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UNDERSTANDING INDONESIAN DIRECTIVE INTONATION BY PRAAT SOFTWARE: UTILIZING THE EDUCATIONAL TECHNOLOGIES IN LEARNING

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Abstract

Recently, the trend in teaching and learning process is by utilizing the educational technologies. One of the educational technologies is *praat software.* This software is beneficial to assess whether student's intonation is appropriate or not to the native speaker of language. The writer has conducted one study by utilizing this software to a Japanese student. One factor that makes a listener could understand an utterance is an intonation of a speaker. Intonation is a symptom of prosodic, which is closely related to sentence structure and interrelated to a sentence in a discourse. It is especially discussed in acoustics phonetics, which studies a language feature as sound waves that distributed through air. Sounds or utterances of Indonesian will be audible if uttered by a native speaker of Indonesian, but it will be strange if it is uttered by a foreign student who was studying Indonesian. This study examined how foreign speaker intonation (a native Speaker of Japanese) in uttering Indonesian directives. This research describes suprasegmental sounds related to Indonesian intonation, such as intonation pattern, juncture group, and contour (pre contour/primer contour). It is a qualitative research with Linguistics-phonetics approach. Furthermore, it is a case study of a Japanese student who was studying Indonesian at BIPA University of Indonesia on the year 2005/2006. The data is taken from Miss Maki's utterances, which recorded in FISIP UI laboratory. The result shows that *praat software* is very helpful in analyzing the first record, segmentation result, and data manipulation result. Therefore, this study is expected to provide us with an opportunity to utilize the educational technologies in learning in more beneficial and attractive way.

Key words: Understanding Indonesian Directive, Intonation, Praat Software, Educational Technologies

INTRODUCTION

Speaking and listening are two important processes in communication. If the listeners can better understand the content or the message conveyed by the speaker, then of course the listeners were able to capture sounds or speech delivered by air. Sounds themselves have no meaning, but in the structure of the language, either stand alone or in combination with others, these sounds can carry meaning (Lass 1991: 3). In this case, sound and speech produced by the human vocal organs. Vocal organs and the physical characteristics of each human different organs, resulting in a different sound and speech as well. One factor that makes the listener understands an utterance, whether it is a command line prompt, or intonation of the speaker or speakers. Intonation is itself a symptom of prosody, closely conjunction with sentence structure and interrelation sentence in a discourse (Halim 1984: 77) , in particular, it will be discussed in acoustic phonetics , which is investigating the physical characteristics of the sounds of language, which distributed through air (Rahyono 2005: 32).

Sound or Indonesian utterances would sound commonly if they are spoken by the ordinary people of Indonesia. It will be different if it is pronounced by a foreign speaker who studied

Indonesian, Japanese, for example, which has a spotty accent (pitch accent) or accent tone, which is very different from the pressure accents in English, German, European, and other Asian languages, including Indonesian (Yasuo, 1999: 2). Similarly, the intonation, so that Japanese speakers who utter sentences in Indonesian, that is usually fixed in the Japanese accent or intonation (the exception, when it learned Indonesian and long stay in Indonesia, although this does not necessarily guarantee), because it has a typical Japanese of its own, namely the Japanese syllable is an open syllable, and always end with a vowel sound .So it can be used as syllables hana ha - na , and Paipu be pa - i - pu . Moreover, the Japanese are also the same sound, so that all syllables have nearly the same sound time. The phenomenon of Japanese speakers who spoke or uttered Indonesian utterances with Japanese intonation is interesting to be investigated.

According to Halim (1984: 79-80), intonation has two main functions, namely: (i) the grammatical function; meaning that the fundamental or primary function; (ii) emotional function; these two functions have an important role, because if the speaker or speakers change intonation in an utterance, then the tone of the speaker can show emotion. This argument is similar to that expressed by Lehiste (1970: 95) that " nonlinguistic intonation also carries meanings, in this respect it is analogous to the tempo, i.e, the use of features of duration at the sentence level to reflect the attitudes of the speakers and the relative urgency of the message" . Whether or not it (intonation shows emotion), will not be evidenced by a small study and in a relatively short time, but this study will focus on the opinion of Halim. It is said that to understand the tone of a speaker, the introduction of characterization required Indonesian intonation, as (i) the intonation pattern (total), (ii) the interval group, (iii) contour, or pracontour either principal or primary contours and (iv) phoneme intonation which includes a high -level tone (TT),pressure, and pause. However, this study only describes the command sentence intonation problems by Indonesian speakerwith Indonesian intonation characterization analysis proposed by Halim (1984: 80), which is limited to proving the hypothesis that Japanese native speakers who speak Indonesian has a different intonation patterns of the characterization of Indonesian intonation .

Formulation Of The Problem

This study focuses on how the intonation of foreign speakers (the native speakers of Japanese) in Indonesian uttered the Indonesian directive(command).

Objectives And Scope Of Research

The purpose of this study is to describe the tone of command Indonesian sentence uttered by the Japanese (the Japanese student, who studies BIPA at University of Indonesia in 2005/2006 which has been studied Indonesian for one year). This study is a case study that describes the sound of suprasegmental (prosodic) directly related to the characterization of Indonesian intonation of sentences such as intonation patterns, group pause, contour (pracontour/primary contour).

THEORETICAL BACKGROUND

Previous Research

There is a small number of Indonesian Intonation (Halim, 1984: 17). Furthermore, Halim said that intonation only very briefly discussed and even if discussed. The previous research has much to learn about word stress in auditory impressions recorded in the notation orthography. Therefore, the theoretical framework of the intonation is still very limited. The author in this case will take some

theories of earlier research by Halim (1984: 17-37) as follows:

WilliamMarsden

Marsden (1812) in Halim (1984: 17) gives the following definition of prosody:

> " ... grammar sectionthat discussesstress, quality or size of syllables, as well as proper arrangement in shaping the composition of metrics, or poem that due to be distinguished with the prose ... "*("…bagian tata bahasa yang memperbincangkan tekanan, kualitas atau ukuran suku kata, serta susunannya yang tepat dalam membentuk komposisi metrik, atau syair karena diperbedakan dengan prosa…")*

This study is the earlier study on the placement of word stress in Indonesian. The stress in the Indonesian language is a matter of quantity or length. Marsden concludes two rules, namely: (1) the pressure falls on the second syllable of the word basis with the exception of; (i) if the basic word is monosyllabic word, in the case of stress placement rules, it is not necessary because there is only one syllable. It means that the basic word given stress if it says its contains to a stress basis; (ii) if the secondsyllable of the last word contains the sound of *pepet*, the stress falls on the last term; (2) if a word consisting of one or more base words and affixes one or more , the stress shifts from the second syllable of the word or words into the second term that is the basic principal of the word derivation.

Tassilo Adam and James P. Butler

It is still the same as Marsden, Adam and Butler who also limited the research on Indonesian word pressure. They added that if the Malay language is written with the Arabic alphabet letters, stressed vowel is lost, then the rules of the stress can be used. Furthermore, they added a suffix when added to a base word, keep the stress falls on the last two parts whichwere combined.

HansKahler

It is still reviewing the word stress. The important thing to note from this study is the power of the word stress, it means that the high altitude tone syllables are under stress, is proportional to the specific emotional factors. Kahler in Halim (1984: 20) states that the speakers were passionate and excited the higher the pitch, and putting stress regulated to grammatical words.

J.Verguin

Verguin is still reviewing the word stress. His research proves that in general, the first vowel gets longer span of time stress, stronger power of articulation, higher pitch level than the second vowel base words studied. The most prominent thing in this study is not a characteristic that determines the intensity of the stress of the Indonesian word.

TakdirAlisjahbana

Intonation has been discussed by Alisjahbana. He connects with Indonesian grammar. Alisjahbana (1964: 23) in Halim defines two types of stress, which is as follows: word stress and sentence stress. Indonesian word stress falls on the last syllable of a word, except if the word ends with the suffix pronouns like me and her.Technically, Alisjahbana split sentence of three types of stress:(1) the dynamic pressure or aloud; (2) the high pressure or high tone of voice; and (3) pressure durational or tempo.

Establishment Alisjahbana about stress is that stress in the Indonesian language is not supported by instrumental assessment, such as pitch, intensity, and time span. Further, he argued that

the intensity of a characteristic peculiar to the less pressure, which stands out is the high tone and timescales. It should be noted that the intensity, pitch, and duration is not stated the emotional meaning (1984: 25). That marks the grammatical features are not characteristic of the intensity of stress, but the placement of the stress in a sentence and intonation characteristics such as displacement of pitch, pauses, and so on.

Alisjahbana proposed one too ne equivalence between intonation and form sentences when talking about:(1) basic song ofdeclarative; (2)basic song of interrogative; (3) basic song of imperative.

In connection with this study, Alisjahbana suggests basic song of imperative sentences. He explained that the basic song consists of two parts; the first part has a high rising tone, while the second has a pitch down. The song has a basic sentence pause command, which form a single vertical line. Transcription of the intonation patterns are 233n/231t # found in declarative sentences, interrogative and imperative.

Armijn Pane

Stress and intonation can be seen and started on oral language (Pane in Halim, 1984:27). Pane started his research of sound, stress, and then to thermophology and syntax. The approach is done through psychological and sociological approaches. Hear gues that the psychological approaches done because of the language should be taken into account, whereas the sociological approach because language serves as a basic means for social interaction and communication with in the community. Different from previous studies, Pane found in Indonesian that there are only a pressure, which is the determining characteristic time scales, and concluded that the pressure of the Indonesian temporary or durative. However, his opinion is contrary to his own invention (Halim,1984:28).

A.A.Fokker

Fokkerin Halim(1984: 31) argues that "the tone of a single criterion which gives the final decision on whether an Indonesian linguistic unit we are talking about is a sentence or not". The results of the formulation are that a sentence is a meaningful linguistic expression, which ultimately limits marked by a decrease in sound or pitch. Fokker further added that a principal component is tam ber intonation, pitch, duration, rhyme and pause

Theoretical Framework

From the above description of the previous research, the authors did not look at the theory behind this small study. Therefore, this study only refers to the opinion of Halim in accordance with the characterization that he put forward. If the pattern is not the same as intonation on the analysis, the researchers put forward the hypothesis, whichis correct (that the Japanese speakers when speaking Indonesian with the command (directive) does not correspond to a command sentence intonation patterns as proposed by Indonesian (Halim). For example:

(1) a. Bagaimana kalau saya kembalikan saja buku ini?2-32t/221t #
b. Jangan sekarang!2-31t #
c. Masih perlu?2- t31t #
d. Ya, besok boleh! 231#2-33n/2-31t#

When we look at an example (1b), the intonation pattern is2-31t with a command sentence “Not now” (Jangan Sekarang*!)*. We will see the comparison on the command sentence of the book

Clean *!,* When the pattern was different, then the command Indonesian sentences spoken by Japanese people is not the same as Indonesian intonation patterns.
Characterization of Indonesian intonation as proposed by Halim can be explained as follows: (1) intonation pattern, which consists of a group pauses or more
(2) The group pauses, which consists of basic contour(actually a (benar benar sebuah)) and combined with core contour and precontour.
(3) Contouris only one of each contours; contour is it self a unity configuration consisting of patterns of pitch, pitch motion and stress. A contour and contour consists of primary pre contour can be seen from the original form.

Pre contour and primary contour difference can be seen in two ways: (1) a contour should contain a primary contour (except contour symbolized by211t), but not necessarily containing a precontour. Precontou rmust precede the primary contour. (2) Only the primary contour containing a stress.

METHOD

Methods of Data collection and Data Processing

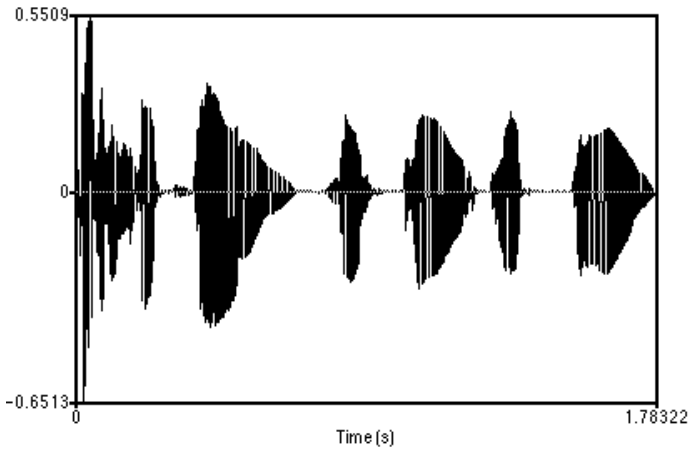
The data in this study was obtained through the study of literature, the Internet, and electronic scientific journals. Electronic device used is a recording device that is in the laboratory FISIP University of Indonesia to record the sentence *ambilkan buku itu*! of Indonesian speakers with native language is Japanese. Informants are BIPA UI students who have studied Indonesian for one year (the biodata and photo attached).

Result Data Processing and Data Analysis

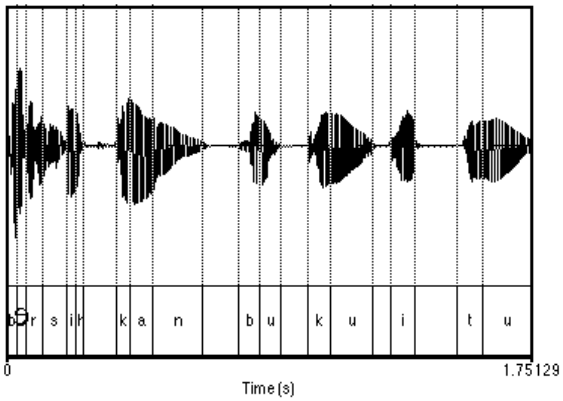
The results of the processing of audio recording software praatis as follows: Research represent results from the initial recording, segmentation results, the results of the data manipulation of the recording of the informant, which is divided into three sentences command 'Clean up that book!' (*Bersihkan buku itu*!). Furthermore, the researcher did a comparison of the command sentences. There are three records of the semntences.

RESULT AND DISCUSSION

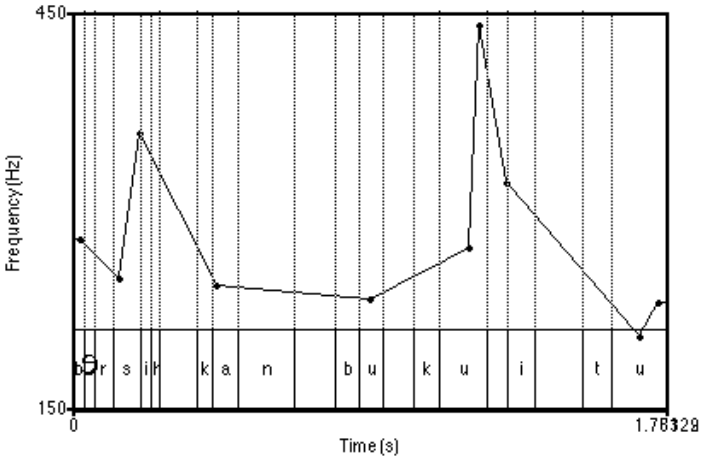
The result od recorded dataon directive intonation 1 '*Bersihkan buku itu!'*



Picture 1. Audio RecordonIndonesian Directive 1 '*Bersihkan buku itu!'*



Picture 2. Audio Recordand text grid (1) Indonesian Directive 1 *'Bersihkan buku itu!'*



Picture 3. The result of audio record manipulation on Indonesian Directive 1 '*Bersihkan bukuitu!'*

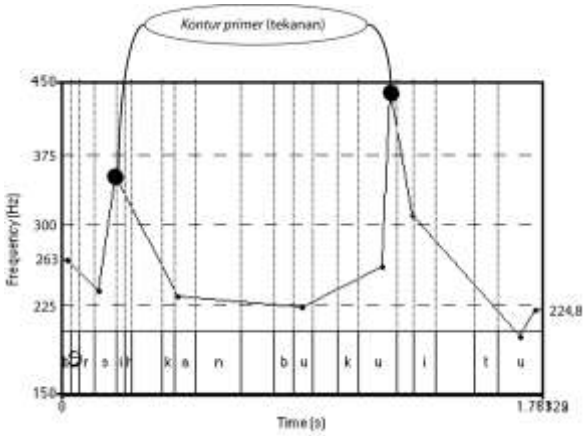


Figure4. Analysis ofthe frequencyandaudiorecordingscontourcommandline1'Clean up thebook!'*Bersihkan buku itu!*•indicatesa pauseora terminallimitgroup

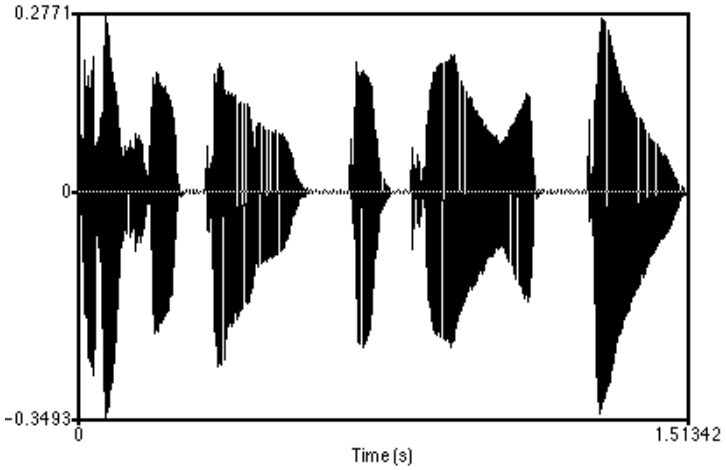
Analysis of the data recording command sentence 1In figure 2 , i and u vowels spoken louder than the other letters. This is shown by the large amplitude, so the pronunciation of vowels in the command line, spoken louder than the other letters. Figure four shows the following results:

Intonation : command line 1 ' Clean up that book ! ' Started pronounced at frequencies around 263 Hz beginning and ending at a frequency of about 224.8 Hz . This means that the speech command sentence 1 'Clean up that book !' Intonation decreased. Researcher use the term intonation up and down in this analysis, so it can be said that the intonation rising at the sound of the word clean anyway, and intonation down at the sound of the word tu.

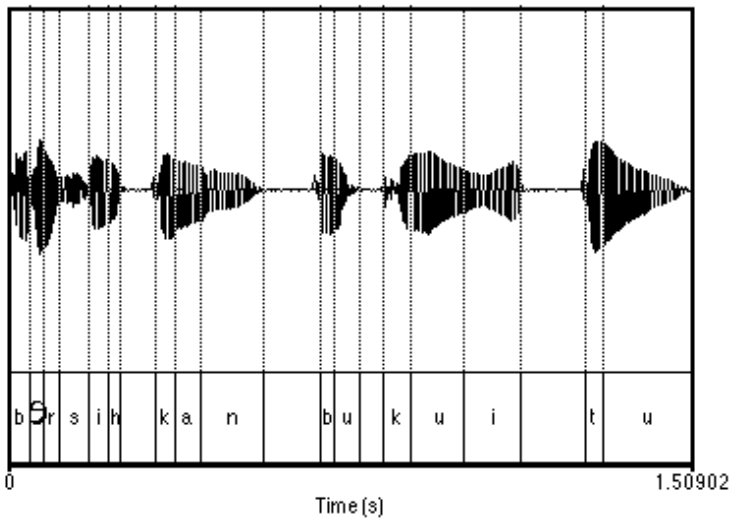
Intonationpatterns: one group consists of pauseContours : 1 command sentence has two primary contour shown in figure 4 where the pressure lies in syllable - syllable.

Motion pitch : there are two primary contour, which has decreased and there is a characteristic pressure terminal decline . This indicates that the motion of the pitch tends to decrease. Or pitch motion moving from low frequency to high frequency.

The result of data processing of audio record on Indonesian Directive 2 '*Bersihkan buku itu!'*

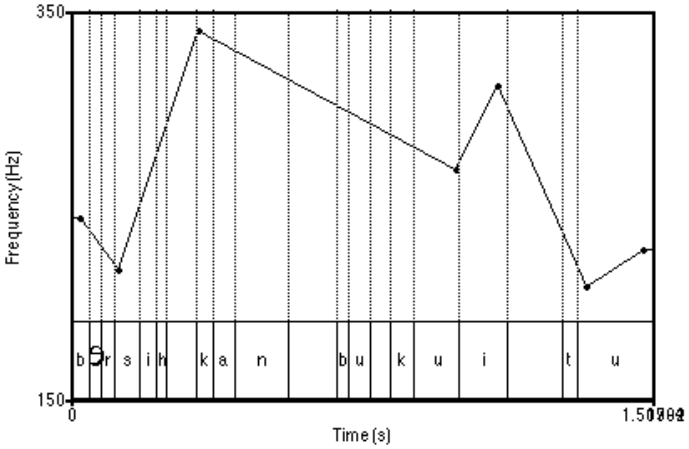


Picture 5. Audio Record on Indonesian Directive 2 '*Bersihkan buku itu!'*



Picture 6. Audio recordand

text grid (1) Indonesian Directive 2 *'Bersihkan buku itu!'*



Picture 7. The result of audio record manipulation on Indonesian Directive 2 '*Bersihkan buku itu!'*

Audio record data analysisIndonesian Directive 2

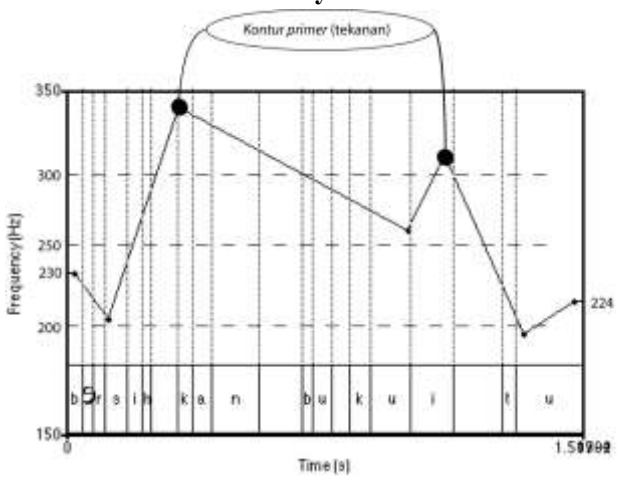


Figure8. Analysis ofthe frequencyandaudiorecordingscontourcommandsentence2'Clean upthe book!' •indicatesa pauseora terminallimitgroup.

Analysis of the data recorded audio 2

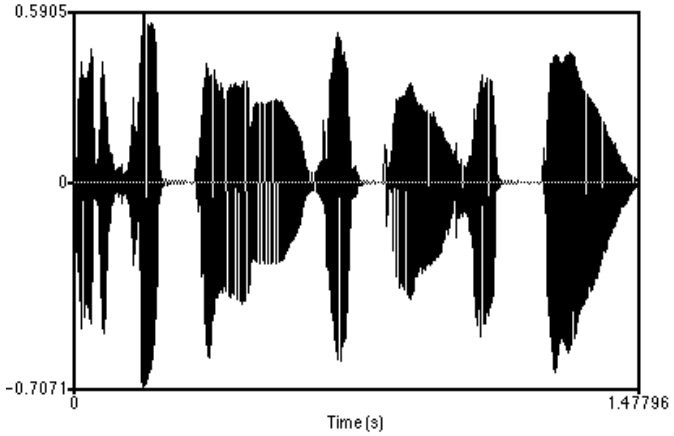
Figures 5 and 6 show that the vowels *a* and *i* spoken louder than the other letters. This can be seen in the picture with a large amplitude. Figure 8 clarifies the analysis.

Intonation : 2 imperative sentences ranging pronounced at frequencies around 230 Hz and ends at a frequency of about 224 Hz. Overview not seen a decline by a margin of 6 Hz. However, this frequency difference indicates that the sentence order 2 ' Clean up that book ! ' Intonation decreased . Figure 8 shows that the intonation rising at the sound of the word .. *it clean* , and tone down the sound of the word *tu* . Down the same intonation patterns intonation pattern down on the command line 1 .

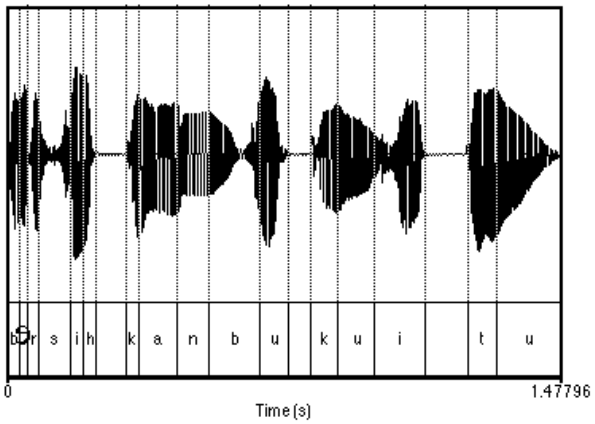
Intonation patterns: one group consists of pause

Contour: There are two primary contour on the command line 2
Motion pitch: there are two primary contoursthathas decreased and there is a characteristic pressure terminal decline. This indicates that the motion of the pitch tends to decrease,or pitch motion moving from low frequency to high frequency.

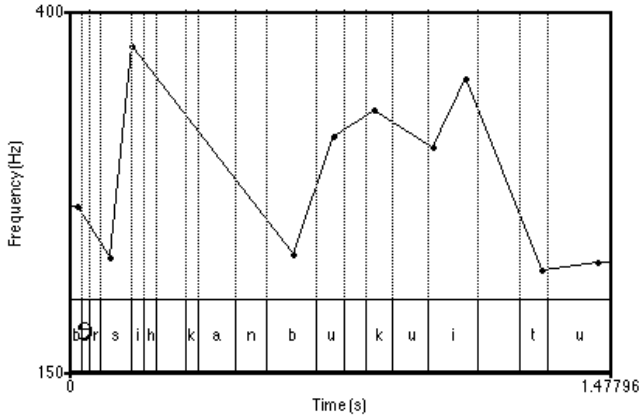
The result of audio record data processing onIndonesian Directive 3 '*Bersihkan buku itu!'*



Picture 9. Audio record onIndonesian directive 3 '*Bersihkan buku itu!'*



Picture10. Audio recordand text grid (1) Indonesian Directive 3 *'Bersihkan buku itu!'*



Picture 11. The result of audio record manipulation on Indonesian Directive 3 '*Bersihkan bukuitu!'*

Record data analisis on Indonesian directive 3

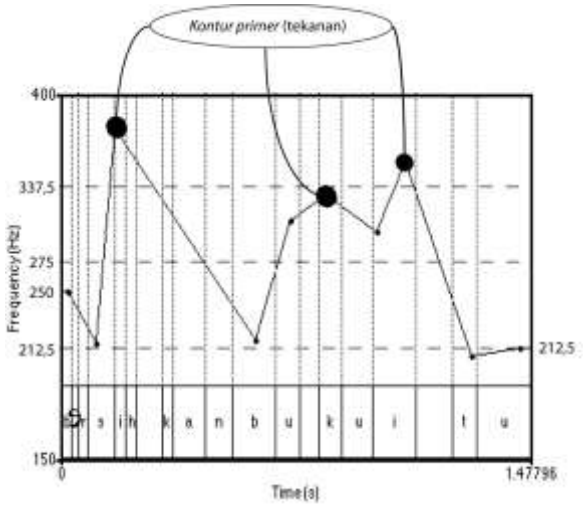


Figure12. Analysis of the frequency and audio recordings contour command sentence3 'Clean up the book!' •indicates a pause or a terminal limit group.

Figure10 shows that the voweli is pronounced harder than the other letters. This can be seen in the picture with large amplitude.

Figure12 shows the intonation as follows:

Intonation: 3command sentences pokenat a frequency of 250Hz and ends at a frequency of 212,5Hz. This shows clearly that the sentence order3 'Clean up that book!' Intonation decreased. Intonation rising at the sound of the word clean-bersihkan, and-i in the word, and intonation down at the sound of the word -*bu-tu* and the books of the word. Intonation patterns: one group consists of pause.

Contour: There are three primary contours. This indicates that the motion ends to decrease pitch, or pitch motion moving from low frequency to high frequency.

Combination of the result of audio record manipulationIndonesian Directive 1, 2 and 3

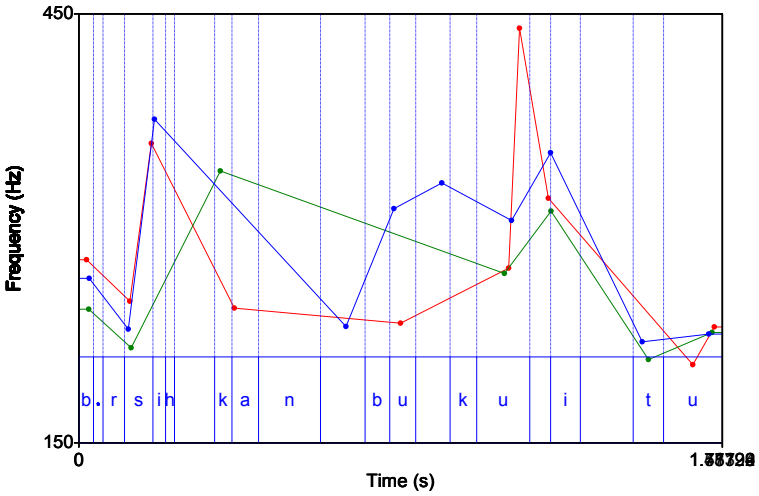


Figure13 shows the results of the combined graph manipulation command line audio recording1, 2 and 3 'Clean up that book!'. Tex to mitted grid to see the movement of high-level tone

and the changes that occur.

Data Analysis of command sentence1, 2and3 explained as follow:

Figure13 shows the change of incomplete contour (green, blue and red). Contour command sentences 1 and 2 end to be the same, the pronunciation of the initial sentences are at different frequencies but almost the same at the end of the pronunciation. There is an increasing stress on the command line 3, which is characterized by the vowelu in five syllables to me. The stress is due to changes in emotions and influence the situation in the text spoken by the speakers. The equation of speech commands sentence 1, 2, and 3 is the increase infrequency and decrease the frequency of the speech beginning at the end of the speech.

If we look at the pattern of command Halim for example sentences Not now*!,* The pattern obtained is2-31t, compared with the results of the command line '*Clean up* that book*!'* Which has the following pattern:

Bersihkan buku itu!

2 3- 2 2 2 3 1t

Sentence command ' Clean up that book ! ' has decreased tone or frequency is higher than the initial utterance final frequency . It also means that the sentence order 'Clean that book!' is a complete sentence , whereas the example Halim (1984 : 78), not a complete sentence ' Not now ! ' . Fokker (1960) in Halim said that a complete sentence would have decreased when spoken intonation (1984: 78-79) . This study has weaknesses of which researchers were unable to compare the theory with the Japanese command line because of the limitations of Indonesian literature, which can only be shown is that Japanese speakers who pronounce the sentence does not follow the characterization of Indonesian intonation patterns as proposed by Halim. However, a small study and the relatively short time may indicate that the command Indonesian sentences spoken by Japanese speakers have tone down, and it can be developed.

CONCLUSIONS AND REMARKS

The conclusions of this small study are as follows:

1. Sentence orders 1, 2 and 3 'Clean up that book!' Have decreased tone or frequency is higher than the initial utterance final frequency. This shows that the sentence order 'Clean that book!' has decreased intonation.
2. The results show that data manipulation commands sentence 1 and 2 have almost the same contour, while the 3 different command line, especially at word stress on the word-*buku* book. (The difference will be found in the stress contours words)
3. Such vowels i and u have a greater amplitude than consonants, vowels, this resulted in a sentence command 'Clean up that book!' Spoken louder than consonants.

Suggestions for this small study are as follows:

1. This study has the weaaknesses of a lack of data and informants as comparative material to be analyzed, because the research is fairly short time. Therefore, the data and the intended in formants must be carefully prepared.
2. Researcher has not found references to a research on Japanese command sentence intonation, thus requiring the literature to support the hypothesis. Hopefully a little research and the relatively short time can be developed into larger studies and more comprehensive way.
3. The result shows that *pra at software* is very helpful in analyzing the first record,

segmentation result, and data manipulation result. Therefore, this study is expected to provide us with an opportunity to utilize the educational technologies in learning in more beneficial and attractive way.

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APPENDIX 1.

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