-135) . The full depth, richness, and scope of psycholinguistics go far beyond the limits afforded here.

Early days of psycholinguistics move to a selection of current topics, beginning with the language abilities of newborn infants, and moving on from how infants represent the speech they here to , how they acquire first vocabulary and how later , as adults , they represent and access words in the mental lexicon (both spoken and written) . Psycholinguistics also attends to the acquisition of grammatical skills in children and the processing of sentences by adults to text and discourse understanding. Wilhelm Wundt (1832-1920) noted in *Die Sprache* (1900) psycholinguistics is as much about the mind as it is about the language.

## Conclusion

The aim of this paper was to have an introductory explanation to psycholinguistics. Also to provide a brief answer to the questions like: what is psycholinguistics? , who is psycholinguist? And what is the main interest of psycholinguistics? Due to the fact that psycholinguistics is an interdisciplinary field, nowadays it is the focus of researchers who study the interrelation between mind and language. The explanation of the process of comprehension from a psycholinguistic perspective from a word to a text is another area of interest of psycholinguists that because of our limitation, we cannot afford it here. There are psycholinguistic related factors that affect comprehension .This factors related to individual differences and because of the mentioned reason we didn't explain them in this paper, and it has been left to be studied by other researchers.

## References

- Altmann T. M. Gerry (2001), Psycholinguistics in review *British Journal of Psychology* 129–170 *printed in Great Britain* the British Psychological Society.
- Bates, E. , Dale , P.S, & Thai , D (1995) . Individual differences and their implications for theories of language development. In Fletcher & B. Mac Whinney, Handbook of child language (p.96-115) *Oxford: Basil Blackwell.*
- Field, John, 2006: Psycholinguistics, New York, Rutledge English Language Introductions Gernbacher, M.A. (ED.)(1994). *Handbook of psycholinguistics*, Sandi ago, CA: academic press
- Harley, T. (2005): *The Psychology of Language. From Data to Theory*, New York, Psychology press Translation"vol. 52, p. 13-21.
- Hatzidaki , A.2007 , *The Process of Comprehension from a Psycholinguistic Approach* Translator journal ,vol.52 , p.13-21.
- Homby A.S (2002) Oxford Advanced Learners Dictionary of current English.
- Mehler,J., Jusczyk,P.W.,Lambertz,G.,Halsted.,Bertoncini,,J., ,and Amiel-Tison,C.(1988). *precursor of language acquisition* in young infant"s .*Cognition*, 29, 143-17 A
- Schmitt Norbert, 2002: An Introduction To Applied Linguistics, Great Britain, Oxford University press Pp;133-150