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Language Problem Solving in Children and Its Relationship to Reading Skills and Neuropsycholinguistic Disorders

Maysarah Silalahi[1], Rosmawaty[2]
[1,2] *Universitas Negeri Medan, Indonesia*
maysarah.8234091003@mhs.unimed.ac.id

Abstract

The research entitled "Language Problem Solving in Children and Its Relationship to Reading Skills and Neuropsycholinguistic Disorders" aims to find out whether there is a relationship between language problem solving in children and children's reading skills and neuropsycholinguistic disorders. This research focuses on language problems, reading skills, and neuropsycholinguistic disorders in children. This research was conducted using descriptive qualitative methods, this method aims to describe systematically, actual and accurately. Data analysis was carried out by observation, interviews, and then recording as a data collection technique. The subjects of this research were children aged 7 to 10 years who experienced neuropsycholinguistic disorders and delays in reading and speaking. The results of the research show that language problem solving in children is related to their reading skills and neuropsycholinguistic disorders.

Keywords
Language Problems; Reading Skills; Neuropsycholinguistic Disorders

I. Introduction

Language is a means of human communication to convey thoughts, feelings and information through symbols, whether in the form of speech, writing or signs, which develop over time and are influenced by the cultural development of its users. According to (Zulkhi & Wardani, 2018), language is a natural ability that every child has. Language consists of the vocabulary that will be used (Lestari, 2021). Language also refers to the words used, as well as the rules governing their variations and combinations.

Language acquisition can be sequenced starting from the beginner combined speech stage and the developmental stage during the school period which includes learning about metalinguistics, language use, and language structure. Every child has the innate ability to speak their first language. Language refers to the words used in society and the laws that govern their variations and combinations. Children's use of language influences their reading skills.

According to (Agustin, 2020), reading skills are very important for various tasks and can be started from a young age. Reading skills are the ability to understand, interpret and analyze written text. These skills are important to have in order to gain knowledge, communicate, and participate in society. Reading skills must be supported by good language skills. When developing reading skills, children try to express themselves through words. This marks the beginning of expressive language skills.

Knowledge about how the brain processes language helps humans develop better methods for improving reading skills. Reading skills are related to neuropsycholinguistics, which means they complement each other in understanding and improving reading skills. Neuropsycholinguistics studies how the brain processes language, including reading.

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Neuropsycholinguistics is a branch of science that studies the relationship between neurobiological processes and language abilities. According to (Ahmad & Othman, 2021), neuropsycholinguistics studies the relationship between language, language abilities and human brain function. In the context of reading skills, neuropsycholinguistics examines how the brain processes written information and how various areas of the brain contribute to reading ability. According to Arifuddin in (Ahmad & Othman, 2021), the brain is the nerve center, mind controller, and organ that regulates language transmission.

It is also said that neuropsycholinguistic studies look at the biological basis of language and the brain mechanisms that regulate language learning and use. Language is simply a means of communication, and human intelligence is the result of rapid brain growth and expansion. Psycholinguistics is a science that studies the psychological processes involved in communication and language acquisition. According to (Zakiyah & Lyra, 2022), psycholinguistics aims to provide a theory of language that is linguistically and psychologically acceptable. In other words, psycholinguistics explains the structure of language and its use for speaking and understanding inner phrases. This is very related to neurolinguistics which studies the biological basis of language. However, nowadays there are several phenomena that occur in children who experience neuropsycholinguistic disorders that affect their reading skills.

Neuropsycholinguistic disorders are conditions in which brain functions related to language processing are disrupted, causing difficulty in speaking, understanding, reading, and even writing. Neuropsycholinguistic disorders include a variety of conditions that can affect language processing and communication, both expressively and receptively. Neuropsycholinguistic disorders can also be caused by various factors, including: (1) Genetics, (2) Brain injury, (3) Abnormal development, and (4) Environment.

Language problems or disorders are important issues that need to be studied and discussed because they affect a person's overall communication abilities, as well as discussions that will include various types of language disorders and the factors that cause them. Based on several problems that have been described, researchers are interested in researching language problem solving in children and its relationship with reading skills and neuropsycholinguistic disorders.

II. Research Method

The research method used in this research is descriptive qualitative, this refers to studies carried out through explanations or descriptions. According to Syahrum in (Syahrizal & Jailani, 2023), qualitative research does not use numerical data which emphasizes the need to see phenomena in their natural state. This study aims to describe language problems in children aged 6 to 10 years using a descriptive approach. The research techniques used include data collection and analysis techniques. Researchers used interviews, observation, and then recording as data collection techniques. The researcher asked them some simple questions, then they answered. This analysis technique will involve data identification, where the collected data will be classified, the identified data includes the child's biodata and the language disorders experienced.

III. Results and Discussion

3.1 Language Problems

a. Understanding language problems

Language problems cannot be separated from the two elements that determine language activities. These two aspects include the medical and social environment in the environment where a person lives. Medical considerations are related to the idea of nativism, which states that individuals are born with a natural ability to speak. These skills include effective articulation and the environment influences language activities. According to (Johan & Susanto, 2018), language cannot be conveyed effectively if one of the components of human articulation is not functioning, so that the meaning of the language cannot be received well by listeners.

Individuals with appropriate brain function and speech organs can speak effectively. Meanwhile, individuals with decreased brain and organ function may experience difficulties in language, which can cause problems in producing or receiving words. In general, speaking difficulties are classified into two types: (1) Difficulties caused by medical causes, such as brain function disorders or speech dysfunction, (2) Language disorders caused by social contextual variables, for example a person's living environment.

According to (Nasution et al., 2023), language problems can arise and interfere with a child's ability to communicate effectively. These problems vary from speech disorders, difficulty hearing certain sounds, or forming words correctly. So there is a delay in language development, where children fail to reach the predicted language development milestones at a certain age. Language problems can make sufferers have difficulty speaking or composing words, as well as difficulty understanding other people's words (Fadhilasari, 2022). As a result, this disorder hinders the process of language production and understanding, so that it does not run optimally.

b. Factors Inhibiting Children's Language Development

One of the main factors inhibiting children's language development is the lack of exposure to language. Children who do not have the opportunity to adapt to linguistically rich social interactions and conversations tend to experience decreased language stimulation. In these environments, children may not be exposed to the vocabulary and language structures necessary for optimal language development. Next is the lack of parental support. Parental disinterest and lack of participation in conversations can negatively affect a child's language development. Children will lose interest in talking and interacting verbally if they do not get adequate responses or interesting interactions from the adults around them.

3.2 Reading Skills

Reading is an important element of language skills that requires great attention in everyday life. The focus is on recognizing the significance, value and role of reading in social interactions. This causes the interpretation of the reading to vary. Reading refers to the pronunciation and learning of words from written sources. These exercises require complex assessment and organization of abilities including study, thinking, judgment, and combination.

According to Tarigan in (Harianto, 2020), reading is a process where readers use words or written material to understand the message the author wants to convey. This involves the process of understanding the meaning contained in written text, so it can be

concluded that reading is a complex activity that involves a series of separate actions, including comprehension, imagination, observation and memory.

3.3 Neuropsycholinguistic Disorders

Neuropsycholinguistic disorders are disorders that affect a person's understanding, production, or processing of language as a result of damage or disruption to brain function. These disorders can include various conditions such as aphasia, dyslexia, and other language disorders caused by neuropsychological factors. Neuropsycholinguistics combines psycholinguistics with neurolinguistics. Neurolinguistics investigates the biological basis of language and the brain mechanisms that regulate its learning and use, while psycholinguistics investigates the psychological and neurobiological elements that cause humans to use, acquire and understand language.

3.4 Language Problem Solving in Children and Its Relationship with Reading Skills and Neuropsycholinguistic Disorders

This research focuses on solving language problems in children and its relationship with reading and neuropsycholinguistic skills. Based on the follow-up carried out by researchers on children aged 6-10 years who were the subjects of the research, they obtained the following results:

1. Children with the initials AN were found to have aphasia, a disorder that occurs due to damage to the part of the brain that regulates the production or understanding of language. This aphasia can affect a person’s ability to speak, understand words, read and write. AN has reached the age of 9 years, but his use of everyday language is still unclear. The researcher tried to ask AN verbal questions, for example, ”Hello, what is your name? May I get to know you?” However, AN was still confused about processing or arranging the words he would use to answer the researcher’s questions. So the researcher asked again ”How old are you?” AN only answered ”Nine”. Then the researcher asked again, ”What grade of school are you in?” AN only shows 3 fingers. This aphasia occurs due to damage to the brain which regulates the understanding or production of language, this causes AN to have difficulty speaking and understanding words. This disorder affects AN to communicate effectively
2. The second research was carried out with children with the initials SA, where the researcher gave SA some literature to read. However, SA is unable to fully understand and recognize words. SA suffers from dyslexia. This symptom appears in SA, because SA is confused about differentiating between several letters such as b and d, up to p and q. The researcher tried to provide ”BOOK” reading for SA to read. However, SA was unable to read the word. SA is in the 2nd grade of elementary school, now she is 8 years old, will soon be in the 3rd grade, but SA was found to not be able to master and recognize letters, so it is very difficult to read word by word, even sentence by sentence. Then, the researcher tried to ask a question in the form of ”THREE”, but SA could not read the writing. However, the researcher gave the number ”3”, SA managed to say this number correctly. From these results, it is known that SA cannot read and understand letters at all, so SA experiences a type of dyslexia disorder.
3. The results of further research with the subject BT aged 8 years, BT experienced problems in language which caused the pronunciation of letters to be unclear, often by adding or subtracting letters in words. BT tends to speak too fast, like when reading a story text, BT can spell, but the way he reads is different from the way he spells. I gave an example of the word ”NEAT”, when BT spelled the word, the results were correct. But when he said the word fully, he said FIRE, so the R disappeared. Again, the

researcher gave the word ”DESK”, when spelling it, BT spelled it correctly and accurately. But again he read the word completely as ”Spell”. So there is one letter missing from the word. Based on the problems experienced by BT, it can be concluded that BT has a speech delay or alexia, which is a condition where a person loses the ability to read, even though previously they had the ability to read well. This disorder makes it difficult for a person to understand written text and identify words. This disorder can be clearly seen in their difficulty in speaking and communicating effectively.

Based on the results of several studies that have been described, it can be said that the language problems experienced by children have a relationship or impact on their reading skills, this is also related to the nepsicholinguistic disorders they experience. However, what we most often encounter nowadays are language comprehension disorders, aphasia and dyslexia. Each of these disorders has different characteristics and symptoms. These disorders require appropriate treatment and require careful diagnosis and intervention tailored to individual needs.

There are various therapies that parents can carry out for children who experience neuropsycholinguistic disorders according to (Wulandari et al., 2023), including:

1. Speech and Language Therapy
2. Educational Intervention
3. Cognitive Therapy
4. Psychological support
5. A supportive and language-rich environment
6. Conduct periodic evaluations.

IV. Conclusion

Based on the introduction, methods, and results of the discussion contained in this research, the researcher can draw the following conclusions:

1. Reading skills and neuropsycholinguistic disorders are closely related to children's language problems. This can be seen from the problems experienced by several children who were used as subjects of this research. Language problems arise based on several things, such as lack of parental support, neurological factors, and lack of language stimulation.
2. Providing appropriate therapy and intervention for children who experience neuropsycholinguistic disorders and obstacles in reading is very necessary, especially for children who are already experiencing the initial symptoms of these disorders. Children's language development is also greatly influenced by the social environment which is full of interaction and language stimulation.
3. Various factors can influence language development, including the quantity and quality of conversation, exposure to a wide vocabulary, and opportunities for role playing, as well as a supportive social environment.

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