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Slurred Speech Disorder in 5-Year-Old Child: A Psycholinguistic Study

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Abstract

Language and speech disorders are one type of developmental disorder that is often found in a child. This disorder includes various problems such as difficulty in articulation, voice disorders, speech fluency disorders (such as slurred speech), aphasia (difficulty using words usually caused by brain injury), and delays in speaking or language skills. This study will be analyzed using Psycholinguistic theory, where phonological sound changes are found. The problem that will be discussed in this study is the language skills in a five-year-old child. This study aims to analyze language skills in five-year-old child with slurred speech disorders and analyze sound changes that occur in five-year-old child with slurred speech disorders. The method used in this study is descriptive qualitative, the techniques used in data collection are interviews, observation, and documentation. The results of the study showed a language disorder in the form of an inability to articulate certain phonemes clearly. In addition, the omission of certain phonemes was also found.

Keywords: Slurred speech, Psycholinguistics, Phonology

INTRODUCTION

Slurred speech disorders in early childhood are one of the problems in the field of linguistics. This problem requires a deep understanding from a psycholinguistic perspective. This condition is not only about delays in mastering the language sound system, but also because of the complex interaction between neurological, cognitive, and linguistic aspects in the language acquisition process. As social beings, humans need language as a tool to communicate with their social environment. Every individual has a language to communicate with each other. However, communication will run easily if someone is able to speak. Language is the ability to convey ideas, thoughts, and feelings that emerge from the brain to be expressed, both verbally and non-verbally. It can be stated that language skills are essential for humans as a means of communication. Without language skills, the communication and interaction processes will not run as they should (Sukmawati & Setiawan, 2023: 253).

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Language ability is the ability, skill, richness of human speech, thoughts and feelings through arbitrary sounds, used to cooperate, interact, and identify oneself in good conversation. Keraf (in Khoirunnissa & Emha, 2024: 62) said that humans have two types of language abilities, namely receptive ability (decoding) and expressive ability (productive). Receptive ability (decoding) is a process that occurs in the listener, the listener receives meaningful and useful language codes conveyed by the speaker through the pronunciation tool, and receives them through the hearing tool. Then, the ability to express (productive) is the process by which someone creates or designs language. The ability to express requires speakers to produce speech in communication. Expressive ability refers to the speaker and then produces meaningful ideas, codes, concepts, and information. One of the theory that discusses language ability is psycholinguistics.

Psycholinguistics is the study of language and human behavior. In other words, Psycholinguistics is a branch of science that describes the psychological processes that occur when someone produces sentences and understands the sentences they hear when communicating and how language skills are acquired by humans (Simanjuntak in Khoirunnissa & Emha, 2024: 62). According to Suhartono (in Suharti, et al., 2021: 7), the term "Psycholinguistics" was chosen because it was considered more appropriate to describe independence and specific objects of study, namely the psychological processes that occur in people who speak. This psycholinguistic theory can be used to analyze several common language disorders, one of which is slurred speech.

Disorders of pronunciation of dorso velar phonemes in adults are called "slurred speech" (Kifriyani, 2020: 36). He further said that this disorder causes a decrease in self-confidence in sufferers. Phonetic disorders in people with language disorders (slurred speech) are not only limited to the phoneme /r/, but can also be possible in other phonemes such as the phoneme /f/ becomes /p/ and so on. Furthermore, Kifriyani (2020: 36) stated that the cause of this language disorder or slurred speech has 2 factors, namely physiological factors (anatomy of body organs) which are caused by ankyloglossia (short tongue), for the second factor is called a neurological factor (brain nerve disorder) which is caused by trauma (head injury). In this case, slurred speech does not affect health but only hinders sufferers from communicating.

The topic of slurred speech has been discussed in several previous studies. First, Sukmawati and Setiawan (2023) conducted a study on slurred speech in five-year-old child. The results of the study showed that slurred speech in five-year-old child was caused by several factors, namely psychological factors, nervous disorders, and developmental disorders in children that were hampered by the family environment. Second, Mawarda (2021) conducted a study on language disorders in child with slurred speech. The results of the study proved that slurred speech not only pronounces /r/ as /l/, but the phoneme /r/ can be changed into the phoneme /y/, /h/, and /w/ according to the speaker who finds it easier to pronounce the phoneme they want to say. This study aims to determine the language skills of five-year-old child with slurred speech and to determine the sound changes that occur in five-year-old child with slurred speech.

THEORETICAL FRAMEWORK

First language acquisition is one of the events in human development. First language acquisition occurs naturally when a child begins to recognize, understand, and use language

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to communicate. According to Batubara (2021: 167), language acquisition is a process of mastering a first language or mother tongue that is carried out by a person consciously and spontaneously and is usually guided by someone who has already mastered the language. This process generally begins when a child is born until the child is around five years old. This process is greatly influenced by biological, cognitive, and social environmental factors.

In addition, in mastering the first language, not everyone can immediately pronounce words clearly and correctly, especially when they are still young. Sometimes, there are people who sound a little different when they speak, for example pronouncing certain letters in a unique or unclear way. This is a symptom of a language and speech disorder. Language and speech disorders are one type of developmental disorder that is often found in individuals. This disorder includes various problems such as difficulty in articulation, voice disorders, speech fluency disorders (such as slurred speech), aphasia (difficulty using words usually caused by brain injury), and delays in speaking or language skills. One example of a problem that often found in language and speech disorders is slurred speech (Rupa & Dhapa, 2021).

According to Wulandari and Arsanti (2024: 1495), slurred speech is a term used to refer to a speech or fluency disorder that results in difficulty pronouncing words fluently. Sundoro, et al. (2020: 304) stated that in the medical field, a speech disorder known as slurred speech is often called dysarthria, which is the inability to pronounce certain phonemes when communicating. In line with this, Batubara (in Majid & Darisman, 2022: 92) explains that slurred speech is a type of dysarthria that occurs due to disturbances in motor patterns in speech. This motor pattern disorder is caused by structural abnormalities in the muscles under the tongue, namely the lingual frenulum. Abnormalities in these muscles cause the tongue to move less than optimally, causing slurred speech. From this explanation, it is concluded that slurred speech is a speech disorder that causes difficulty pronouncing words fluently.

There are several factors that cause slurred speech in children. According to Septianingtias et al. (2025: 19), the causes of slurred speech are generally divided into four main factors, namely physiological, neurological, psychological, and environmental factors. Physiological factors, which are the anatomical condition of the short tongue or ankyloglossia, where the frenulum of the tongue is too short so that tongue movement is limited and can interfere with articulation ability. Tongue muscles that are less flexible also affect the ability to move the tongue properly. Neurological factors, which are disorders of the central nervous system that affect tongue motor control and the ability to articulate sounds. Psychological factors, which are lack of self-confidence and anxiety when speaking which can inhibit verbal ability. Environmental factors, which are language habits in the family or community environment that pay less attention to correct pronunciation so that they affect the ability to speak properly.

Slurred speech disorders can be studied through Psycholinguistic theory. Dimitrova (2021) defines Psycholinguistics as the study of language and mind (in Mulyaningsih, 2023:107). Furthermore, Muslimat, et al. (2023:35) they state that psycholinguistics is a theory that studies human behavior in linguistic processes which can be in the form of understanding, applying language, processing language and language learning. In line with this, according to Heidari (2022) psycholinguistics is the science of a person's psychological process in producing and understanding sentences that are heard. This means that this theory talks about the process of language production (producing) and language acquisition (receiving).

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From this explanation, it is concluded that psycholinguistics is a theory that studies the behavior experienced by humans when using language.

Slurred speech disorders in early childhood can be analyzed phonologically. Phonology is one of the fields of linguistics. According to Sari and Effendi (2022: 80) phonology is the theory that studies the origin of the formation of language sounds, sounds that are created, language produced from sounds or sounds. There are several sounds that have changed that are pronounced by the source, especially the sound [r].

METHODOLOGY

The method used in this study is a descriptive qualitative method. According to Waruwu (2023: 2898) qualitative research is a type of research that uses descriptions or words to describe the meaning of each event, sign, and certain social conditions. Meanwhile, descriptive research aims to describe the characteristics or conditions that exist in a phenomenon or population at a certain time. Descriptive research collects data using various methods, including surveys, interviews, observations, or document analysis (Mukhyi, 2023: 89). In addition, writers also used library research method, which is method of collecting data by understanding and studying theories from various literature related to the research (Adlini, et al., 2022: 975).

Data collection techniques in this study were interviews, observations, and documentation. Interviews are data collection techniques that involve direct interaction between researchers and research subjects, where researchers ask questions to dig up in-depth information about the topic being studied (Huberman & Miles in Romdona, et al., 2025: 43). In this study, structured interviews were conducted using a list of questions that had been prepared in advance and were fixed. The list of questions includes simple questions and invites children to repeat certain words that are considered difficult for someone with a slurred speech to pronounce.

Observation is an activity of direct observation of the research object to see up close the activities carried out by collecting data by observing the ongoing activities (Fiantika, et al., 2022: 106). Writers also used the observation technique during the interview, which is by paying attention to the sounds of the language produced by the child when pronouncing certain words. The differences in sound that occur are then recorded to find the pronunciation errors that are heard. Documentation techniques are also used during interviews. In addition to being research evidence, documentation in the form of videos and voice recordings is also useful for re-hearing the sounds of the language spoken by the child.

The instrument or tool used in this study was an interview guide containing a list of questions to be asked. The interview guide according to Ardiansyah, et al., (2023: 4) provides a framework for researchers to ask relevant and in-depth questions to research participants. In the interviews conducted, media in the form of a short story about “Kelinci dan Kura-kura” were also used to communicate with the child. The short story was read and then several questions were asked to get responses from the child. The data analysis technique used in this study was to compare the sounds made by the child when pronouncing certain words, identify sound changes that occur phonologically, and record sound changes that occur at the beginning of words, middle of the words, or end of the words.

FINDINGS AND DISCUSSION

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Based on the results of observations of a five-year-old child with the initials AID, a language disorder was found in the form of an inability to articulate certain phonemes clearly. Data was collected through an interview process by providing a number of specific questions, followed by the child following several repetitions of words spoken by the writers, and finally using short storytelling media. The results of the analysis showed changes in phonemes, especially in the sounds /r/ and /z/.

The following are the results of an analysis of an interview conducted by researchers with a 5-year-old child.

Table 1. The Process of Phoneme Change in Speech

No	Child's Speech	Meaning	Phoneme Changes
1.	Sorong C	Lorong C	/l/ → /s/, the /r/ sound is not sharp
2.	Plosotan	Prosotan	/r/ → /l/, there is a /b/ sound that inserted
3.	Dinala	Dinara	/r/ → /l/
4.	Alsyena	Alzena	/z/ → /s/, there is a /y/ sound that inserted
5.	Telun	Telur	/r/ → /l/
6.	Keleta	Kereta	/r/ → /l/
7.	Galam	Garam	/r/ → /l/
8.	Kula-kula	Kura-kura	/r/ → /l/
9.	Seba	Zebra	/z/ → /s/, /r/ sound is lost
10.	Keldai	Keledai	/l/ is clearly audible, /e/ is lost

Table 2. Clarity of Sound

No	Child's Speech	Meaning/	Explanation
1.	Aqifah	Aqifah	Clear
2.	Ikan	Ikan	Clear
3.	Rafa	Rafa	Clear
4.	Alya	Alya	Clear
5.	Roti	Roti	Clear
6.	Rusa	Rusa	Clear
7.	Pisang	Pisang	Clear
8.	Kedelai	Kedelai	Clear

Table 3. After Reading the Short Story Analysis Results

Question	Child Response	Explanation	Phoneme Changes

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Ceritanya tentang siapa tadi?	Tuwa-tuwa sama kinci	Unclear	(a) Kura-kura turned into Tuwa-tuwa. /k/ → /t/, and /r→/w/ (b) Kelinci becomes kinci. There are deletions of the phonemes /e/ and /l/
Apa yang kelinci lakukan saat lomba?	Beai kencang, tidun	Unclear	(c) Berlari kencang becomes beai. There is a deletion of the sounds /l/ and /r/ in the word belari. (d) Tidur becomes tidun /r/ → /n/
Siapa yang menang lomba? Kenapa?	Kula-kula	Unclear	(e) Kura-kura becomes Kula-kula /r/ → /l/

Based on the table above, there are several words that show articulation disorders (slurred speech) and changes in the phonemes /r/, /z/ to phonemes /l/, /s/. However, the pronunciation of words that do not contain the phoneme /r/ and several words containing the phoneme /r/ are pronounced very clearly by the child as it should be. The following are the results of the analysis obtained: W (Writers), R (Research subject).

1. Ke***r***eta → Ke***l***eta
2. Ga***r***am → Ga***l***am
3. Ku***r***a-ku***r***a → Ku***l***a-ku***l***a
4. Dina***r***a → Dina***l***a
5. Ku***r***a-ku***r***a → Ku***l***a-ku***l***a

In the data above, the sound /r/ located in the middle of the word changes to /l/ in the middle of the word. The child is unable to pronounce the phoneme /r/ properly so she replaces it with the phoneme /l/ because it feels easier to pronounce. This shows the child's inability to produce the tongue vibrations needed to produce the sound /r/. This change is in line with research conducted by Fildza Mawarda (2021) which shows that articulation disorders slurred speech are often characterized by the replacement of /r/ with /l/.

6. ***Z***ebra → ***S***eba

In the data above, in addition to the sound replacement /z/ → /s/, the phoneme /r/ is completely lost, this shows the child's inability to produce alveolar sounds clearly. This sound replacement is in line with research conducted by Sundoro, et al. (2020) which revealed that in phonological disorders, children tend to omit difficult phonemes in communication, especially /r/ and /z/.

7. Al***z***ena → Al***s***yena

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In the data above, the sound /z/ which is located in the middle of the word changes to /s/ in the middle of the word, this shows the child's inability to restrain the vibration of the voice in producing the phoneme /z/, so that it replaces it with the voiceless sound /s/ which is easier to articulate.

8. Telu***r*** → Telu***n***

In the data above, the sound /l/ which is located at the end of the word changes to /n/ which is an alveolar nasal sound at the end of the word, this shows that there is a phoneme replacement, where the child has difficulty in producing the alveolar trill sound /r/ at the end of the word.

9. ***L***orong → ***S***orong

In the data above, the sound /l/ located at the beginning of the word changes to /s/ at the beginning of the word. The child is unable to pronounce /l/ well so he replaces it with the phoneme /s/ because it feels easier when pronounced. This shows that the child has difficulty producing the tongue vibration needed to form the sound /r/. As a result, the sound production shifts to the fricative sound /s/, which does not involve tongue vibration.

10. P***r***osotan → P***l***osotan

In the data above, the sound /r/ at the beginning of the word changes to /l/ at the beginning of the word. There is a change of /r/ → /l/, plus the insertion of the sound /d/. According to Mawarda (2021), this change occurs because children find the production of the sound /l/ easier than /r/.

11. ***K***u***r***a-***k***u***r***a → ***T***u***w***a-***t***u***w***a

In the data above, the sound /k/ at the beginning of the word changes to /t/. Then the sound /r/ changes to /w/. This proves that the child's lisp is inconsistent. In the previous question, with the same answer, namely "Kura-kura", the child was simply unable to say the sound /r/ clearly. So the pronunciation of the word "Kurakura" can be "Kula-kula" or "Tuwa-tuwa".

12. K***el***inci → Kinci

In the data above, the /e/ and /l/ sounds in the middle of the word are lost. This usually happens because the child's tongue cannot be raised until it touches the roof of the mouth so that the /l/ pronunciation cannot be heard.

13. Tidu***r*** → Tidu***n***

In the data above, the sound /r/ which is located at the end of the word changes to /n/ which is an alveolar nasal sound at the end of the word, this shows that there is a phoneme replacement, where the child has difficulty in producing the alveolar trill sound /r/ at the end of the word.

14. Be***rl***a***r***i Kencang → Beai Kencang

In the data above, the /l/ and /r/ sounds are lost. This usually happens because the child's tongue cannot be raised until it touches the roof of the mouth so that the /l/ pronunciation cannot be heard. Pronunciation of the phoneme /r/, which requires precise motor coordination between the tongue, lips and oral cavity, also makes it difficult for children to pronounce the phoneme.

There are several solutions to overcome slurred speech disorders in children. Rupa and Dhapa (2021) provide solutions to speech disorders due to lingual factors in slurred speech sufferers,

which are practicing two-way communication with children, playing simple games with children, teaching children to sing together, and getting children to pronounce the Phoneme /r/.

CONCLUSION

Based on the results of observations of five-year-old child with slurred speech language disorders, it was found that there was a language disorder in the form of an inability to articulate certain phonemes clearly. In addition, there was also the omission of certain phonemes. The results of the analysis showed changes in phonemes, especially in the sounds /r/ and /z/. There were also changes in phonemes, in the sound /l/ to the sound /s/, the sound /r/ to the sound /l/, the sound /s/ to the sound /z/, and the sound /r/ to the sound /n/. There are several solutions to overcome slurred speech disorders in children. The solutions to avoid speech disorders due to lingual factors in slurred speech sufferers, which are practicing two-way communication with children, playing simple games with children, teaching children to sing together, and getting children to pronounce the Phoneme /r/.

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