Understanding the Language Skills of a 19-Year-Old Individual with Down Syndrome: A Psycholinguistics Case

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ABSTRACT

Language and speech ability of people with Down syndrome is usually slow; Down syndrome is more capable of being a receiver than an expresser in communication. This study aimed to explore the language skills of individuals with Down syndrome and to investigate how psycholinguistic approaches contribute to understanding the language ability of individuals with Down syndrome. The research method was qualitative and a case study with a single subject. The data were collected through observations and interviews. The analysis of the data consists of data transcribing, coding, and data categorization. The results showed a psycholinguistics approach can determine the language skills of a 19-year-old person with Down syndrome. The subject was able to understand simple everyday questions but she faced difficulties in answering questions related to pictures and multiple-choice questions, due to limited cognitive processes, lexicon, syntax, and phonology. Then the expressive and receptive abilities in language showed that the subject has quite good expressive abilities for the Down syndrome category, and for receptive abilities, the subject faced difficulty in complex, abstract questions, and also questions involving multiple choices.

Key Words: Down Syndrome, Psycholinguistics, Language Skill

1. Introduction

Down syndrome is a genetic disorder caused by an excess number of chromosomes. Chromosomes are described as a life guidebook for humans because they contain genetic instructions that guide the processes of development and functioning of the human body. As stated by (Pathak I, 2023), "A chromosome is a DNA molecule that contains the genetic information for an organism". In general human, there are 46 chromosomes. This chromosome is formed in pairs, 23 from the mother and 23 from the father. However, Down syndrome has an extra chromosome on the 21st pair. As a result, the total is 47 chromosomes. According to Cleveland Clinic (2023), "Down syndrome is a genetic condition where a person is born with an extra copy of chromosome 21. It means that they have a total of 47 chromosomes instead of 46. It can affect how their brain and body develop". Moreover, Orlin Nancy, et al (2014), list several characteristics of people with Down syndrome, including low muscular tone, unique facial traits, a higher chance of developing heart defects, hearing loss, thyroid issues, and intellectual and developmental impairments.

Intellectual and developmental impairments affect their ability to learn, process information, complete cognitive tasks, and produce language. Language and speech development of children with the syndrome is usually slower. Down syndrome is more capable of being a receiver than an expresser in communication, as stated by the Down Syndrome Resource Foundation (2024), "Language has two

very broad areas: the words and concepts a person understands, also called receptive language, and the words and concepts a person can convey to others, also called expressive language. For individuals with Down syndrome, receptive language abilities are typically higher than expressive language abilities, meaning that a person can understand more than they can communicate to other people".

Therefore, a deep understanding of psycholinguistics is required to dig further into the linguistic abilities of individuals with down syndrome in the hope it can contribute to clinical knowledge, aiding healthcare professionals, educators, and caregivers in providing targeted interventions and support.

There has been a lot of research on language skills in Down syndrome. One of them by Anggini et al. (2022) entitled "Speech Production on Special Needs Children (Down Syndrome): a Psycholinguistic Study at SLB Mekar Sari 1 Cibinong". The results showed that children with Down syndrome at the age of 8 years generally are not yet able to produce many complete words, and they still need stimulation. Furthermore, research by Thordardottir et al. (2002) entitled "Complex Sentence Production by Adolescents with Down Syndrome" showed that syntactic development in individuals with Down syndrome is not limited to simple syntax and continues until late adolescence.

Additionally, this research aims to build upon the findings of previous research above. If the research written by Anggini focuses on the language production of Down syndrome in children aged 8 years, this research focuses on Down syndrome language skills at the age of 19 years. Besides, the research written by Thordardottir focuses on the syntactic abilities of individuals with Down syndrome from childhood to adolescence. Then, this research focuses on the psycholinguistic aspects of the development of language skills in late adolescence, at the age of 19 years, and how the expressive and receptive language skills.

Besides, this research chose the age of 19 years as the focus because it is a reflection of general maturity in language use. In general humans, 19 years can use various language patterns, including social language patterns with peers but it does not apply to "D" (the subject's initials in this study). "D" is classified as mild Down syndrome because she has good adaptability in everyday life and has good functional abilities, such as being able to walk or carry out daily activities.

Long with, psycholinguistics consists of psychology and linguistics. According to Purba (2018), Psycholinguistics studies how the brain works to produce and perceive language, focusing on the interaction between the mind and language. Three primary topics are covered by psycholinguistics: language perception, language acquisition, and language production. The processes involved in generating and communicating meaning through language are referred to as language production. The processes involved in reading, comprehending, and speaking written language are collectively referred to as language perception. The process of picking up a native or second language is referred to as language acquisition.

Additionally, one of the main areas of study in psycholinguistics is the process of language production and comprehension. Language production is the process of comprehending and interacting through speech, language production entails the creation of a message, discourse planning, lexical selection, and syntactic encoding (Kemper S and L.J.P. Altmann, 2009), while language comprehension is the process of learning to comprehend and interact with others through speech (Main, 2022).

Besides, the connection between linguistic skills and cognitive development is also crucial to comprehend. "Cognitive refers to thinking and memory processes, and cognitive development refers to long-term changes in these processes" (Thompson, 2017).. Piaget's theory states that cognitive development progresses through several stages, starting with sensorimotor and finishing with formal

operational stages. In the sensorimotor stage, for example, babies use their perceptions and motor abilities to make sense of their surroundings. Meanwhile, at the formal operational stage of development, teenagers can employ logic and abstract thought without the need for concrete manipulation. A long with, according to Nippold (2016) Masykouri (2011) in Harlin (2019), at the age of 13 – 19 years, teenagers' language development increases rapidly because it is influenced by cognitive development and the surrounding environment such as family, local community, school and peers. Language development in adolescence is characterized by:

1) The number of vocabularies mastered increases as the number of reading references increases and the topics become more complex.
2) The social language patterns used by teenagers with their peers are increasingly developing.
3) They enjoy using metaphors or other language styles to express their opinions or feelings.
4) They can create new expressions or terms that are not standard or slang.

Applying Piaget's and Nippold's theories in the context of down syndrome can be a parameter for the cognitive and language development of humans. Furthermore, to achieve the goal of understanding language skills in individuals with Down syndrome aged 19 years, this study formulated research questions that will guide our investigation. Some of the research questions underlying this study include: how can the language abilities of 19-year-old individuals with Down syndrome be understood through a psycholinguistic approach? how are the expressive and receptive language skills of the subject?

The objective of this research is to understand aspects of the development of language abilities in 19-year-old individuals with Down syndrome through a psycholinguistic lens. As stated by Purba above, psycholinguistics focuses on language perception, language acquisition, and language production. Language perception and language acquisition include cognitive processes; involving the way the brain processes and understands words and sentences. Language production involves creating and arranging appropriate words (syntactic), and language production involves the use of the phonological system because it plays a key role in the language production process. When a person produces language, they must select and pronounce the appropriate sounds to form words.

This research can contribute significantly to the specific understanding of language development in people with Down syndrome by utilizing a psycholinguistic perspective. The study's conclusions and suggestions can serve as a foundation for the creation of more focused interventions, assisting educators, parents, and medical professionals in giving people with Down syndrome better care and support for their language abilities.

2. Methodology

This research is conducted through a qualitative descriptive approach and case studies because this research aims to reveal the phenomenon of language skills in individuals with Down syndrome in a comprehensive and in-depth manner. As stated in Pravitasari et al. (2021),descriptive research deals with the reasons and methods by which a phenomenon has occurred. Therefore, according to Pravitasari et al. (2021),, qualitative descriptive research aims to uncover phenomena, events, or conditions as they exist. In summary, it can be described as "simply seeking out facts".

Furthermore, the purpose of a case study is to get a thorough and detailed definition of the subject. According to Yusuf (2017), a case study involves employing a variety of methodologies and procedures as well as several sources of information to obtain detailed, comprehensive, comprehensive, and methodical data and information about individuals, events, and social settings that operate or function in context. In addition, according to Lichtman, 2009; Merriam, 1998; and Yin (2003), "A case study is conducted to shed light on a particular phenomenon, that is a set of processes, events, individuals, or other things of interest to the researchers".

Besides, the subject of this research will be identified as "D" (to keep her identity confidential). D was chosen because she is 19 years old. This age is an important transition period for human life because it comes to adulthood; someone will face new challenges in her life, such as social interactions with the environment. Understanding language development at this age can help support her in dealing with these changes. Then, at 19 years old a teenager begins to prepare herself to live independently in the future. Adequate language skills are very important, they will help communicate with others, acquire job skills, and organize daily life. At this age, language skills often experience significant development because teenagers have more experience in interacting with the social environment. Understanding how language skills develop at age 19 can provide valuable insight into planning appropriate intervention and support. At this age, teenagers with Down syndrome need to be more independent in their communication. Understanding how she uses language independently and effectively can help support her independence in everyday life. At age 19, a teenager becomes increasingly involved in social activities and has more interactions with peers. Selecting research on adolescents with Down syndrome aged 19 years, can provide a more specific understanding of how language development during this transition period affects daily life and how interventions can be tailored to provide optimal support. D is classified as a mild type of Down syndrome because there are three levels of Down syndrome; mild, moderate, and severe. The mild category has good adaptability in everyday life but still has inadequate language skills.

This research was conducted on the date September 1, 2023, until the end of December 2023. The research utilized observation and interviews as its primary instruments. Observation, a form of empirical science, relies on field facts, texts, and the five senses to gather data without manipulation. In qualitative research, observations are conducted to describe phenomena and develop theories and hypotheses (Hasanah, 2017). Observations are carried out in the subject's home because it is the most natural environment for the subject and provides an opportunity to see how the subject interacts such as interaction with the environment, family, and daily activities. By conducting observations in the subject's home, a deeper understanding of her language use can be obtained.

On the other hand, interviews involve conversations between two individuals. The interviewer initiates these conversations with the clear objective of gathering essential research data (Cohen, 2000).. They steer the discussion toward the research objectives, which may include systematic description, prediction, and explanation. Interviews facilitate the direct exchange of information between individuals. According to Sugiyono (2011),interviews can be categorized into three types: unstructured interviews, where no predetermined questions are used and the interviewer guides the conversation; structured interviews, where the interviewer follows a set of predetermined questions; and semi-structured interviews, where the interviewer uses a series of questions designed to elicit specific details.

In addition, the data collection process in this research used observation and structured interviews. Observation refers to psycholinguistic theory: observing language perception, which involves understanding language, language acquisition involves expressing language, ability to speak

in long sentences, and creative language expression and language production involves expressing language, communicating social skills, ability in vocabulary, ability to speak in long sentences, and creative language expression (see the table). Then structured interview, subjects were asked several questions about simple questions, picture-related questions, some questions about daily activities, some questions based on observation in the environment, some questions with multiple choices, some questions based on comparison, and questions related to memory.

Thus, the data analysis in this research used steps for analysing the data from (Creswell, 2011), as follows: First, the data obtained from observations and interviews is transcribed. Transcription is "The process of converting audiotape recordings into text data" by (Creswell, 2011). Second, the data was categorized through a coding process. For example, data from simple questions, questions based on images, questions about daily activities, and so on. This is the inductive process. The objective of this inductive process was to "make sense out of text data, divide it into text or image segments, label the segments with codes, examine codes for overlap and redundancy, and collapse these codes into broad themes" (Creswell, 2011). The last is to describe the data; the data is explained in detail, highlighting the conclusions that flow from every kind of inquiry. For instance, it can be stated how frequently "D" gave the right response or how frequently she was unable to respond to the question in the simple question data, etc.

Besides, the data validation in this research used triangulation. According to (Bhandari Prita, 2022), "triangulation means using multiple datasets, methods, theories, and/or investigators to address a research question. It's a research strategy that can help you enhance the validity and credibility of your findings and mitigate the presence of any research biases in your work". There are four types of triangulations, those are data triangulation, investigator triangulation, theory triangulation, and methodological or method triangulation. This research used data triangulation. Data triangulation involves using many data sources, such as people, place, and time (Hales David, 2010). Data triangulation was used because there are various data sources, such as observation and interviews were used to collect information about the language abilities of individuals with Down syndrome at the age of 19 years. By using various data sources, this approach ensures a comprehensive understanding of the subject matter, thereby strengthening the validity of the research findings.

3. Result and Discussion

3.1. Result

The study aims to understand the developmental aspects of language skills in 19-year-old individuals with Down syndrome through a psycholinguistic approach. The problem formulation involved two main questions: how can the language abilities of 19-year-old individuals with Down syndrome be understood through a psycholinguistic approach? how are the expressive and receptive language skills of the subject?

As mentioned above, the data collection used observation and interviews. Observation and interviews are used to understand and observe language development and also assess communication, comprehension, and expression skills. Observations were carried out based on the theory of Piaget and Nipold which has been explained above, those are cognitive, social language patterns, and language expression. Then, in an interview, questions were divided into several themes including simple questions, questions about daily activities, some questions based on D's observation, questions multiple choices, and questions related to memory and recall.

3.3.1. How can the language abilities of 19-year-old individuals with Down syndrome be understood through a psycholinguistic approach?

a. Observation

No	Skill	Description	Example
1	Understanding Language	D effectively comprehends basic commands such as "bring something" or do something"	When D is asked to "carry a bag" or "do housework". For example, if someone says to D "Bring the bag", D understands the instruction and takes the bag. Likewise, if someone commands her to "fold the clothes", D will start taking the clothes to fold. This shows that D effectively understands and responds to basic commands such as "bring something" or "do something."
2	Expressing Language	D can communicate her needs and emotions with phrases and sentences even if the pronunciation is not right. For example, when she is in pain, hungry, satisfied, tired, or unwell. Sometimes, when she finds it tough to express certain feelings or desires verbally, she resorts to using hand gestures to indicate their wishes or show her curiosity.	When D feels hungry, she says, "Mama, emam" meaning "Mom, help me to take food". If D feels sick, she says, "mama, sakit " or "Mom, I am sick". When D feels tired, she says, "empe (capek)" The meaning is tired, even though the pronunciation not be correct. In addition, if D wants to show curiosity or a certain desire that is difficult to express verbally, she uses hand signals. For example, if she is interested in seeing something high, she will raise his hand or point toward the object to express her desire. This shows that D can communicate to show her needs and emotions even though her pronunciation of words is not perfect by using phrases and sentences.
3	Communication's Social Skills	D understands social norms by expressing gratitude, even if the pronunciation is incorrect	When someone gives food to D, she responds by saying "asih (Terima Kasih)" or thank you. When D visits someone's house, she says greetings, "mamikum

			(assalamu'alaikum) the meaning is greeting.
4	Ability in Vocabulary	D cannot mention all the objects around her well, such as "book" is called "blas pulu"	When D was looking for her book, she said "Mama, blas pulu aku", which means "Mam, where is my book?"
5	Ability to Speak in Long Sentences	D cannot speak in long sentences; the sentence is unclear (not in the correct form of words or sentences).	When she talked about a pleasant experience, she traveled with her father by car to the mall and bought shoes. she told the story by speaking quickly and not forming the words or not the correct wording.
6	Creative Language Expression	D cannot speak with creative language expression	For example, when D was asked about where her mother was, she would answer briefly. For example, "mama mana?" (Where is your mom?) She answers "ga da" meaning "Mom is not here". When she asked about activities at her school, she answered with basic things, like writing or dancing. Conversations with D occur in a simple and uncomplicated pattern. However, she still sufficiently communicates with others.

Table of observation based on theory of Piaget and Nipold which has been formulated

All aspects in the column of skills above are cognitive abilities because they involve complex mental processes such as understanding, expression, use of language, organizing and conveying information verbally, understanding social norms, and the ability to use language creatively as stated by Paget and Nipold. The results can be concluded that in terms of understanding language, D can understand basic commands well, such as "bring something" or "do something," for example when she asked to carry a bag or do housework. In terms of language expression, D can communicate her needs and emotions using phrases and sentences even though her pronunciation is not correct. She also uses hand signals when having difficulty verbally expressing feelings or desires. In the context of social communication skills, D shows an understanding of social norms by expressing gratitude and saying hello when visiting someone's house. However, D faces several challenges in vocabulary skills and creative language expression. He cannot name all the objects around him well and sometimes has difficulty putting words or sentences together correctly.

b. Interview

The context of the interview about simple questions, picture-related questions, some questions about daily activities, questions about her observation in the environment, some questions about multiple choice, questions about comparison, and memory recall. That context is categorized as a cognitive skill. The explanation is as follows:

DATA 1
Using Simple Questions

R: *"Nama neng sapa?"*
R: "What's your name, dear?
D: *"Blakul giah"* (Rabiatul Adawiyah)

R: *"Neng jilbabnya mana?"*
R: "Where is your hijab?"
D: *"di emah" (Di rumah/at home)*

R: *"Neng dari mana?*
R: *"Where* have you been, dear?"
D: *"mel" (nel). (The meaning is from nely's house)*

R: *"Dompet neng gambarnya apa?"*
R: "What picture is on your wallet, dear?
D: *"Amoy" (doraemon)*
R: *"Neng mam apa?"*
R: "What did you eat, dear?"
D: *"asi (ikan asin: salted fish)"*

The data above is a conversation between the researcher (R) and the research subject (D). The data is analyzed based on the problem formulation by considering the subject's language abilities. Simple questions are asked to observe understanding and ability to respond to appropriate answers. The results are as follows:

D can identify her names and other people well but pronunciation does not match with phonology. As mentioned, "Blakul Giah" (Rabiatul Adawiyah) and "Mel"(nel). Additionally, D can answer questions about locations indicating understanding related to specific places, such as home. Besides, D is also able to communicate information about daily activities, even if the pronunciation is false. Furthermore, D reveals variations in language usage, both in mentioning names, locations, and activities, indicating the ability to adapt to various conversational contexts. It can be concluded that D has the basic ability to identify names, and locations, and convey daily activities. Even though there were errors in pronunciation, D still showed a good understanding of simple questions.

DATA 2
Picture-related Questions

R: *"Apa ini?"*
R: "What is this?" Showing the picture of spoon)
D: *"Piling" (piring : plate)*

R: *"Apa ini?"*
R: "What is this?" (Showing the picture of broom)

D: "ga tau"

D: "I don't know

R: "Apa ini?"
R:" What is this?' (Showing the picture of sate)
D: "sate"
R: "Apa ini?"

R:" What is this? (the picture of an

orange)
D: "jeuk" (jeruk: an orange)

R:" What is this?" (Showing the picture of lion)
D: "nganga" (singa: lion)

R: "Apa ini?"
R: "What is this? (Showing the picture of neklace)
D: "Alu" (Kalung: neklace)

R: "Apa ini?" (What is this? Showing the picture of fish)
D: "ika" (ikan: fish)

R: "Apa ini?"
R: "What is this? (Showing the picture of rabbit)
D: "ici" (kelinci: rabbit)

R: "Apa ini?"
D: "What is this?" (Showing the picture of monkey)
D: "Nyonyet" (monyet:monkey)

R: "Apa ini?"

The data above is provided to determine D's ability to identify objects in images. Analysis results are as follows:

From D's response to the image, it can be concluded that D processes visual information and tries to identify objects. The cognitive processing in object identification of D is lacking because D's answer is incorrect in the picture of the spoon and hand. There were two questions that D could not answer correctly when D was shown a picture of a spoon, she said "A plate" and when shown a picture of a hand, she said "A foot". It can be concluded that there was an error in limitations in understanding and identification of the visual, D experienced obstacles in mapping the visual stimulus (image of a spoon) with correct cognitive abilities. Besides, D can answer the questions with the correct vocabulary, but the pronunciation is incorrect.

The conclusion is that D's cognitive process of object identification is inadequate, it can be seen from the incorrect answer to the picture of a spoon and hand, D said that the picture of a spoon is a "plate" and the picture of a hand is a "foot". It states that D's visual understanding and object identification are limited, and D cannot associate visual stimuli with appropriate cognitive ones. In addition, D experienced difficulties in accessing lexicon entries when shown pictures of spoons and hands. There was difficulty in using the appropriate words. Therefore, D can answer with correct vocabulary but the pronunciation is incorrect.

DATA 3
Some questions about daily activities

R: *"Neng udah mandi belum?"*
R: "Have you take a bath?"
D: *"Udah"*
D: "done"

R: *"Mama lagi ngapain?"*
R: "What is mom doing now?"
D: *"Mam" (makan: eating)*

R: *"Neng udah sisiran belum?"*

R: "Have you eaten?"
D: *"udah"*

R:" Have you combed your hair?"
D: "Udah"
    D: "done"

R: *"Neng sekola engga?"*
R:"Are you going to school today?"
 D: *"ibu.." (libur)*
 D: "Holiday"

R: *"Neng udah makan?"*

D: "done"

The data above is provided to observe D's understanding of daily activities and ability to provide appropriate responses. The analysis results are as follows:

 D has a good understanding of some questions about daily activities. It shows D's ability to process and understand the everyday language used in everyday life. Additionally, D has a good ability to use words which relevant to daily activity, for example, bath, eat, and comb. This shows the ability to connect words with specific activities and express them correctly in the responses. Then, D shows expressive abilities in communicating his daily activities using language, even in short words. It can be seen from D responding to questions such as "Have you showered?" and "Have you eaten yet?" This shows how language is used as a means to convey information about daily activities. The questions about the context of everyday life provide examples of the use of language in the context of everyday life used by D because it includes understanding the context and the ability to respond correctly, demonstrating integration between linguistic understanding and social context.

 In conclusion, D can respond well to everyday language, this can be seen from his responses with appropriate expressions in using words that are relevant to daily activities, such as bathing, eating, and combing. Apart from that, D shows expressive abilities in communicating about daily activities even in short words. This can be seen from D's answers to the questions "Have you showered?", "Have you eaten?". This shows how language is used as a means to convey information about daily activities.

DATA 4
Some questions based on observation

R: *"Semangka warnanya apa?"*
R: "What color is the watermelon?"
D: *"gatau"*
D: "don't know"

R: *"cabe rasanya apa?"*
R:" What is the teste of chili?"
D: *"gatau"*

D:" don't know"

R: *"Langit warnanya apa?"*

R: "What is the colour of the sky?"
D: *"ga tau"*
D: "I 'don't know"

The data above is provided to observe D's understanding of surrounding objects. The analysis results are as follows:

In responding to questions about the colour of the watermelon, the taste of chilies, and the colour of the sky, D answered "don't know" or "don't know" (I don't know). This indicates D's difficulty in recognizing and associating information, both visual and sensory perception, such as colour, taste, and others, with appropriate words or in understanding the question. Limitations in vocabulary can be seen in D's answer which says "gak tau" or "don't know". D cannot master certain words with the concept of visual sensors.

In conclusion, D has difficulty interpreting and connecting sensory information to language and has limited knowledge of certain vocabulary. For example, in response to questions about the colour of watermelon, the taste of chilies, and the colour of the sky, she answered "Don't know" It means D has difficulty in linking information in visual or sensory perception such as taste and colour with appropriate words in understanding visuals.

DATA 5
Some questions multiple choice

R: *"Kita minum air atau rumah?"*
R: "Do we drink water or stone?"
D: *"ga tau"*
D: "don't know"

R: *"Kita makan nasi atau batu?*
R: "Do we eat rice or stone?" *D:*
"gak tau"
D: "don't know

R: *"Kucing bisa terbang atau renang?"*
R: "can cat fly or swim?"
D: *"gak tau"*
D: "don't know"

R: *"Setelah pagi, apa?"*
R: "after morning, what?"
D: *"ga tau"*
D:" don't know"

R: "Setelah hari senin, hari apa?"R: "after Monday, what?"
D: "gak tau"
D: "don't know"

R: *"Berapa jumlah satu tangan?"*R:" how many fingers on a hand?"*D:"ga tau"*
D: "don't know"

R: *"Setelah hari senin, hari apa?"*
R: "after Monday, what?)"
D: *"gak tau"*
D:" don't know"

R: *"Berapa jumlah satu tangan?"*R: "how many fingers on a hand?"*D:" ga tau"*
D: "don't know"

The data above is provided to observe the level of understanding, problem-solving skills, and abstract thinking abilities. This data can provide an understanding of D's cognitive abilities in understanding basic concepts such as time, logic, and simple mathematics, as well as the ability to

identify and choose the correct answer from the choices given.

D has a lack of understanding of given options, she has difficulty understanding the context of the questions which are abstract or not directly related to everyday experience. It can be shown from her answer "gak tau" or "don't know". Additionally, D has a lack of understanding of the concept of time or sequence of events, she cannot answer the questions "after morning" and "after Monday". Furthermore, D has limitations in counting, she cannot answer the question number of fingers on her hand. It can indicate she is limited in understanding the concept of counting or in applying the context to the question. Then, D has difficulty in abstract thinking or understanding more complex concepts. It is shown from her answer when the questions are "Do we drink water or house?" or "Can cats fly or swim?" her answer is "do not know"

In conclusion, D is unable to think about complex concepts or abstract things, which can be seen from the answer to the question "Do we drink water or house?" or "Can cats fly or swim?" She answered "Don't know" or "Don't know". Apart from that, D also showed her inability to understand the concept of time "after what morning?" or "day after Monday". Then, D is also unable to understand the concept of counting or the concept of applying context to questions, as can be seen from the answer about the number of fingers.

DATA 6
Some questions based on comparison

R: "Lebih besar semangka atau strawberry?"
R:" Which one is bigger? Watermelon or strawberry?"
D: "gak tau"
D: "don't know"

R: "Lebih berat piring atau sendok?"
R:" What is havier? Plate or spoon?"

D: "gak tau"
D:" don't know"

R: "Mana yang pedas? Cabe atau jeruk"
R:" Which one is sour? Chili or orange?"
D: "gak tau"
D:" Don't know"

The data above is provided to observe D's ability to compare two objects or concepts that differ in terms of size, weight, or other properties. The result is D has difficulty in answering comparative questions, all of the questions were answered with "gak tau" or "don't know". Comprehension question involves memory and syntactic skills and she didn't master them. In conclusion, D has a lack of understanding of memory and syntactic skills.

DATA 7
Questions relate to memory and recall

R: "Neng kemarin ngapain?"
R: "What were you did yesterday?"
D: "Jiyu mama mol" (jalan-jalan ke mall sama mama)
D: "Jiyu mama mol" (Going for a walk

with mom to the mall)

According to her mother, *"Jiyu mama mol"* *means "jalan-jalan ke mall sama mama"* or going for a walk with mom to the mall

R: *"Minggu lalu neng ngapain?*
R: "What was the last thing you did yesterday?"
D: "…" (she just silent)

R: "Neng kalo ulang taun biasanya ngapain?"
R: *"What do you usually do on your birthday?"*
D: "…" (Shaking her shoulder)

The data above is provided to observe D's ability to remember and recall information from the past. The result is as follows:
Through D's response to questions about the last events, it can be observed that D cognitively processes visual information and tries to identify objects. These processes reflect cognitive activities that involve recognizing objects, associating images with words, and retrieving information from memory. D can answer even though the phonology is wrong. Besides, D has difficulty in using syntax and phonology, she answered "jiyu mama mol" which means "jalan-jalan sama mama ke mall" or "going for a walk with mom to the mall". Then, she also cannot use the correct word to respond to a specific object when she responds to the question about last week's events and shakes her shoulder at the question about her birthday last time. These questions examine using words to respond to specific objects. D responded silently to the question, "What did you do last week?" "What was the last thing you did yesterday?" and "What do you usually do on your birthday?" It shows limitations in accessing the memory of a particular object or difficulties in verbal matters.

In conclusion, it can be seen how D responded to questions about past events, this shows that he carried out cognitive processing of visual information to identify objects. This process shows cognitive activities such as recognizing objects, making connections between words and images, and gathering information from memory. Even though the phonology used is incorrect, D can still answer. D has difficulty using syntax and phonology. One example is the answer, "jiyu mama mol," which means "go to the mall with mama." Apart from that, D shook his shoulders when answering questions about last week's events and also had difficulty answering when asked about what he did on his birthday last time. This shows he has difficulty using words in response to certain things. When D answers questions like "What did you do last week?" and "What was the last thing you did yesterday?" D is silent, this shows limitations in accessing memories related to certain objects or difficulties in verbal matters.

3.3.2. How are the expressive and receptive language skills of the subject?

a. Expressive Language:

Data 1 (Simple Questions), shows that D can answer simple questions with language expressions that include everyday vocabulary. For example, D can say names, locations, and daily activities using relevant words. Moving to data 2 (Picture-related Questions), D was able to name the pictures provided with incorrect phonology, even though she answered two other questions incorrectly. Then in data 3 (Some Questions about Daily Activities) shows that D understands several questions about daily activities, D has good abilities in using words that are relevant to daily activities, for example, bathing, eating, and combing. D shows expressive abilities in communicating his daily activities using language even in short words. It can be seen when D answers questions like "Have you showered?" and "Have you eaten yet?". Lastly in data 7 (Memory and recall), D can answer one question about what she did yesterday, she answered "jiyu mama mall" which according to her mother the sentence means "walking with mom to the mall". However, she can answer questions even with incorrect syntax and phonology.

b. Receptive Language:

In data 4 (Questions Based on Observation), shows that D can understand questions but cannot answer them well, due to limited vocabulary abilities. Then, data 5 (Some Questions Multiple Choice), highlights the subject's difficulty in understanding questions that are abstract or require selecting options, D cannot reveal the answers to all the questions. Furthermore, in data 6 (Questions based on comparison), some questions cannot be answered, such as when she was asked, "Which plate or spoon is heavier?", "which hot chillies or oranges?". She couldn't answer correctly. Moving on to data 7 (Memory and recall) D can identify items, link words and images, and recover information from memory, all of which are indications of his receptive ability. This implies that D can cognitively process visual data. Lastly in data 6, D has difficulty in answering comparative questions, all of the questions were answered with "gak tau" or "don't know". Comprehension question involves memory and syntactic skills and she didn't master them.

3.3. Discussion

This research examines how language skills develop in 19-year-old children with Down syndrome by using a psycholinguistic approach for analysis. The problem is stated as follows: How can the language abilities of 19-year-old individuals with Down syndrome be understood through a psycholinguistic approach? And how are the expressive and receptive language skills of the subject?

Then, observation findings showed that D could understand simple commands, express her needs and feelings, and comply with social language norms such as greeting, asking for help, and thank you,but she was unable to speak in long sentences and had a limited vocabulary.

Additionally, interview findings show that despite problems in phonology and syntax, D can answer basic questions, communicate in everyday situations, convey basic information, and answer questions about past events like what happened yesterday with simple sentences. Then, for herexpressive skills, she was quite good for the Down syndrome category, for receptive abilities, she had difficulty with complex, abstract questions and also questions involving multiple choice.

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In conclusion, the results of the observation showed that D could observe social language norms including greetings, asking for aid, and saying thank you, as well as understanding simple directions. However, she was unable to talk in long sentences and had a restricted vocabulary. Furthermore, the results of the interviews indicate that even with phonological and syntactic issues, D can respond to simple questions, communicate in daily settings, transmit basic information, and use simple phrases to respond to inquiries concerning the past, such as what happened yesterday. His expressive skills are fairly good for someone with Down syndrome, but when it comes to his receptive abilities, he struggles with questions that are complex and abstract or that have multiple choice.

Moreover, this research is in line with Field and Purba's statement explained above, that language production involves cognitive processes, and psycholinguistics is a tool for investigating cognitive language processes such as interactions between mind and language, perception and language production. Furthermore, Piaget's theory of cognitive development guides in understanding language acquisition from stage to stage.

Then, the results of this research are not appropriate with the stages of cognitive development in this theory; according to Piaget's theory the stages of cognitive development in adolescents can think abstractly by manipulating ideas in their heads, but people with Down syndrome experience slow cognitive development so this affects their language skills; D cannot think abstractly, even for something light. Apart from that, this research supports the fact from previous research conducted by Anggini, (2022) and Thordardottir, ET (2002), that people with Down syndrome have different levels of development of linguistic abilities, at different speeds.

4. Conclusion

Through a psycholinguistic approach, it can determine the language skills of a 19-year-old person with Down syndrome by looking at how she answers simple questions related to daily life, how she answers questions related to pictures, observing the environment, multiple choice questions, comparison questions, and also questions involving memory. The research results showed that the subject was able to understand simple everyday questions but with limited lexicon, syntax, and phonology. For example, in the question "What did you eat?" she answered "asi" actually "ikan asin" or "salt fish", "Are you going to school today?" she said "ibu" actually "libur" or "holiday". Apart from that, she also faced difficulties in answering questions related to pictures and multiple-choice questions, due to limited cognitive processes. For example, when she showed the picture of a spoon, she said that it was a plate, and in question "Can cat fly or swim?" she answered "Gak tau" or "don't know". On the other hand, she is still able to express his feelings and life needs through simple sentences. However, family support and special educational interventions need to be considered to develop her language skills.

Then the expressive and receptive abilities in language show that the subject's expressive abilities are quite good for the Down syndrome category and for his receptive abilities the subject experiences difficulty in complex, abstract questions, and also questions involving multiple choices. Apart from that, further research needs to be carried out to determine language abilities in Down syndrome, such as in aspects of syntax or phonology to provide a more detailed understanding of areas that require special attention. "By conducting further research in this area, it may help to develop more targeted intervention strategies to improve language skills in individuals with Down syndrome."

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