

CHAPTER IV

CONCLUSION AND SUGGESTION

4. 1. CONCLUSION

The data presented in the previous chapter show some general conclusion about altered phonemes among the five of cerebral palsied children in YPAC Cabang Surabaya. Concerning the deletion, in which phonemes may be omitted from their formerly occupied position, respondent B, C and E makes numerous deletions either in initial, medial and final position of the words. Most of the deletion involves consonant sounds (59), only a few can be found in vowel sounds (12), but they never delete diphthong sounds in any possible position. In fact, the three of them makes deletion alteration for 27 times in initial, 29 times in medial, and 15 times in final position of the words. On the other hand, respondent A never deletes any phonemes in each position of the words (initial, medial, and final). As well as respondent A, respondent D never deletes any phonemes in any possible position of the words. This are evidence that respondent A and D, concerning deletion alteration, can pronounce phonemes well.

One general deletion occurs in the deletion of *dorsovelar* sounds (/k/, /g/, /ŋ/, and /x/) in various positions of the words, either in initial, medial, or final for 15 times. Dorsovelars are back sounds that are usually acquired later by children than the frontier ones. However, raising the back of the tongue to the

soft palate is more difficult since the involved muscles are not moveable rather than muscles of the tip or blade of the tongue.

Apiko alveolar (/r/, /l/, and /n/) is the second type of sound mostly deleted by respondent B, C, and E. The deletions occur in any possible position of the words for 14 times. /r/ is apparently difficultly pronounced phoneme, especially for cerebral palsied children since they have to trill the tip of the tongue for a couple times, which involves a lot and strong muscles to produce it. Further explanation of /r/ and /l/ is that they are *liquids* sounds. Besides, /r/ and /l/ are among the last type of phonemes to be consistently articulated correctly. Interestingly, the three respondents also frequently delete /n/ which is considered easily pronounced and usually acquired earlier by children.

The third type of sound which is mostly deleted by respondents is *lamino alveolar* (/s/ and /z/), which is occurred either in initial, medial, or final position of the words for 8 times. Both of them are also considered as “difficult” phonemes in Indonesian language, since we have to raise both tip and blade of the tongue to the alveolar ridge to produce these sounds.

Interestingly, the three respondents also frequently delete *apikodental* /t/ in any possible positions for 7 times. In fact, /t/ is considered easily pronounced phonemes, which is produced by involving front parts of the tongue and mouth. Other deletions toward *medio palatal*, *apiko palatal*, *lamino palatal*, and *bilabial* are considered individual problems for the three respondents. In fact, these deletions only happen once or twice and they cannot be found in other respondents' utterances.

Interestingly, the three respondents (B, C, and E) also delete vowel sounds in any possible positions. Most of the deleted phonemes are front vowels which occur in medial position of the words. *Front low /a/* is the most frequently deleted phoneme (seven times), and the second is *front high upper /i/* (six times). While deletions of *front middle upper /e/*, *front middle lower /ɛ/*, and *central middle /ə/* are considered individual problems. All of the replaced vowel sounds may occur in the preceding or following difficult consonant sounds. For instance, respondent B deletes *central middle /ə/* in medial position after apiko alveolar /l/ and the deleted lamino alveolar /z/ in *lezat /ləzat/* becomes /lat/.

Further explanation of deletion alteration made by the three respondents is that the writer also finds *deletion of stressed syllable* and *deletion of unstressed syllable* as syllable structure processes.

A general conclusion can be drawn concerning insertion alterations, which are mostly made by respondent C and E. In fact, they often insert *central middle /ə/* before the initial position of the words (25 times). Most of the insertions precede consonant sounds (for 17 times), in which thirteen of them are considered preceding “difficult” phonemes, such as dorsovelar (/k/, /ŋ/, and /x/), apiko alveolar (/r/ and /l/), lamino alveolar (/s/), labiodental (/v/ and /f/), and medio palatal (/j/), and the rest are considered preceding “easy” phonemes. This are evidence that respondent C and E insert middle central /e/ in order to ease their utterance, especially for those which are followed by “difficult” phonemes. Other words which have vowel sounds in their initial positions are preceded by central middle /ə/ for eight times. This is an interesting evidence

that both respondents do not only insert /ə/ whenever she finds difficulties to start uttering a word with difficult consonant sound in its initial position, but she may also frequently inserts /ə/ before uttering a word whenever she wants, although there is no difficult phonemes following it. Other respondents (A and B) never insert any phonemes in any possible position of the words. The insertion once made by respondent D is considered as individual problem, since the insertion of *front low /a/* in medial position cannot be found in other respondent utterances.

A general conclusion can also be drawn from metathesis alteration or replacement of phonemes of the five cerebral palsied students. The metathesis alteration seems to be the most phonological alterations made by five respondents, which occur in all position of the words (36 times in initial, 59 in medial, and 40 in final position). Most of the replacements involve consonant sounds, only a few that can be found concerning vowel and diphthong metathesis. Vowel and diphthong metathesis produced by respondents are considered individual problems since they are only replaced once or twice for each phoneme, they are *front high upper /i/*, *front high lower /I/*, *front middle upper /e/*, *front middle lower /ɛ/*, *front low /a/*, *central middle /ə/*, *back high lower /u/*, and *back middle upper /o/*. Diphthong metathesis occur in the replacements of *up close backward /aU/* and *up close forward /aI/*. This is interesting since vowel and diphthong are usually acquired earlier than consonant sounds, but the five respondents prefer to replace some vowel and

diphthong sounds in producing utterances. The replacement may occur when these vowel and diphthong sounds precede or follow difficult consonant sounds.

All of the respondents often replace *apiko alveolar /r/* with apiko alveolar /l/ in producing utterances, either in initial, medial, or final position. While other replacements are considered individual problems since /r/ is only once replaced by laryngeal /h/, medio palatal /y/, and labiodental /w/. /r/ is among the last type of sounds to be acquired and articulated correctly by children, while /l/ is usually acquired former. /r/ is considered as “difficult” phoneme since respondents have to trill their tip of the tongue to the alveolar ridge for a couple times. Even though /r/ and /l/ are produced quite similarly, respondents prefer to use /l/ rather than /r/. This is an evidence that muscles around the vocal tract of cerebral palsied children are so weak and tight that they find difficulties in producing /r/. *Apiko alveolar /n/* is frequently replaced by apikodental /t/, dorsovelar /ŋ/, and apiko alveolar /l/.

The second type of sounds which are mostly replaced by the five respondents are *dorsovelars* (/k/, /g/, /x/, /ŋ/). Dorsovelars are also distinguished as “difficult” phonemes, since they are considered as back sounds and are usually acquired later than other sounds. This metathesis may occur in any possible position of the words and all of them are replaced by easily pronounced phonemes, which are produced by involving frontier parts of the tongue and mouth. For instance, respondent E replaces /k/ in final position with apikodental /t/ in *uleg /ulək/* becomes */ulət/*.

Subsequently, other sounds like *medio palatal* (/c/, /ñ/, and /j/), *labiodental* (/f/ and /v/), and *lamino palatal* /ʃ/ are also frequently replaced by respondents. As well as velar sounds, palatal sounds are also among back sounds which are more difficultly pronounced than those which are produced in frontier parts of the vocal tracts. Further explanation of /f/ and /v/ is that both of them are included in *fricatives* which are commonly acquired later than *stops*. The replacements of *apikodental* /t/ are considered as individual problem since it only happen only once or twice and they only occur in respondents B and E's utterances. However, apikodental is considered as easily pronounced phoneme which is produced by involving frontier parts of the vocal tracts.

In analyzing the data, the writer also frequently finds several cases of phonological alterations, especially deletion and metathesis, which cannot be explained or analyzed based on their connection concerning place of articulations. Thus, the writer tries to describe and analyze them based on their manner of articulations and their syllable structures in the word, such as *voicing*, *devoicing*, *fronting*, *backing*, *reduplication*, *deletion of stressed syllable*, *deletion of unstressed syllable*, *liquid vowelization*, and *labial assimilation*.

However, in producing certain words, the five respondents may alter more than one phoneme. They may delete, insert, and or replace phonemes more than once within one word. These multiple alterations mostly occur in two-or-more-syllables words. Consequently, respondents do not produce one-type alteration like deletion, insertion, and metathesis. Yet, they may combine two or even three types of alterations in uttering certain words. The possible

combinations are: deletion-insertion, insertion-metathesis, deletion-metathesis, and deletion-insertion-metathesis alterations. The data shows that deletion-metathesis is often produced by the five respondents. Moreover, combination of insertion-metathesis alteration only occurs in respondent C's utterances, while deletion-insertion and deletion-insertion-metathesis alteration only occurs in respondent E's utterances.

Those are some general lines that can be drawn from the altered phonemes produced by the five cerebral palsied students of YPAC Cabang Surabaya. One general conclusion which can be drawn from this thesis is that all of the respondents hold the principle of simplicity in producing utterances. Based on their capability, the strength and tightness of muscles around their vocal tracts, they have their own "difficult" phonemes. In fact, instead of producing those "difficult" phonemes, they tend to delete, insert, and replace them with the easier pronounced ones.

4. 2. SUGGESTIONS

Cerebral palsied children, with their neuromuscular deficits, are often followed by other associated dysfunctions, such as cognitive deficits, communication disorders, visual dysfunction, seizures, emotional and behavioral disorders, sensory and hearing impairments. With their slow cognitive functions, it is impossible to send them to regular school without any previous treatments and assistantship. They require special schools with special educational program that can enhance their specific skills.

Concerning their disorders in language development, especially the disorder of developmental phonology, they usually acquire phonemes later than that of normal children. As the respondents of this study, they frequently alter phonemes when they speak. Therefore, one way to improve their skill is to emphasize development of their speaking capability, especially on the altered phonemes. In this case, schools and family members have important roles in teaching and training them with special methods so that they can speak better.

As it has been analyzed previously, most of the altered phonemes are considered “difficult” phonemes, and some of them are “easy” phonemes. Therefore, their speaking learning must now be emphasized first on the acquisition of “easy” phonemes like vowels, diphthongs, labial, and dental sounds, and then move to the more “difficult” ones like alveolar, palatal, and velar sounds in order to reduce their speech disorder. The speech therapy concerning those altered phonemes should be based on where each phoneme is produced. Since this study analyzing the altered phonemes based on their place of articulation, then the best way to train them is by explaining about how and where is the production of each phoneme. For instance, *apiko palatal /d/*, which is produced by raising the tip of the tongue to the alveolar ridge, can be easily produced by recognizing what is the tip of the tongue and where is the alveolar ridge exactly occurred. Afterwards, they may touch places involved in producing this phoneme. When they have known about the places of articulation well, they will produce or pronounce any phonemes easily. Regardless the level of their IQ, the younger they are taught and trained, the better achievement they may gain.

BIBLIOGRAPHY