Chapter II

LITERATURE REVIEW

2.1 Theoretical Framework

In order to know what phonological alternations that occur in a seven-year-old child with delayed speech, the writer in this study used some of theories that support this research. First of all, the writer is going to use delayed speech theories and focuses on language development in children. Then, the writer also uses the theory of phonologicalalternation and process,basic theories of Indonesian phonemes as well as suprasegmental in Indonesian in order to give clearer ideas about the purposeof this research.

2.1.1 Delayed Speech

2.1.1.1 Definition of Delayed Speech

According to Skodova (as cited in Ml áková, 2010,pp. 30-39)Delayed speech refers to a delay in the development of mechanisms that produce speech. There is a difference in the development of speech and language. They both are an independent stage and in a normal development they progress in the same time, but in cases of delayed development they might be individually affected. For example, a patient might be delayed in speech, but not delayed in language. That means that the patient is unable to produce understandable speech sounds and would be attempting to produce an age-appropriate amount of language, but this language would be difficult or impossible to understand.

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2.1.1.2 Language Development inChildren

Nelson (2010) stated that a delayed speech child may be able to pronounce words well but be unable to put more than two words together. Others signs that shows by a delayed speech child such as a child may got difficulties in using gestures, for instance pointing or waving his or her hands, prefers to use gestures over vocalizations to communicate, has difficulty understanding verbal instructions, has trouble imitating soundsby three years old. In addition, Leung & Kao (1999, para. 3) also argued that children with speech delayed, tend to exhibit articulation deficits.

Leung & Kao (1999, para. 3) asserted that to determine whether a child has speech delay, the physician must have a basic knowledge of speech milestones. Normal speech progresses through stages of cooing, babbling, echolalia, jargon, words and word combinations, and sentence formation. The normal pattern of speech development can be described as follows.

Table 2.1 Normal Pattern of Speech Development

Age	Achievement
1 to 6 months	Coos in response to voice
6 to 9 months	Babbling
10 to 11 months	Imitation of sounds; says "mama/dada" without meaning
12 months	Says "mama/dada" with meaning; often imitates two- and three-syllable words

Age	Achievement
13 to 15 months	Vocabulary of four to seven words in addition to jargon; < 20% of speech understood by strangers
16 to 18 months	Vocabulary of 10 words; some echolalia and extensive jargon; 20% to 25% of speech understood by strangers
19 to 21 months	Vocabulary of 20 words; 50% of speech understood by strangers
22 to 24 months	Vocabulary > 50 words; two-word phrases; 60% to 70% is able to catch the of speech understood by strangers
2 to 2 ½ years	Vocabulary of 400 words, including names; two- to three-word phrases; use of pronouns; diminishing echolalia; 75% of speech understood by strangers
2½ to 3 years	Use of plurals and past tense; knows age and sex; counts three objects correctly; three to five words per sentence; 80% to 90% of speech understood by strangers
3 to 4 years	Three to six words per sentence; asks questions, converses, relates experiences, tells stories; almost all speech understood by strangers
4 to 5 years	Six to eight words per sentence; names four colors; counts correctly

2.2 PHONOLOGICAL ALTERNATIONS

Davenport&Hannahs (2005, p. 133) stated that phonological comes in many shapes and sizes and the process behind them are equally varied, as are the kinds of factor which condition them. Then, the type of alternations involved can vary or the factors conditioning the alternation may vary. In addition, the type of alternation involved can vary; one or more allophones involved in the alternation may be restricted to just one set of environments. Hence, there are 3 types of alternations:

1. Phonetically conditioned alternations

Alternations are conditioned purely by the phonetic environment. Also includes:

   a) [wɪt] vs. [wɪn]

   b) 'i [n]edible, i[n] Edinburah' vs.

       'i [m]possible, i[m] Preston' vs.

       'i[ ]conceivable, i[ ] Cardiff'

Based on the example above there is an alternations between different realizations of the final nasal consonant in both prefix 'in' and the preposition 'in', thus it agrees in place of articulation with a following labial or velar consonant. Thus, the example above can be characterized as being conditioned purely by the phonetic environment in which the phones in question occur, with no other factors being relevant.

2. Phonetically & morphologically conditioned alternations

   The form of the plural depends on the nature of the last sound. It can be as follows:

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- rat[s]' vs. 'warthong[z]' vs 'hors [ɪz]'

The examples above are also clearly motivated by the phonetic environment; the form of plural is dependent on the nature of the final segment of the noun stem. If the noun ends in sibilant ([s], [z], [ ], [ ], [t], [d]: it takes [ɪz]. if the final segment is a voiceless non sibilant, the plural is a voiceless alveolar fricatives [s]. Then, if the final segment is a voiced non- sibilant, the fricative is voiced [z]. However, unlike the alternations in phonetically conditioned alternations, the alternations of the example above do not necessarily occur whenever the phonetic environment alone is met. Thus, the phonetic environment can not be the only relevant conditioning factor; something else must be taken into account as well.

3. Phonetically, morphologically, & lexically conditioned alternations

a) -   'lea[f]' vs. 'lea[v]es'

-   'hou[s]e' vs. 'hou[z]es'

b) -   'electri[k]' vs. 'electri[s]ity'

-   'medi[k]al' vs. 'medi[s]inal'

The example above is clearly some phonetic conditioning: fricatives are voiced between voiced segments and a velar stop [k] is fronted and fricativised to an alveolar fricative [s] before a high front vowel segment. Then, the final fricative agrees in voice with the preceding sound only if it represents the plural marker (if there is a morpheme boundary between the two segments).

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2.3Phonological Processes in Early Child Language

Commonly adult's words can input the children's language. Thus, children are able to say words by imitating them. However, most of words that children are being tried to say are imperfect. In this way Ingram (1986) found theory about phonological process. Children use these processes as the way to simplify speech when trying to reach the adult's words. Though, the theory of phonological process from Ingram looks older, but most of books are using this theory for researches. According to Ingram (1986)as cited in Fletcher &Garman (1997, pp. 237- 243) the phonological processes in early child are shown as follows:

2.3.1. Substitution Process

Substitution process is a process in which class of phonemes is replaced by another class of phonemes as substitution, such as;

a) *Stopping* is the use of a stop consonant in place of another manner of articulation, usually occur in fricative. Example: 'shoes'   tuid

b) *Fronting*is velar and palatal consonants tend to be replaced with alveolar ones. Example: 'kitty'   ditty

c) *Gliding* is a glide [w] or [j] is substituted for a liquid sound, i.e, [l] or [r]. Example: 'broke'   bwok, 'rabbit'   wabbit

d) *Vocalization* isa process which a vowel replaces a syllabic consonant. Example: bottle   [babu], hammer   [mænu]

e) *Vowel Neutralization*: vowels tend to be changed into oral and often centralized vowels, i.e [a] or [ʌ]. Example: hack   [bat].

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2.3.2.Syllable Structure Process

Syllable structure process is a process that children often have an early restriction that the consonants in CVC structures must be homorganic. Such as;

a) *Cluster reduction* is a consonant cluster is reduced to a single consonant. Example: 'broke'   bok

b) *Deletion of final consonants* is aCVC syllable is reduced to CV by deleting the final consonant. Example: 'it'   i-h

c) *Deletion of unstressed* syllables is an unstressed syllable is deleted, especially if it precedes a stressed syllable. Example : 'banana'   _naen

d) *Reduplication*: In a multisyllabic word, the initial CV syllable is repeated. For the example: daddy – dada, stomach'   tum tum

2.3.3.Assimilation process

1) *Voicing*: consonant tend to be avoided when preceding a vowel, and devoiced at the end of syllable.

Examples: paper   [bcpi]; *foes*   [dos]

2) *Consonant harmony:* in CVC context, consonants tend to assimilate to each other in certain predictable way. Three frequent pattern are:

a. Velar assimilation: apical consonants tend to be assimilated to a neighboring velar consonant. Examples: *duck*   [g$_{\wedge}$k], *s;ock*   [g$_{\wedge}$k]

b. Labial assimilation: apical consonant tend to be assimilated to a neighboring labial consonant. Examples: *steps*   [bcps]; *tape*   [bejp]

c. Denasalization : a nasal consonant will be denasalized in the neighborhood of a non- nasal consonant. Examples: *spoon*   [bu:d]

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3) *Proggresive vowel assimilation*: an unstressed vowel will be assimilated to a preceding (or following) stressed vowel.

Examples: lower   [fa:wa]; hammer   [ha:ma]

2.4. The Standard of Indonesian Phonemes

The standard of Indonesian phonemes according toAlwi, Dardjowidjojo, Lapoliwa, Moeliono (2003, p. 66)Indonesian phonemes can be divided into, consonants, vowels, and diphthongs. Here is the inventory of the standard phonemes of Indonesian:

a.   23 consonants; .. /p, t, b, d, c,j, k, ?, g, f, v, z,   , s, sy, h, m, n,   , l. w, r, y, /

b.   6 vowels …… / i, e, a,   , o, u/

c.   3 diphtongs ….. / ai, au, oi/

2.4.1 Consonants

According to Alwi et al. (2003, p.66), consonants are divided into two groups based on manners of articulation and points of articulation, as follows:

| Manner of articulation / Point of articulation	Bilabial	Labiodental	Dental/ Alveolar	Palatal	Velar	Glottal
Stop	p b		t d		k g	
Affricative				c j		
Fricative		f	s z		x	
Nasal	m		n	`		h
Flapped			r			
Lateral			l			
Semi- vowel	w			y		

(Source retrieved in Tata Bahasa Indonesia Third edition, 2003, p.66)

The table above gave us explanation about the rules of Indonesian consonants. In addition, the writer is going to add about consonants cluster. Consonants cluster is a group or sequence of consonant that appear together in a syllable without a vowel between them. According to Chaer (2003, p.84)Indonesian has 27 consonants cluster, as follows: /br/, /bl/, /by/, /dy/, /fl/, /fr/, /gl/, /gr/, /kl/,/kl/,/kr/,/ks/,/kw/,/pr/,/ps/,/sl/,/sp/,/spr/,/sr/,/st/,/str/,/sw/,/sk/,/skr/,/tr/,/ty/.
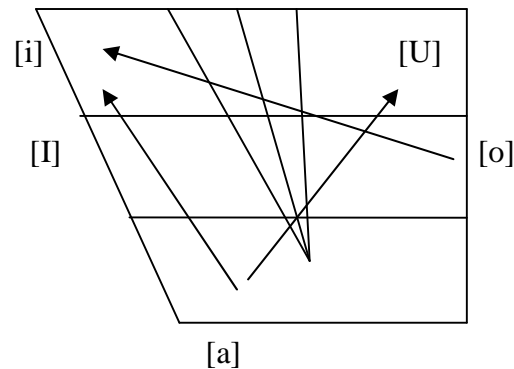
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2.4.2. Vowels

According to Marsono (1999, p. 51) Indonesian vowels are also divided into two parts, monopthong and diphthongs.

a. Vowel Monopthongsin Bahasa Indonesia
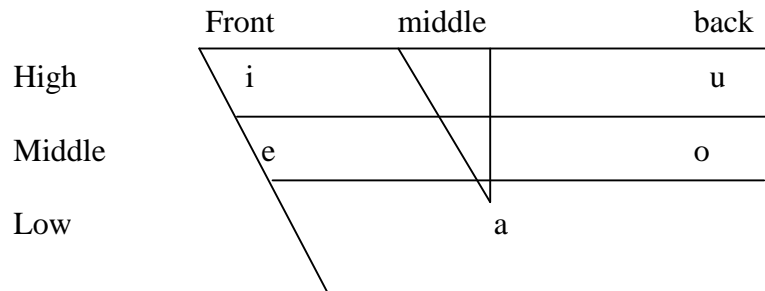
b. Vowel Diphtongs in Bahasa Indonesia

2.5. Suprasegmental in Indonesian

Vowel and consonants can be thought of as the segments of which speech is composed. Together they form the syllables, which go to make up utterances (Ladefoged, 1975 p.14). In syllables, there are other features known as suprasegmentals. These include stress, picth, length, and intonation. In Indonesian, the position of stress is regular. The stresses generally occur in the syllable before the last syllable of the word (Alwi, 2010 p.85).

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For example:

[béla]   bela

[pəmbéláʔan]   pembelaan

[táman]   taman

[taman-táman]   taman-taman

Then, if the second syllable and last syllable contains sound / /, the stress

fixed in the last syllable (Alwi, 2010 p.85).

For example:

[b láh]   belah

[b k rjá]   bekerja

[terá]   terang

[mpát]   empat

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