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## Reflections on Language Development in Infants

### Abstract

Language is the basis of human communication and is the most important key to complete mental development and thinking. Therefore, children must learn to communicate using appropriate language. For this to happen, the development of language in the child must be understood as a biological process, complete with internal laws and with marked stages of evolution. Despite the research that has been conducted, the origin of language is not clearly understood. Language is the faculty that human beings use to communicate with other people through a system of linguistic signs. It is the product of integration of various semantic, morphosyntactic, and phonological components.

Keywords: language development, empiricist approach, nativist approach, cognitive approach, mental processes

### Introduction

Over time, two philosophical currents have emerged that oppose each other: the nativist theory that maintains that language is a gift that humans are born with, and the empirical theory that maintains that the social environment is the only determining factor in language development. From these currents, theories are developed to account for the acquisition of language. These theories are not necessarily in conflict, but at some point in human development they interact and complement each other.

The objective of this work is to study the linguistic components, the evolutionary stages, the history of the field of language study in infants, and the applicability of this knowledge in our current environment. In nature, everything has an origin and an evolutionary development according to the different needs and concerns. Similarly, there is a process of development in human language, to make their communication more effective.

### Evolution of language

Language is the most important element in the life of human beings, dating back at least to the origins of homo sapiens, who has always needed to communicate. Language has evolved to meet the needs of human beings, and human beings have devised the

different types of languages that we recognize today. An example of this can be found in prehistory, when homo sapiens learned to communicate with signs, since it was necessary to organize to develop activities that ensured their subsistence (Habermas, 2010). But the nativist and empiricist approaches offer important insights into language acquisition. These theories are set out in the following sections.

### *Empiricist approach*

In the empiricist approach, behavioral theory is central. Skinner (1994) and Bandura (2021) are linked to behaviorism, and treat language as a behavior that arises or is inhibited based on the stimuli and responses from the environment in which the child develops. They consider that language is learned through imitation and reinforcement, through a process of adaptation to external stimuli of correction and repetition of the adult. Vocabulary and grammar are acquired by the child through operant conditioning. For Skinner (1994) all human behavior is governed by the general scheme of stimulus-response. He argues that imitation is the ability that allows the child to access language. Therefore, parents are of vital importance in the development of the child's language, since they are the ones who will support language learning by shaping and reinforcing grammar.

### *Nativist approach*

For Papalia and Martorell (2021) the nativist approach maintains that certain abilities are fixed in the brain from the moment of a person's birth; the brain has characteristics at birth that allow it to learn from the environment. This is the innate theory of the renowned psycholinguist Chomsky (1989), who argues that the beginnings of language are innate and not learned. He maintains that language is acquired because human beings are biologically programmed for it. Chomsky (Ibid.) argues that all human beings develop a language because they are prepared for it, however hard it may be. Human beings have a language device that programs the brain to analyze language and decipher its rules.

### *Cognitive approach*

According to Piaget (1997), the cognitive approach to language establishes that thought appears when the symbolic function develops and these action schemes underpin language. Language arises from the synchronization of sensory-motor intelligence and symbolic function. Intelligence allows the development of language. The development of language schemes is synonymous with intelligence, and is a fundamental element for the subject to adapt to his or her environment and to survive. From this perspective, learning begins with the first sensory motor practices, and therein is the start of their cognitive and linguistic development. The individual builds knowledge through interaction with the environment. Piaget (1997) studies the development of logical processes and defines two types of language:

- 1) Egocentric language, where the words are accompanied by actions and movements. It is divided into three categories:
  - Repetition (0 to 12 months approximately).
  - Monologue (12 to 18 months approximately).
  - Collective monologue (18 months to 24 months approximately).

- 2) Socialized language, which is the domain of information and communication in society. Piaget (1997) divides it into three categories:
  - Adapted information (2 to 3 years approximately).
  - Criticism (3 to 4 years approximately).
  - Orders, requests and threats (4 to 7 years approximately).

### Formation of mental processes

Vygotsky (2020) was the first to highlight the fundamental role of speech for the formation of mental processes. Speech has two functions: external communication with others, and internal manipulation of thoughts. The development of the human being occurs through processes of exchange and transmission of knowledge in a communicative and social environment. For Vygotsky (Ibid.) language in children is initially social and external in form and function. That is, language is produced externally through socialization, but it is internalized to form the thought that is the internal part. In the development of the child's language there are stages or levels which are described in the following.

- 1) Pre-linguistic level from birth to 12 months approximately.
  - Phonological component: addresses the suprasegmental aspects of speech such as intonation and stress.
  - Semantic component: addresses the decoding of non-verbal language, continuous feedback from the environment, and imitation.
- 2) Linguistic level from 12 months to 5 years approximately.
  - Semantic component: growing comprehension of vocabulary.
  - Phonological component: the acquisition of increasingly complex phonemes.
  - Syntactic component: begins with isolated words, later joining them to form simple phrases, and then sentences. This happens around 3 years approximately.
- 3) Pure verbal level from 5 years to 12 years approximately.
  - Symbolizes the meanings of words. At this stage the child builds abstractions that are age appropriate, such as the reading-writing process and mathematical calculation.

### Components of language

*Semantic component:* Semantics studies the meaning, and its minimum unit is the same. The seme is the minimum unit of meaning and therefore cannot be isolated, but is joined to other semes forming a sememe. Thus, the 'chair' sememe is made up of the semes 'with backrest', 'with legs', 'for one person'. It is constructed through the word. This branch of linguistics studies the meaning of language, a very important specialty, since language must mean something (Chomsky, 1989).

*Morphosyntactic component:* This combines morphology and syntax. It studies the shape of words, their internal structure and the rules of combination, which is what we know as grammar. Words form sentences or phrases. Sentences express something complete, and have all the characteristics of a sentence. Phrases express something incomplete (Chomsky, 1988).

*Pragmatic component:* This deals with the relationship between words and their users. It is the analysis of how what is meant is expressed and how it is understood. It is said that pragmatics had its origins in philosophy, and for this reason there are many ideas about it. For pragmatics, it is essential to develop communicative competence precisely in order to be able to argue on any subject and with anyone (Chomsky, 1989).

*Phonological component:* It covers the smallest units that can be distinguished in the language. They are units that have only a signifier, because until they are combined with others they do not acquire meaning. Its units are phonemes and sounds. A phoneme is the abstract image that speakers have of a sound, while the sound is the material and effective pronunciation of a phoneme (Chomsky, 1993).

One of the main and important characteristics of human beings is their ability to communicate with others. This is achieved through speech. Speech is the production of sound that, when combined with other sounds, produces words. Words make up the language of a country. There are malformations that occur in some human beings and these prevent them from developing speech, but it does not limit their power to communicate, since the exchange of ideas can be given through gestures, moans, or signs. Two very important factors influence the production of speech. One that is 'the machine' which produces the sounds, and the other the actual sound that comes out of 'the machine'. Phonetics analyses the acoustics and the organs involved in the production and reception of sounds. These are called 'phones', and are part of speech (Chomsky, 1994).

### **Pedagogical knowledge of the infant**

Pedagogical knowledge of the infant has been chosen as a field of study of teaching in infancy, because Foucault (2002) argues for the possibility of combining epistemologically oriented archaeological analysis with genealogical analysis to account for the formation of objects, concepts and techniques within social practices (Castro, 2014).

The discourse about pedagogical knowledge of the infant is disparate and embraces a range of ideas:

- Those who contribute to the discourse include various organs of the State; professional associations, parents, and advocates of popular reforms of the curriculum.
- The discourse embraces the concepts of the historicity of pedagogy as well as those that belong to other domains of knowledge.
- Citizens have the power to contribute to speech to legitimate political power.
- Pedagogical knowledge of the infant reproduces hegemonic knowledge of other fields at the level of objects, concepts, forms of discussion and strategic choices.
- The production of knowledge by the subjects of knowledge delimits the institutionalization process for the institutions of pedagogical practice.
- The institutions where pedagogical practices are implemented depend upon the selection of one or more pedagogic strategies.
- The teacher can only occupy certain permitted positions in our social formation.
- The norms that govern the operation of educational institutions (teaching procedures and school discipline) are set by state institutions (sanctions, discipline, requirements) (Zuluaga, 1976).

Careful observation of the conceptual deployment of pedagogical knowledge refers to:

- The function it fulfills in general knowledge and between the intricacies of education, pedagogy and didactics.
- The episteme where it appears. The narrative that underpins and legitimizes it in the wide (unlimited) world of education and pedagogy.
- The generative themes around which it is organized, which are closely related to education, pedagogy, didactics, and the broader discourse of the professional and citizenship development of people (skills, attitudes and competencies).
- The interaction with other knowledge or with variants of the same pedagogical knowledge.
- The virtual and real instances (institutions and practices, symbols) that support it (Zuluaga, 1977).

Pedagogical knowledge of the infant, failing to attain scientific standards that are universally accepted, must make an epistemological retreat and regroup its efforts to provide a satisfactory explanation, in principle, of its own strengths as a discipline, and perhaps as a science (Zuluaga, 1999). To do this, it must start by accepting its weakness (epistemic fragility) and diversity. Knowledge, stories, experience, practice, and institutions, are at its base, they characterize it, but at the same time they set a trap of lack of definition and ambiguity (Foucault, 2012).

Pedagogical knowledge is the essential basis for seriousness, to collect meaning and articulate that deliquescent notion and concept. In a special and critical way, this is the archaeological model.

The work of Foucault opens the way, since it accounts for the instability of the concepts and the repercussions for the institutional daily work of the agents of education and pedagogy. Above all, it clarifies what is due, precisely, to the permeability, diffusion and contingency of its objects: the constitution of the subjects and their vital world. It also points out the lack of theory in this regard and the difficulty of describing, explaining and innovating within and around this area (Foucault, 2005).

Pedagogical knowledge of the infant is based, in the social and human sciences, on the axis of socialization and subjectification (in the double sense: being placed in a social order and being converted into a subject – a person at the center of their own development) and empowerment for the work (skills) that in the academic field are translated into education, pedagogy and didactics (Veyne, 2009).

The strength of the expression lies in its capacity for convergence, grouping, and containment, while incorporating the most open aspects of formative and educational matters. Pedagogical knowledge of the infant is much more comprehensive than any theory, approach, paradigm or current. Its great interest is knowledge in general, the conditions of its appearance, its beginnings, its development, its interactions, and its claim to being a science. It intersects with power practices and micro-powers (Foucault, 1992).

## Conclusions

Once the approaches to language development have been described and the most important aspects of these have been disclosed, it can be said that the theories put forward by Chomsky (1989), Papalia and Martorell (2021), Foucault (2002), Zuluaga (1999),

Piaget (1997) and Vygotsky (2020) focus on cognitive ability, although each theory has its own approaches. On the other hand, Skinner's (1989) behavioral theory does not take into account the infant's potential to develop linguistic processes when interacting in a social context. It ignores the semantic and pragmatic aspects. It cannot explain how the rules of language are developed. The acquisition of language allows people specific ways to relate in social environments. It is the means by which human beings transmit their beliefs and values, thereby allowing the acquisition of knowledge and the development of culture. In a broader context, oral expression is important for learning. This analysis applied to the infant's linguistic development and processes of building up components is an excellent starting point in understanding the elements that make up the linguistic system. Language is an arbitrary system and, as such, to be an effective communication system it requires a stable social group. The infant must live in a context that stimulates the need and the desire to communicate. These are fundamental tools in the acquisition of new words, when socializing with people of different social status, and with people from a largely enriched culture. This is how the lexicon of each person increases and the means by which they are used. Communication allows the person to express any number of things as they choose, but they must also want to communicate (Habermas, 2010).

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