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The Asian EFL Journal

February 2021

Volume 28, Issue 1.4

Senior Editor:

Paul Robertson

Published by the English Language Education Publishing

Asian EFL Journal
A Division of TESOL Asia Group
Part of SITE Ltd Australia

http://www.asian-efl-journal.com

editor@asian-efl-journal.com

Publisher: English Language Education (ELE) Publishing

Chief Editor: Dr. Paul Robertson

Associate Production Editor: Ramon Medriano Jr.

Assistant Copy Editor: Eva Guzman

ISSN 1738-1460

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ASIAN EFL JOURNAL
The EFL Professional's Written Forum

Foreword

We welcome you to Volume 28 Issue 1.4 February 2021 of the journal which is a collection of 18 researches from diverse areas of English as a Second Language and English Language Teaching.

In the first paper, Rasib Mahmood, Akhter Habib Shah and Iftikhar Alam investigated the complexity of teaching literature because of code-switching and code-mixing. The research found out the importance of understanding the culture of the source language as meanings can get lost during the translation process.

The second paper talks about discursive practices of political activists and media people on Twitter. Muhammad Rashid Hafeez, Shouket Ahmad Tilwani, Muhammad Asif and Prodhan Mahbub Ibna Seraj found out that activists resort to abusive language and pun as discursive strategies in criticizing political leaders.

Muhammad Usman Ghani, Ismat Jabeen and Ansa Hameed explored how communicative skills is considered a problematic area in EFL teaching and learning in Saudi Arabia. The study further noted limited use of relevant expressions and politeness strategies.

In the fourth paper, Clarinda C. Galiza conducted the study to assess the writing proficiency level of freshmen students of Isabela State University. It was found out that students have weak organization and idea development that resulted in weak written outputs.

In the paper, Saudi Vision 2030 in Western Media: An Investigation on the Basis of Corpus, Ansa Hameed, Ismat Jabeen and Naeem Afzal analyzed the representation of events, activities and plans made for Saudi Vision 2030 in British and American media. The

study highlighted the differences in corpus and how Saudi is still represented using older aspects.

The sixth paper by Sadq Almaged investigated whether the Security Council has securitized threats through textual analysis of sample resolutions. The study revealed limited discursive means available in sample resolutions.

Ismat Jabeen, Ansa Hameed and Naeem Afzal in their paper, Gender Beliefs in Academic Settings: An Exploratory Study in Saudi Context, explored on how male and female Saudi students perceive their gender groups in the academic setting. The study further revealed biases by both sexes, and it was recommended to incorporate gender-neutral discourse in the classroom topromote gender impartiality.

Mahmood K. Ibrahim in the paper, The Application of English Stylistics to Kurdish with Reference to English, investigated the use of stylistics to analyse the Kurdish language. It was further noted the importance of the use of articles and articles placement and enclitics in Kurdish.

In the paper, Rethinking Abraham Lincoln’s Gettysburg Address, Yongming Luo anchored the analysis of the Gettysburg Address on Jolliffe and Aristotle's frameworks. The speech conveyed strong message on patriotism, respect and the allegiance of the American people.

In the tenth paper, Dadang Solihat, Emzir and Zainal Rafli conducted an action research that focused on the use of Content and Language Integrated Learning (CLIL) Approach in developing the skills of students in writing business letters. The same approach was found to be instrumental in the increase in the level of writing of students.

The next paper, Comparative Analysis on the Usage of Ilocano Dialect Among the Ilocanos and Tabukenos in Tabuk City, Paulino P. Reyes II

compared the use of a dialect in the Philippines among its users. It was found that these speakers share similarities in some words and even if translations are different, they have the same meaning.

In the paper, EFL Thesis Writing: Revealing the Supervisor's and Supervisee's Attitudes toward the Written Feedback, Lailatul Musyarofah, Slamet Setiawan and Mister Gideon Maru explored theses supervisee and supervisors' attitudes toward written feedback. The study revealed that supervisees are all accepting of supervisors' attitude and that they are passive on even critical opinions.

Odette Campos-Pannogan in her paper, Communicative Strategies and Linguistic Competence of ESL Learners, investigated the common communicative strategies utilized by students of Kalinga State University. It was revealed that there is a significant relationship of students' communicative strategies and their level of linguistic competence.

In the paper, Verbal Disability in Indonesia Children with Speech Delay and the Therapy, Gusdi Sastra, Arbain and Al Hafiz investigated on verbal disabilities of Indonesian children suffering from speech delay. The researchers found that verbal abilities affected phonological processes of these children.

Rosalie C. Leal, Orpha S. Saguibo and Reynaldo M. Brutas investigated the teaching of civic education as perceived by language educators. It was known that most language teachers are new in the field of teaching civic so specialized training should be provided.

In the paper, Developing Sociopragmatic Competence of Pakistani EFL Speakers: A Case of Apology Speech Act, Tahir Saleem, Uzma Unjum, Munawar Iqbal Ahmed, Ayaz Qadeer and Wasima Shehzad explored how English-speaking Pakistanis transfer their L1 sociopragmatic and pragmalinguistic resources in discourse. The study revealed that English-using Pakistanis are being influenced by sociocultural constraints concerning social distance, social status and severity of the offence.

In Jihene Beji's Critical analysis of information in electronic media discourse: "neutrality" or manipulation?, she explored the diversity of voices reporting information whether it guarantees truth or lie from the original source.

In the last paper, Adel Refaat Mahfouz provided a formal description and a social treatment for phonetic variation in the Cairene slum speech to describe the phonetic

characteristics that distinguish this vernacular from the prestigious variety and trace the correlation between the different social factors and that variation.

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Verbal Disability in Indonesia Children with Speech Delay and the Therapy

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Abstract

This research aims to explore verbal disabilities in Indonesian children suffering from speech delay, find out their spoken ability, and enhance communication. This study applied a natural observation method. The researcher was involved with the subjects for 6 months; data collection, analysis, and conclusion making. Based on the results, verbal disabilities were significantly affected phonologically compared to normal children. The three ability levels were perfectly mastered, imperfectly mastered, and not mastered at all. Phonological disability sufferers had difficulty in making the right sounds, especially at the sentencing phase of development (3;1 to 4;0-year-old), while in normal children at the age of 1.8 to 2.0 years, they were already producing phonemes at the phrase and sentence level. There was an increase in the ability of speech delay sufferers. A significant increase was also observed in the sound waveform on the speech analyzer from pre- to post-therapy.

Keywords: *Verbal Disability; Phonologically; Speech Delay; Speech Analyzer; Therapy.*

Introduction

Language in the communication process can be divided into two parts, namely verbal and nonverbal. Verbal language is used to express thoughts orally or in speech and writing, while nonverbal explains speculations indirectly and unwritten, which is known as sign language. In everyday communication, verbal form is used more than nonverbal. Experiencing interference in conversation is due to the internal and external factors, and

the inability to expressly speak, especially those suffering from verbal disability which may occur at different age levels, such as children, adolescents, adults, and the elderly. The contributing factors are speech delay, articulation disorders, dysarthria, aphasia, myasthenia, stuttering, malocclusion, as well as various disabilities such as physical, visual, mental, chronic, and hearing (Berdnikova & Abashina, 2020; Dale et al., 2014; Hawa & Spanoudis, 2014).

The number of verbal disorder sufferers in Indonesia has drastically increased. The data from the ILO (International Labor Organization) in line with WHO calculations stated that almost 10 percent of Indonesia's population (approximately 24 million) are suffering from verbal disability. This is a challenge for various fields to pay more attention to issues related to human resources. This do not concern medicine and health circles only, but other sectors such as neuro-psycholinguistic science that studies the mental processes of humans in using language, the neurolinguistics that focuses more on the role of the brain in obtaining, producing, and processing vocabularies, and various interdisciplinary studies that explain the relationship between language and nerves (Sastra & Yanis, 2017; Matte-Landry et al., 2020; Pommée et al., 2021).

This research discusses one form of speech disorder in children, which is known as delay in using language and communicating with others in their environment. Various disorders started from the children's verbal disability in producing sounds. According to Fieldman (2014), it is a delay in speech development which includes problems in sound production, flow or rhythm, volume, quality, and understanding difficulty. Coplan explained it as the articulation development interference, which includes an inability to pronounce letters and sound efficiently. Language disability is more connected to the Broca and Wernicke (productive and receptive) area in the brain. Meanwhile, speech disorders in the articulation area of motor and sensory nerves connect the language center with the speech devices (Coplan, 2017).

Literature Review

Judarwanto (2012) stated that speech and language disorders are numerous, and started from the disruption of the hearing process to the halting of brain impulses, muscles, and organs for making sounds. Speech disorders in children are due to a genetic

problem in the body's system which includes the brain and other hearing organs. Several studies have shown that speech disability is a dominant hemisphere disorder, which is associated with the left brain, while some are observed in the right brain, corpus callosum, and hearing trajectories. This can also be caused by the high environmental pressure, due to the use of two or more languages. Jurdarwanto also mentioned that, when the cause is related to the environment, the speech delay is usually not too severe.

This study focuses on speech delay in Indonesian children (case in Fahrul Ahmad), by observing their various phonological disabilities. However, a behavioral therapy model was applied to improve children's speech ability which was then tested through a spectrogram speech analyzer (Aitken, 2008; Santos, 2019; Tammasse et al., 2019). The objectives to be discussed in this research are as follows: (1) identifying various forms of phonological disorders that occurred in children speech delay, (2) applying behavioral therapy methods to find out their vocabulary ability, and (3) testing the improvement in their speaking ability after carrying out therapy with a speech analyzer spectrogram.

Children's language development is closely related to certain parts of the brain, especially the left side. However, it causes difficulty in processing language when damaged, able to hear utterances, but unable to understand. Frontal brain disorder affects the linguistic stimulation to speak and write, while damage in the back brain affects the organ of hearing and reading (Ingram, 2007; Quinto & MacAyan, 2020).

The causative factors are classified into two, namely the internal and the external. The internal components are due to genetic hereditary abnormalities from birth, which cause hearing disorders such as infection and trauma, malfunctioning of speech organs and the brain center, mental retardation, autism, selective mutism, receptive aphasia, and cerebral palsy. External factors are due to psychosocial deprivation, both physical (poverty, slums, and malnutrition) and social (poor linguistic stimulation, no parents, emotional stress, neglect, and others). Besides the two factors, it can also be a result of food allergies and various deprivations such as quiet environment and social-economic status (Amini, 2019). Wrong eating habits by ignoring the 4M - sucking, swallowing, chewing, and blowing - are also factors that can cause speech delay, since it is a basic requirement and needs to be possessed by children before they can start speaking

(Fitriyana, 2014). Furthermore, it can be due to twin children that are used to mimicking each other's habits (Lantolf, 2011). Smith observed that bilingual children have lower vocabulary than those with one language, except for those with high intelligence. Another factor is due to the delay in maturity of the central nervous needed to process children's speech. However, this can improve after 4 years, since they experience only expressive function delays, while the receptive function is quite good (Champhbell, 2013).

Speech disorders can be minimized with therapy, which is used not only for delay sufferers but various language dysfunctions. The method used was based on the approach and strategy chosen, namely the language processing model that occurs in the brain. Prins (2004) explained that the information which enters through hearing, sight, and touch is firstly processed in the brain. Therefore, various aspects, such as attention, memory, emotions, and feelings, are the deciding factors for choosing the form of linguistic therapy for people with language disorders.

Dysaudia is a type of disorder as a result of loss of hearing components that causes difficulty in receiving and processing the intensity, tone, and quality of speech sounds (Setyono, 2013). The impulses received by sufferers are not perfect and may even be wrong. This situation causes errors in the formation collected and affects the speech concepts, language, sound, and rhythm fluency. Various hearing loss symptoms experienced by the FA are not categorized by doctors as deaf, but rather a mild hearing function disorder that causes verbal disability in communication.

Methods

Research Design

Generally, this research was carried out with several steps including; natural observations and approaches, direct conversations, verbal forms identification, understanding of stories and images, simulating verbal behavior, evaluating each activity (Aitken, 2008), and applying behavioral therapy methods. These steps were implemented through different data collections, techniques, and analyses.

The selected case study was cross-sectionally used to reduce the observation time in a particular developmental level. It was expected that the conclusions to be the same as the longitudinal type (Nunan, 2002), and observing the subjects for approximately 6

months including their families, to get information about the subject's development from the age of 2 to 4. Comparative case studies were used to find out the ability level after the behavioral therapy had been carried out.

The subjects involved were boys aged 3 - 4, and named as Fahrul Ahmad (FA). The subjects chosen were diagnosed by a pediatrician and were confirmed to be suffering from speech delay. It was further validated by doctors and the information from various families that FA experienced speech delay due to heredity disorders, the cesarean birth risk, wrong eating habits, and the EEG (Electro Encephalo Graphy) test which showed complex interference in the sensory and motor impulses (see appendix image) and the disorders in the left hemisphere which is the central portion of language (Broca and Wernicke).

Furthermore, it was due to the mild hearing loss (dysaudia) caused by genetic abnormality accompanied with symptoms such as: (1) less reaction to the surrounding sounds, such as vacuum cleaner, car horn, and lightning, (2) unreactive to events in the environment, except by sightseeing and not easily attracted to the conversation or the voices around, (3) less concern and focus when spoken to, (4) difficulty in pronouncing vowels/consonants, (5) only responding to certain sounds or with violence, and (6) difficulty in comprehending information, therefore unable to express words with clarity.

Data were obtained from the interactions of the children with the researcher and other families in their environment. This research used a listening or *simak* method with recorded and proficient listening *(simak libat cakap)* technique (Bungin, 2013), while the data were analyzed using Blumstein's theory in the production of sounds, both in the omissions, additions, and irregularities of phonemes (Sudaryanto, 1993).

The therapeutic methods applied in improving verbal ability were the Guided therapy based on phonological and lexical disorders, activity therapy, and using the therapeutic effects. The research steps taken were as follows: mentioning and explaining visual images, expressive and receptive prosody.

The therapy for speech delay study was based on these steps, and the phoneme score used was calculated with the summary index formula (IK) as follows:

$$IK = \frac{\text{Number of word}}{\text{----------}}$$

The therapy mechanism was based on changes made in the vowel and consonant sounds, which contributed a certain intensity and frequency to the sensation (according to the concept). Sounds were divided into segmental and suprasegmental. Segmental could be decapitated from sentences to phonemes, while suprasegmental sounds could not be reduced.

Segmental could also be assessed or recognized based on its sound quality and articulation point, while suprasegmental was assessed based on the meaning, feeling, and interests of the speaker. Vocals were sounds that occurred through the modified airflow from the glottic region (having a certain intensity and frequency) and directly uttered without obstacles.

Vocal sound differences occurred due to the changes in the resonant shape and size, as well as the influence of tongue position based on three sound groups, such as: high, front, not round: /i/, /e/, /e/, low vocal, back: /a/, /a/, and high, back, round vowels: /u/, /o/, /o/, respectively. Consonants were pronounced with or without phonation, with the glottic region air flow modified through the muscles of the articulated organs in the oropharynx. The contractions of these organs could change, slow down, stop, or force out the air flowing from the glottic region. The vowel and consonant sounds functioned as the basis in speaking training for speech delay cases.

The lexical concept, understanding, and pronunciation accuracy were shown by the speech analyzer test, which was a software program often used in therapy logopedic for sufferers of various language and speech disorders. Sastra et al. used this test for aphasia in adult cases, with the right hemisphere receptive disorders for listening and learning, and in children with speech delay (Matsunaga, 2018). Furthermore, the results of this classification were shown through the MRS (Memory Record Standard) speech analyzer used. The improvement comparisons were shown on the pre-and post-therapy recordings.

The theory used was related to psycholinguistics, neurolinguistics, phonology, and the application of behavioral therapy methods based on the speech analyzer spectrogram. In psycholinguistic studies, a normal benchmark in the development of

children's speech and language was adopted from Fieldman's theory. The stages of improvement were observed in the children's receptive and expressive abilities, as they possessed the capacity to glance at the sound source and showed interest in the voice and face. This character continued until the age of 4 months, and when they wanted or disliked an action, they expressed it through crying. Darjowijoyo called it scrupulous, or an expressive ability at the age of 2-4 months. Furthermore, approaching the age of 6 months, they could chatter, and after this age, they could respond when called upon. At the age of 8-10 months, they could wave, then say the word "ma-ma" or "da-da" as expressive communication, and continued non-verbally by pointing.

After 1 year, the chatter increased to muttering and saying one word repeatedly. Children's receptive abilities also increased as they continually follow simple commands. At the age of 15 months, they were able to learn words slowly. This continued until the age of 18-24 months, when they started understanding sentences, hence could learn words more quickly and were able to use two or three words simultaneously. At the age of 2 years, the children's vocabulary could amount to 30-60 words and the language learning phase developed rapidly. Children could learn an average of 3-4 words per day and started combining words into 2-3 phrases. Along with these improvements, they were more aware of language grammatical elements, which included self pronouns, question words, articles, and markers (Blumstein, 1994).

At the age of 2-3 years, they were able to answer questions and follow two commands collectively. In this period, about 50% of phrases created by children could be understood and could also form 3 or more sentences, as well as questions with the word "what". When the children were 3-4 years old, they already understood much of what they were taught, and the language had become 75% clearer. Their abilities to form questions had increasingly developed, such as using "why". Gradually, their receptive and expressive abilities continued to experience development (Sastra, 2016).

The normal benchmark for speech and language improvement presented by Fieldman, showed the receptive and expressive abilities of normal children in their general developmental stages. Furthermore, the details of speech ability was used as the Indonesian children's speaking standards generally with the implementation of the

phonemes and phonological rules. The implementation was used as a standard for comparing normal children's language abilities with speech delays.

Results and Discussion

In children with speech delay, there were disruptions in producing sounds. Within a period of 6 months, longitudinal observations on FA were performed at the ages of 3.5 – 3.8 and 3.7 – 4.0 years. At these stages, various disorders were found in the form of elimination, replacement, irregularity, shortening, and the addition of phonemes. Verbal disability in the FA occurred due to unpreparedness of words and psychoneurological tools to produce phonemes according to the articulation point.

The consonant replacement made by FA with the sounds of [l] and [r], did not change their meanings, and were shown as follows:

[l] = [r]

[r] → [l/ --l-- / v-k#]

Kontoid [ñ], [t], and [j] in FA speech, affected the sound replacement of [r] to [l]. The substitution in the antepenultima position did not change the word's meaning, but only altered their sound. Therefore, the replacement of [r] in the antepenultima position to [l] was a phonetic change that did not affect the meaning. This was as a result of errors made in speech learning, therefore the wrong words were considered to be right in the arrangement of language functions in children's brains. This was common at the age range of 1.0 year. Alveolar consonants replaced by FA were shown in table 1 as follows:

Table 1. *Consonant Replacement [r] FA*

Sound	Articulation Point & Method	Position			Sound Replacement	Articulation Point & Method
		[#-]	[v-v#]	[v-k#]		
[r]	Tril Alveolar	√	√	√	[y] [l]	Semi Vokoid Lateral Alveolar

The replacement of [r] with [y] and [l] sounds did not change the meaning of the word, hence the phoneme / r / had an allophonic / y / and / l / with an incomplete distribution. According to Amril & Ermanto (2007), sounds could have phonetic similarity when in the same lane, with a particular trait. The phonemes [r] had a tril articulation, while the sound produced by the airflow method was repeatedly and quickly closing and opening (Muchlis, 2008). The replacement of phoneme [r] was due to FA having an *ankyloglossia* in the articulation area and fringulum linguae in the lower part of the mouth, which caused the tongue tip not to touch the ceiling completely and changed the pronunciation of [r] to [y] and [l]. This might be due to the inability of the motor nerves in the articulation area to form sounds.

The replacement of consonants that were carried out by FA also included the alveolar sound [r] as follows:

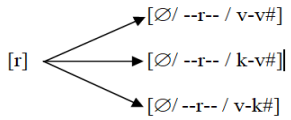

Table 2. *Consonant Removal [r] FA*

Sound	Articulation Point & Method	Removal Position			
		[#-]	[v-v#]	[v-k#]	[k-v#]
[r]	Alvolar Tril	-	√	√	√

Besides the alveolar sound, FA speech experienced changes in meaning and caused incomprehension of the interlocutor due to various errors that occurred, both in the phoneme replacement, omission, irregularity, shortening, and addition.

When viewed from a limited phonological ability, several phonemes were obtained by the FA from the age of 3;4 to 4;0 years. During the implementation, some minimal pairs of the complementary consonant sounds were obtained which included: peripheral phonemes / t / ~ / d / in the word / taŋ / and / daŋ /. The consonants [t] and [d] at the beginning of a word distinguished the meanings, / taŋ / as '*kan'* and / daŋ / as '*dan'*. The [k] and [ʔ] sounds were categorized as similar pairs at the end of the words / auk / as

'paud' and / aiˀ / as *'baik'*. The sounds [t] and [b] in a similar environment were two different phonemes in *'takut"* and *'rambut'* pronounced as / atuk / and / abuk /. Furthermore, consonants / p / and / l / were two different phonemes in a similar environment as shown in the words / əpuk / as '*jemput'* and / əluk / as *'perut'*. Some other different consonants pairs were /c/~/j/, /p/~/m/, /ñ/~/n/, /ŋ/~/m/, /k/~/h/, and /t/~/y/, which were pronounced as /aci/~/aji/, /upa/~/ima/, /əñaˀ/~/ənaˀ/, /itaŋ/~/itam/, /əlak/~/əlah/, and /ataŋ/~/ayaŋ/ respectively.

Consonant phonemes that were pronounced by FA between the age of 3.4 to 4.0 years were shown in table 3 below:

Table 3. *Consonant Phonemes by FA*

Articulation Point & Method	Bilabial	Labiodental	Alveolar	Alveolar-palatal	Velar	Glotal
Plosive	p b		t d		k	?
Fricative						h
Affricate				c j		
Nasal	m		n	ñ	ŋ	
Lateral			l			
Shakes						
Semivocal				y		

Consonant phonemes pronounced by the FA at the age range of 3.4 – 4.0 years, proved that many had not been obtained such as; / f /, / v /, / g /, / x /, / s /, / z /, / r /, and / w /. When compared with the acquisition of normal children's phonemes from the three levels of phonological ability, hence there were striking differences. At the perfect stage of 3.5 to 4.0 years old, a normal child had obtained consonant sounds such as: / p, b, t, d, k, g, f, v, s, h, m, n, ŋ , l, y, and w /, while FA suffering from speech delay only acquired / p, b, h, ĉ, j, ñ, l, and y /. At the imperfect mastered level, normal children obtained sounds such as; / c, ñ, and ĵ /, while FA acquired / t, d, k, f, m, n, and ŋ /. At a level that had not

been mastered at all, normal children obtained / r, š, and x /, while many phonemes had not been achieved by the FA, such as / v, g, s, z, r, and x /.

According to Dardjowidjojo (2000), at the imperfect mastered level, phonemes that had not been acquired at the age range of 3.5 – 4.0 years were related to biological and neurological development. Those suffering from speech delay were predicted to have biological disorders in their articulation; as a result, their speaking ability did not develop perfectly. However, with speech therapy, the capacity to obtain languages similar to normal children could be resolved since they were in the developmental stage.

FA disability in producing vowels and consonants were in different forms such as phoneme replacement, substitution, omission, addition, shortening and irregularity. Verbal disabilities were observed in various language and speech disorders. Previous studies found several forms of speaking dysfunctions such as: aphasia, dysarthria, cerebral palsy, speech stuttering, autism, and others. This indicated that sufferers of various language and speech disorders had problems in the phonological coding stage, which amounted to agrammatism or syntactic structure disorders. According to Kohn (1993), when sufferers had difficulty in producing sounds, they tend to eliminate, replace, add, shorten, or exchange phonemes to achieve the phonetic and syntactic aspects of a speech.

Through speech delay research towards FA, various forms of errors had been observed with a significant percentage difference, such as 22: 37: 5: 12: 8. These comparisons were shown below:

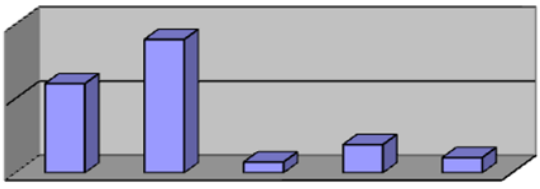

Figure 1. *Verbal Disability Error by FA*

These errors indicated that FA often eliminate sounds (37 percent), and obtained the intended lexical stretch by minimizing the sounds addition (5 percent). Sound replacement (22 percent) was carried out due to lexical jumps, hence FA easily distort phonemes and syllables. Shortening lexical (8 percent) were carried out for speed

purposes, since FA tend to be weary in practicing utterances, especially when repeating questions, while the sound additions (5 percent) were rarely carried out due to the limited number of lexicon obtained and speech delay factors.

Based on phonetic aspects of FA, it was observed that the fricative sounds were difficult to use by those suffering from speech delay, and as a result, caused several mistakes. Therefore, FA was very slow in terms of language acquisition.

Furthermore, in the process of sound production, the peripheral neural networks needed were more complicated. In this regard, the segmental sound production required nerves that regulate the muscles of the lips, uvular, tongue, and lower jaw.

Speech therapy efforts to improve speech ability were carried out based on the analysis results of acquired phonemes by FA. The auditive, visual and tactile approach were also utilized. Treatment through behavioral therapy methods was carried out with the following steps:

1. Information was obtained through hearing, vision, and touch, and were interpreted by the posterior brain.
2. At the cortical level, there were conscious processing as the integration continued through various stimuli. There were also semantic knowledge and emotional meaning observed at this stage.
3. Also at this level, memory processing continued integrating from various sensory stimuli. This made them search for more semantic knowledge.
4. Actions were developed in the pre-frontal area, where various choices were made. Finally, thoughts became impulses used in carrying out different processes.

Therefore, behavioral therapy (related to feelings/emotions) was needed in handling the children's speech delay intensively. The receptive and expressive method was carried out with an introductive therapeutic strategy, using stimuli and pictures on the FAs at the age of 4.0 years. The results obtained in the post-therapy had the following percentages:

Table 4. *FA Abilities in Post-treatment*

Ability	Percentage
Repeat words	70

Manipulating object names		22	
Understand real pictures		46	
Phonemic assistance	37		
Continuous visual and sound stimulus			67

The approach used was by asking questions, practicing responses, asking FA to repeat, and correcting their errors. This modeling method was carried out by calculating the average percentage of the following; make complete sentences (47 percent), give prefix words (33 percent), complete syllables (72 percent), demonstrate sounds (87 percent), describe objects (84 percent), and asking for pictures of objects or words (75 percent).

After applying therapeutic methods with behavioral therapy for 50 consecutive meetings, and 2 hours every 2 days, an increase in phonological and lexical accuracy was obtained. In the last month, the accuracy of the intended word meaning was obtained by the expectation. These achievements were the evidence that there was an increase in the FA communication ability. Therefore, the graph showed an increase of 90 percent in terms of phonemes and word accuracy. The index data were obtained based on the percentage calculation of phonological, lexical, and semantic errors from the beginning. The graph was as follows:

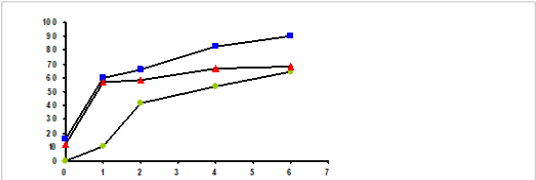

Figure 2. *Achievement of Vocabulary, Lexical Accuracy, and Actual Meanings*

The information obtained by the FA became a selected impulse in the brain (yellow dotted lines). Drastic improvement occurred until the 30th meeting, due to sensory and emotional care given to the patient (blue dotted line). Then, in the next 20 meetings, there was a stable pronunciation, both in knowledge enrichment, lexical,

understanding of repeated speech, and images (red dotted lines). Repetition was performed, hence there was a stable phoneme and lexical storage.

The PICA *(Porch Index of Communicative Ability)* test, which tabulated 50 meetings with FA, showed a good verbal modality. The evaluation equipment in the form of lexical analysis on their phonological ability was reclassified. The repetition results were recorded with the MRS *(Memory Record Standard)* speech analyzer. From 89 PICA vocabulary indexes, it showed an improved sound wave vibration (73 percent) compared to the initial record when FA was under observation at ages of 3;4 and 3;5 years. In this paper, examples were given for the sounds [c], [u], [m], and [i].

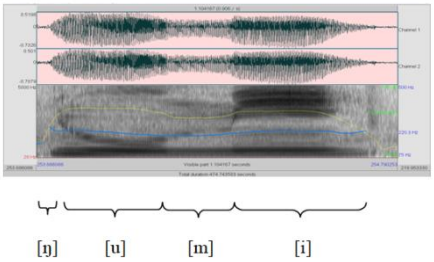

Figure 3. *Speech Analyzer Praterapi on FA at 3;4 years old*

Based on Figure 3, it showed that the sound [c] was silenced, but no vibration on the waveform and spectrogram at the beginning of the words. The vowel sound [u] and [i] did not experience any obstacle when uttered, hence, they were able to be pronounced by FA, as well as buni [m] with a bilabial nasal obstruction in the waveform curve with repeated and tight lines, since these sounds were common consonants obtained by language acquisition, such as the sound [m] in the word / məma /.

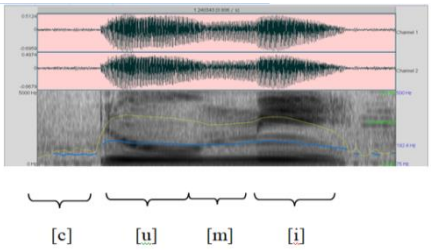

Figure 4. *Post-treatment Speech Analyzer on FA at 3.9 years old*

In the speech analyzer, there were waveform sounds [c] which were regular, and noiseless, with vibrations at the beginning, which originated from the laminopalatal articulation. The vocal [u] was a high back rounded sound, while [i] was a high front

unrounded vowel. Repetitions were made and represented by dense lines closer to the end of the peripheral, then the thickness steadily reduced.

The speech analyzer test results between the pre-and post-therapy showed that there were differences in the lexical pronunciations with cleared syllables, both in vowel and consonant words. It was also indicated by the difference between the sound waves and their height in the regularity of speech. The waves' uniformity was characterized by the existence of longitudinal processes that were evenly distributed from the beginning to the end. This was as a result of the cortical motor commands from the brain towards the utterance in the articulatory area.

Conclusion

Based on the research, it can be concluded that:

1. Verbal disability is a form of speech disorder, in children with FA, which are sufferers of speech delay in talking and communicating with others. Therefore, various forms of disorders were observed from their verbal disabilities in producing sounds.
2. Impaired language and speech abilities in children can lead to speech delay. The causes were due to internal and external factors. In the case of FA with speech delay, there was a disruption in producing language sounds. Within the period of 6 months (3.4 – 4.0 years old), the observations from various disorders were found in the form of phoneme omission (37 percent), replacement (22 percent), irregularity (12 percent), shortening (5 percent), and addition (8 percent). Verbal disability in FA occurred due to the inability to acquire some phonemes and the absence of psychoneurological tools to produce it following the articulation point, especially in the trill and consonant sounds.
3. Based on the phonetic aspects, it was observed that the fricative sounds were difficult to produce by speech delay sufferers. Therefore, sound development in FA was very slow in terms of language acquisition. The complexity of the nerve tissue causes FA sound to be more silent, due to the unactivated articulation area. This inactive network was caused by the internal and external factors.
4. After speech therapy was applied towards FA, the percentages of post-therapy were obtained as follows: frequently repeated words (70 percent), manipulating the objects' names (22 percent), understanding real images (46 percent), phonemic assistance

(37 percent), and continuous visual and sound stimulus (67 percent). The FA speaking ability was improving, as evidenced by the increased number of vocabulary achievements, the pronunciation accuracy, and the actual meaning of spoken words. It was also confirmed by the waveform vibration in the speech analyzer.

Pedagogical Implication

The process of learning languages in children can start from the phase of non-formal education, rather than primary school-age. The ability of children to communicate will then be found earlier, whether each child between the ages of 0-3 has a normal period. The importance of this study is its contribution to helping parents treat children with speech disabilities, not only because of language impairment but also by auditory processing disorder.

Via behavioral counseling approaches to practice children's speech skills, different types of phoneme problems and pronunciation errors can be reduced. The behavioral therapy approach (model) developed can be used informally for families whose children experience speech delays and can be used for children with language disorders in conventional schools (special schools). It is also helpful for speech therapists for different cases of verbal disturbances experienced by patients, as applied to children with hearing loss using a speech analyzer and picture tests to improve the speaking skills of children.

Acknowledgments

The authors were grateful to the:

The Chancellor of Andalas University, that allowed examining the speech disorders' topic through a research grant.

The Dean of Cultural Sciences, that allowed the research to be carried out.

The Head of the Linguistic Study Program provided moral support and also assisted in completing the research and writing of this paper.

The subjects and their families involved in this study were the main informants that have given a lot of their time, making it possible to obtain the necessary data and benefits from the research.

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