

Error Analysis in Apraxia of Peech Among 3 Sisters: A Neurolinguistic Study

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ABSTRACT

In the village, mistakenly calling people names is common. Even those considered normal as these misconducts occur in old people. In fact, it is experienced also by arguing mothers even young ones. This misconduct is so be called apraxia of speech. This study aims to describe (1). The symptoms of someone with apraxia of speech, (2). It also causeof their apraxia of speech and (3). The meaning of the words wrong saying. This case study uses qualitative descriptive method as the design and conducted in Panekan, Magetan, East Java, Indonesia. The samples here are here are three people come from a family as sisters. The data are collecting from observations, interview and examining technique. The data is also analysed by following several steps; data reduction, data display, conclusion drawing and verification. Conclusions on analysis show that, (1) the indicated symptoms show that they had severe apraxia of speech. But they are still at the stage of light because the AOS of 15 symptoms that the researchers mentioned them only having 3 symptoms instead. (2) the cause of the AOS average due to tumor clash at the head, a stroke or other symptoms. But in this case, investigators concluded that they had AOS as genetic derived from their families. It is proved as the family members are experiencing the same thing. (3) When they call others by wrong name, actually they call the names of people who called at the last sequence. So if they want to call the person's name then the last name called and previously mentioned will be called up on the name of another person.

Keywords: *Apraxia of Speech, Neurolinguistics Study, 3 women*

1. INTRODUCTION

In fact, every man was given the ability by God to speak. Language is a tool to communicate between each other. Though each area has a different language, it has the same goal, to communicate, however. Language proficiency is derived from both parents to their children. The language may not necessarily be just happen but instead pass through various processes.

Many people assume the physical basic of language lies in the lips, the tongue, or the ear. Language is brain stuff not lip, ear, or hand stuff. The language organ is the mind. More specifically, the language faculty seems to be located in certain areas of the left hemispheric cortex in most healthy adults. Before the language become processed orally, the brain processes the first of what will be spoken. The part of brain cortex, broca's and wernikle are processing the language at a time. If on one part occur then it will interfere with the resulting language.

Brain injury can be a disruption of the language system. As some interferences come then these can mess up the language. for example, it will mess up the vocabulary and grammar. More severe toke place and more these could lead to someone's language in not able to express it properly. Of all the distractions, there is one disorder that also caused injury to the brain, namely apraxia.

According Wertz et al (1984) see in Neurocase (2005;427) Apraxia of speech (AOS) has emerged as the term to describe a motor speech disorder characterized by an impaired ability to coordinate the sequential, articulatory movements necessary to produce speech sounds. This disruption of sensorimotor plans or programs causes speech to be phonetically and prosodically distorted because phonological representation of speech are inadequately programmed and executed (Duffy, 2005). From the explanation above, the researcher concludes that apraxia of speech is a disorder in which the sufferer's brain nerves are having trouble to speak. Sufferers who want to know what he

said but it was difficult to pronounce it because it is difficult to move her tongue. Sufferers who want to know what he is saying but it is hard to say it. He first said the wrong way, then he said it in again right at once. Here, he was aware of his error and attempting to justify the words he was saying.

2. APRAXIA OF SPEECH

Apraxia of speech (AOS) is a motor speech disorder characterized by slow speech rate, segmentation of syllables, sound distortions, distorted substitutions, trial- and error articulatory movements, and increased difficulty with increased length and complexity of utterances (Duffy, 2013). Other opinion says that Apraxia of speech (AOS) has emerged as the term to describe a motor speech disorder characterized by an impaired ability to coordinate the sequential, articulatory movements necessary to produce speech sounds (Wertz et al in Neurocase 2005;427). This disruption of sensorimotor plans or programs causes speech to be phonetically and prosodically distorted because phonological representation of speech are inadequately programmed and executed (Duffy, 2005).

From the explanation above, researchers concludes that apraxia of speech is a disorder in which the sufferer's brain nerves are having trouble to speak. Sufferers know what he said but it was difficult to pronounce it because of the tongue movement difficulties.

Confusion in the literature around AOS stems from the fact that terminology associated with this disorder has varied greatly. Also, symptoms associated with AOS often co-occur or overlap with those caused by neuromuscular deficits indicative of the dysarthrias and the linguistic errors associated with aphasia. AOS is, however, a distinct motor speech disorder (Ogar et al., 2005;427).

According to Duffy (1995) in Ogar et al., (2005;429) The term 'apraxia of speech' has occasionally been used synonymously with Broca's aphasia. The misconception that the two disorders are one and the same may have arisen from the fact that AOS and Broca's aphasia often occur together. However, the two disorders have been shown to be distinguishable, since AOS has been documented in non-aphasic patients (Square-Storer et al., 1990; Square et al., 1997), who do not manifest truly linguistic deficits, such as agrammatism and what so named deficits.

AOS is often bias with conduction aphasia, perhaps as sound level errors (substitutions, additions, transpositions or omissions) are prominent in both disorders. However, the nature of errors is thought to be different (Duffy, 1995). The sound errors in conduction aphasia reflect an underlying deficit in the selection of the phonemes for speech, that is, a language deficit. Apraxic speakers, on the other hand, are believed to

select the correct phonemes, only to have trouble with their motor execution. Wertz (1984) see in Ogar et al., (2005;429) has suggested that patients with conduction aphasia typically speak with near normal prosody, whereas halting, effortful speech with abnormal prosody is considered a hallmark of AOS. Patients with conduction aphasia may lack awareness of their speech errors and therefore may not always make attempts at self-correction, while the opposite is true in cases of AOS (Square, 1997). Despite this, the differential diagnosis of the speech production errors in AOS and conduction aphasia can be difficult given the similarity in sound level errors.

Acquired apraxia of speech can affect a person at any age, although it most typically occurs in adults. Acquired apraxia of speech (AOS) is a neurologic speech disorder that is characterised by slowed rate of speech, difficulties in sound production, and disrupted prosody (McNeil, Robin, & Schmidt, 2009).

According to Dabul (2002) in Ogar et al., (2005;429). This is the inventory of articulation characteristics of apraxia from the apraxia battery for Adults Speech Behavior: (a) Exhibits phonemic anticipatory errors (gleen glass for green grass); (b) Exhibits phonemic perseverative errors (pep for pet); (c) Exhibits phonemic transposition errors (Arifca for Africa); (d) Exhibits phonemic voicing errors (ben for pen); (e) Exhibits phonemic vowel errors (moan for man); (f) Exhibits visible/audible searching; (g) Exhibits numerous off-target attempts at the word; (h) Errors are highly inconsistent; (i) Errors increase as phonemic sequence increases; (j) Exhibits fewer errors with automatic speech than volitional speech; (k) Exhibits marked difficulty initiating speech; (l) Intrudes schwa sound /IPL/ between syllables or in consonant clusters; (m) Exhibits abnormal prosodic features; (n) Exhibits awareness of errors and inability to correct them; (o) Exhibits expressive-receptive gap.

3. METHOD

In this research, the researcher uses the qualitative research. Yin (2011: 3) said the study of real-world setting, and discovers how people cope and thrive in that setting. So, it means that the qualitative relates with people in the real world environment.

One of the qualitative types is case study. The researcher uses the case study as the type of the research in which it correlates with the topic being analyzed by the researcher. Nunan defines, "... a case study is a single instance of a class of objects or entities, and a case study is the investigation of that single instance in the context in which it occurs" (1992: 79). While, Gillham argues, "... case study research makes it particularly appropriate to study human phenomena, and what it means to be human in real world as it happens" (2000: 2). It means that case study observes and seeks accurate information

of participant being observed, whether it is individual or group, in certain situation related with them, that the participants being observed in case study are human phenomena occurred in real environment.

In addition, the researcher uses descriptive case study, because the researcher needs to explain the results of the research problems. As Heigham and Croker states, "A descriptive case study aims only to present a detailed, contextualized picture of a particular phenomenon" (2009: 70-71). It means that descriptive case study will show and explain the phenomenon being studied in detail. The details are conducted by the researcher through observation and interview of other related participants.

The subject of this research is three sisters in panekan, magetan that they can call the name correctly. They are chosen by the researcher in order to study how in one family has something same trouble.

The collecting data on this research use some technique, (1) Observation, Yin (2011: 143) stated that observing is invaluable way of collecting the data by seeing and perceiving the people's gestures, social interactions, actions, scenes and the physical environment. It means that the researcher has to done the observation turn in the field by himself because it is invaluable, in which each people have different perception to interpret what have been seen. (2) Interview, Yin (2011: 131) defines interview as relied of fixed questions illustrated as verbal and body language of the respondent. It means that the researcher needs to make fixed of questions related to phenomena of what being studied, then catch the language whether it is verbal or body language proposed by the respondents. (3) Collecting and Examining, Collecting and examining is the collecting data technique in which the researcher conducts other data related with the primary data.

Miles and huberman (1994: 10) categorized the technique of analyzing the qualitative data into three phases, data reduction, data display, and conclusion drawing and verification. The researcher uses the three phases in order to analyze the data taken, both primary and secondary data. These three phases used in analyses techniques are related each other and recursive. In doing the analysis, the researcher may go backward by returning to earlier phase or forward by previewing idea in upcoming phase at the same time.

4. DATA PRESENTATION AND FINDINGS

4.1 Data Presentation

Data presentation is the presentation of data collected from the collecting data of research. The data presentation of this research is the data collected from

observation, interview, and collecting data and examining. The researcher takes the field notes and recordings from observation, interview results from interview, and other related documents from collecting and examining. The data presentation of this research presents the data about speech of apraxia of the research subjects.

The data presentation of this research is made through the first three phases of data analysis techniques; data reduction, data display, and conclusion drawing and verification. Before presenting the data, the researcher, firstly, makes database which involves putting together and sorting of data collected related to three sisters of speech of apraxia. Secondly, the researcher breaks down the compiled data into smaller pieces by coding the data to be the data of three sisters of speech of apraxia. Then, both of the data are divided again into some specific codes to differentiate among the contexts. At last, the researcher takes them into matrix arrays in the form of tables.

The data presentation of this research is explained into three parts. It is because the research subjects are more than one. The first part of the data presentation is data presentation of first subject, while the second part is data presentation of second subject, and the third part of the data presentation is data presentation of third subject.

4.2 Findings

Research findings are the discoveries of what being analyzed and taken from the data presentation. The findings of this research are about the speech of apraxia of three sisters. It focuses on characteristic of speech of apraxia, and how the contextual meanings built by what the three sisters utter. All of those findings will be explained through the analysis of the data presentation. The data presentation coded A01, A02, is decided to discover the findings of subject I's speech of apraxia, the the data presentation coded B01, B02 is decided to discover the findings of subject II's speech of apraxia, and the the data presentation coded C01, C02, C03 is decided to discover the findings of subject III's speech of apraxia

The research findings are established into two tables, characteristic and meaning of the speech of apraxia. Each table is differentiated between the three research subjects, subject I, subject II and Subject III. The established tables are presented below:

Table 1. Characteristic of Apraxia of Speech by Three Sisters

Characteristic Speech of Apraxia	Subject I		Subject II		Subject III	
	Yes	No	Yes	No	Yes	No
Exhibits phonemic anticipatory errors (gleen glass for green grass)		√		√		√
Exhibits phonemic perseverative errors (pep for pet)		√		√		√
Exhibits phonemic transposition errors (Arifca for Africa)		√		√		√
Exhibits phonemic voicing errors (ben for pen)		√		√		√
Exhibits phonemic vowel errors (moan for man)		√		√		√
Exhibits visible/audible searching		√		√		√
Exhibits numerous off-target attempts at the word		√		√		√
Errors are highly inconsistent	√		√		√	
Errors increase as phonemic sequence increases		√		√		√
Exhibits fewer errors with automatic speech than volitional speech	√		√		√	
Exhibits marked difficulty initiating speech		√		√		√
Intrudes schwa sound /IPL/ between syllables or in consonant clusters		√		√		√
Exhibits abnormal prosodic features		√		√		√
Exhibits awareness of errors and inability to correct them	√		√		√	
Exhibits expressive-receptive gap		√		√		√

Table 2. Speech Meaning of Apraxia of Speech, Dabul (see Ogar et al., (2005; 429)

Subject	Data	Meaning Reconstruction
Subject I	tri, kapiyekuliahmulancar?	Asking ika about that collage
	ver, ndiksinibentar	She called her son, andik
Subject II	ver, kamanakopinya?	Asking ika about the coffee
	rip, her, co sinibentarbeliin kopi	She called rico to buy something
Subject III	ngga, kapiyekuliahmu?	Asking ika about the collage
	ver, kapundutno peso	She called ika to put the knives
	ngga, ver, kawesmangan gung	Asking ika about to eat
	ndik, nggasesokmlbusekolahgak?	Asking angga about the collage
	ris, lip, ngga, fik, riondangmangan	She asked her son to eat

By those tables, researchers found similarities between the third subjects. They have the same structure and also on its meaningless. On the table of characteristics, can researchers conclude that the third subject also has speech behaviourism and the same similarity in terms of the structure of the error. Then, the researcher gives the meaning of what they have produced by considering the situational context. The researcher will explain them in details in the next chapter.

5. DISCUSSION

From the table 1, can researchers conclude the subject suffered no replacement of a syllable or syllables changed? Basically the communication pattern experienced by the subject there is no different with others. According to the table the subject has some characteristic equations of fault on its communication patterns. On the first point, they are equally inconsistent in experiencing an error talking, sometimes they can easily call someone's name, but if they have the desire to call the person's name instead will encounter errors. From the way they talk does not indicate that they are having a disorder, they can speak normally like everyone else and

words or letters that are changed in addition to the calling name error.

On the second point, as they communicate spontaneously, they are not experiencing errors in the process, but if they really want to say something or want to call someone then even will happen errors. On the third point, they were equally aware of their error, and an error occurs while they are trying to fix it. When they are asked why they like that they all answered do not know mean. Before calling the names of people they know the name of the person that will be their call, but the spoken names of other people, and they realize it and then fix it.

Basically a pattern of mistakes that they do not interfere with the communication process with the people around. However, if the communication process is done on the new environment will then occur with the misconception of people around. Because in the new environment the people around have yet to understand the conditions they experienced.

Researchers assume the cause the subject experiencing apraxia of speech is because the derivative of genes from their parents. The subject I, II and III are

siblings, and her parents or more details of their mothers also experienced the same thing as them. Seen further, their grandmother is also experiencing the same thing that is wrong in calling people names. However, if because of derivatives should they experience it since childhood, but in this case they are experiencing this disorder when it is mature or while in Tangerang.

From the table 2, the subject I, II and III had the same pattern in calling people names. They will call at the end of those who want to be called and not only have those who were around him but also called on people who are not there. The name of the person they want to call the last mentioned, and before that they call other people names that are still in the sphere of the family.

6. CONCLUSION

The subject of I, II and III have the same characteristics or symptoms in case of mistake of calling names. They both have inconsistent error, fewer errors with automatic speech than volitional speech, other than that they were aware of the mistakes that have been made and trying to fix it, but they experienced not interrupting the process of communication. Gene is the cause of the subject experiencing apraxia of speech, as seen from the family tree, the mother of the subject experienced the same thing and her grandmother also experienced it. The subject I, II and III had the same pattern in calling people names. They will call at the end of those who want to be called and not only those who were around him but also call on people who are not there, but basically it does not interfere with the communication process.

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