

Neuropsycholinguistic Study: The Influence of Speech Production on Language Acquisition in Children

M. Fakhrurozy K.^{1*)}, Rosmawaty Harahap²⁾

¹⁾ Universitas Negeri Medan, Indonesia

Correspondence: rozykudadir23@gmail.com

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Abstract. This research aims to understand the influence of speech production on language acquisition in children. This research uses qualitative methods with documentation and interview techniques to collect data. The research results show that speech production has a significant influence on language acquisition in children. Children who have good speech production skills tend to have better language skills too. This research contributes to the understanding of how speech production influences language acquisition in children. This can help parents, teachers and therapists develop appropriate intervention programs to help children with language learning difficulties.

Keywords: Speech production, language acquisition, children, Indonesian

I. INTRODUCTION

Language can be defined from various points of view and scientific disciplines and one of them is as a system of arbitrary sound symbols, language is a system of arbitrary sound symbols used by people to work, interact and identify themselves. because language is the main human communication tool organized in the form of units, such as words, groups of words, clauses and sentences which are expressed either orally or in writing.

In synthesis, the definition of language shows that language is an organized, symbol-based communication system used by people to interact, communicate and identify themselves. Language has unique properties, such as arbitrary, dynamic and diverse, which enable it to function as a tool of social integration and adaptation and become a cultural symbol of an ethnic group.

Language is a unique human cognitive system (which is regulated by formulas) which can be manipulated by humans to produce (publish) an unlimited number of linguistic language sentences based on limited elements to be used by humans as a means of communicating and accumulating knowledge. . (Simanjuntak, 2008: 17).

Language is an important part of human life, and language acquisition in children is a complex and dynamic process. Speech production, namely a person's ability to express thoughts through vocal means in the form of speech (words and sentences), has a big impact on children's language acquisition. The influence of speech production on language acquisition in children is very important to understand how children produce speech and communicate well.

The definition of speech production is how humans plan to express language verbally and in writing. The speech production process involves many body organs and carries out many processes before the utterance is uttered. The general steps in producing speech can be divided into four levels: message level, functional level, positional level, and phonological level. At the message level, the speaker collects suggestions for the meaning he wants to convey. At the functional level, lexical forms are selected and then given syntactic roles and functions. At the positional level, constituents are formed and affixation is carried out. At the phonological level, the phonological structure of the utterance is realized.

This research refers to several relevant references in the fields of psycholinguistics and

neuropsycholinguistics, such as "Neuropsycholinguistics" by Arifuddin (2013), "Psycholinguistics: An Introduction to Human Understanding" by Djardjowidjojo (2010), and "Pragmatics: A Multidisciplinary Perspective" by Cumming (2007) .

Thus, this introduction explains the aims, methodology, and background of the research problem, as well as providing a general overview of speech production and language acquisition in children. This research hopes to contribute to a deeper understanding of how speech production influences language acquisition in children.

II. METHODS

This research uses qualitative methods using documentation, observation and interviews. Data about the influence of speech production on language acquisition in children was collected through documentation techniques. The influence of speech production on language acquisition in children is measured through recorded data collected using the documentation method at the age of 18 months. Interview techniques are used to teach children's language production so that they can speak well.

III. RESULTS AND DISCUSSION

a) Understanding Language/Speech Production

Language or speech production is the process of turning ideas into speech. It includes various steps, such as:

1. Word Selection: The process of choosing the right words to convey the idea or message you want to convey.
2. Grammar Arrangement: The process of arranging relevant grammar to create coherent and meaningful sentences.
3. Articulation: The process of physically creating speech sounds using the vocal apparatus, including elements such as fluency, complexity, accuracy, and comprehension.
4. Message Level: The process of gathering information about the meaning to be conveyed.
5. Functional Level: The process of selecting lexical forms and giving words syntactic roles and functions.
6. Positional Level: The process of forming constituents and affixing to create the correct speech structure.
7. Phonological Level: This process produces the phonological structure of speech as indicated by vowel and consonant sounds.

Speech production can occur spontaneously, reactively, or imitatively, and involves a person's ability to communicate an intended message in an effective and consistent manner.

b.) General Steps in Producing Speech

The general steps in producing speech can be divided into four levels:

1. Message Level: Where the message to be delivered is processed and grouped into relevant elements.
2. Functional Level: Where the lexical form is selected and given the appropriate syntactic role and function.
3. Positional Level: Where constituents are formed and affixation is carried out to form a coherent sentence structure.
4. Phonological level: Where the phonological structure of speech is realized, producing sounds that correspond to the meaning to be conveyed.

In this process, speech is processed through several stages, such as:

- Gathering Nosi-nosi: The speaker collects elements of the meaning he wants to convey.
- Sorting Lexical Forms: Lexical forms are selected and grouped based on the meaning to be conveyed.

- Affixation: Constituents are formed and affixation is carried out to form a coherent sentence structure.
- Speech Response Generation: Speech response signals are sent to the motor area to physically produce speech.

Thus, producing speech involves several complex and interactive stages, enabling effective communication between individuals in a variety of situations.

“Yusuf is bathing his grandson”

The ideas that come to mind in the conversation include;

- there is someone
- this person is male
- he is married
- he has children
- he is doing the deed
- that action is bathing his child.

At the functional level, there are two things that are processed. First, choose the lexical form that suits the message to be conveyed and the grammatical information for each person he knows. The man in question is Yusuf, and this word is the name of a man; the action of bathing is represented by the basic verb; between the argument between Yusuf and his grandson, Yusuf is the perpetrator of the action while his son is the recipient.

c.) Details of Speech Production

Speech production occurs at four levels:

1. Message Level: where the message to be conveyed is processed and understood.
2. Functional Level: where lexical forms are selected and assigned syntactic roles and functions.
3. Positional Level: where constituents are formed and affixed.
4. Phonological level: where the phonological structure of speech is realized.

In this process, three parts of the brain play an important role, each functioning in a different way:

- Wernick area: Responsible for the meaning of meaning.
- Broca's area: Responsible for grammatical planning.
- Supplemental Motor Area: Responsible for monitoring and controlling results saying.

Speech production can be spontaneous, reactive, or imitative, and can be affected by several disorders, such as neuropsycholinguistic disorders.

Speech production involves several stages, including:

- Conceptual Stage: The speaker abstractly identifies what they want to express.
- Syntax Stage: Selection of sentence structure.
- Lexical Stage: Search for words based on meaning.
- Phonological Stage: Information is converted into a speech-like form.
- Phonetic Stage: Instructions are prepared to be sent to the articulatory muscles.

The Influence of Speech Production on Language Acquisition

Research also shows that speech production has a significant influence on language acquisition in children. Documentation and interview techniques are used to collect data and understand how children produce speech and how it influences their language acquisition.

Language is an arbitrary sound sign system that has been agreed upon and used by members of certain social groups in working together, communicating and identifying themselves. In this case, the particular community group in question is a community unit in an area that has a common understanding of the language used as a means of communication.

Production is an activity or process of making something naturally. Meanwhile, speech is the words

spoken. So speech production is the process that produces words. steps that must be followed in producing speech. These steps can include how to produce constituents, sentences and discourse. With the steps that must be followed in producing speech to children.

Language acquisition is a process used by children to adapt a series of increasingly complex hypotheses, or hidden or latent theories that may occur with the utterances of their parents until they choose based on a measure or measurement of the best grammatical assessment and the simplest of these languages.

In this case, the influence of speech production on language acquisition in children has a very good impact on children. By teaching the steps described, children can produce their speech well so that later children can speak fluently and can understand the meaning of what someone is saying.

IV. CONCLUSIONS

Speech production plays an important role in children's language acquisition. By giving children lots of opportunities to talk, we can help them develop the language and communication skills they need to be successful in life. This research uses qualitative methods with documentation and interview techniques. Documentation techniques are used to collect data about the influence of speech production on language acquisition in children. The influence of speech production on language acquisition in children was measured through recorded data collected using documentation methods at the age of 18 months. Interview techniques are used to teach children language production so they can speak well.

The results of this study indicate that speech production has a significant influence on language acquisition in children. Children who have good speech production skills tend to have better language skills overall. This research has several implications for educational practice. First, it is important for teachers and parents to give children plenty of opportunities to talk. Second, it is important to assess children's speech production skills and provide intervention if necessary. Third, it is important to develop intervention programs that focus on developing children's speech production skills.

REFERENCES

- Aditama, P. S. (2003). *Filsafat Bahasa*. Surakarta: Muhammadiyah University Press.
- Arifuddin, M. (2013). *Neuropsycholinguistics*. Yogyakarta: Pustaka Pelajar.
- Bloom, P. (2000). *How Children Learn the Meanings of Words*. Cambridge, MA: MIT Press.
- Chaer, A. (2002). *Psikologilinguistik: Kajian Teoretik*. Jakarta: Rineka Cipta.
- Cumming, S. (2007). *Pragmatics: A Multidisciplinary Perspective*. London: Routledge.
- Darmojuwono, S., & Kushartanti. (2000). *Pesona Bahasa: Langkah Awal Memahami Linguistik*. Jakarta: PT Gramedia Widasarana Indonesia.
- Djardjowidjojo, S. (2010). *Psycholinguistics: An Introduction to Human Understanding*. Yogyakarta: Gadjah Mada University Press.
- Simanjuntak, M. (1990). *Teori Linguistik Chomsky dan Teori Linguistik Wernicke: Kearah Satu Teori Bahasa yang Lebih Sempurna*. Jakarta: Radar Jaya Offset.
- Vygotsky, L. S. (1986). *Thought and Language*. Cambridge, MA: MIT Press.