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Intensity and Politeness in the Interrogative Sentences of Javanese Language

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***Abstract*—Intensity is the highest distance between the neutral lines and the curve of a wave. This magnitude is often called amplitude. A sound or speech that has a high intensity or large-amplitude, then the sound or speech utterance will be increasingly loud (Rogers, 2013). In certain societies, especially Javanese, the intensity is a possible reference to someone's politeness in speaking. This study aims to explore whether the intensity of spoken utterances in Javanese society is related to politeness. This study focuses on the intensity of interrogative sentences in various sentence patterns in Javanese society based on gender variables. Experimental Phonetics was used as an approach in this study. The data of utterances are obtained through the technique of recording the data object. Based on the collected data, the data segmentation applied aims to obtain the intensity number (referring to the desi Bell scale = dB). The results for segmentation numbers were then statistically processed; differences or equations were sought and described, aimed at knowing whether there was a relationship between intensity and politeness in Javanese language utterances, considering high intensity speech is generally categorized as less polite utterances.**

Keywords— intensity; politeness; Javanese language; interrogative sentences

I. INTRODUCTION

Different perceptions by speech partners on certain expressed utterances since there is a lack of precision in the suprasegmental use element or the errors occurs in prosodic utterance production. The poorly produced suprasegmental or prosodic elements, can lead to misinterpretation of utterance. Conversely, a good or correct perception of a speech, surely the utterance is produced from utterances that have the correct suprasegmental element. Ball and Muller (2005) suggest that the right prosodic informs about old and new information at the semantic level. Furthermore it is said that prosdic can show which parts are the focus of information and which parts are not the focus of information. At the pragmatic level, listeners often pay special attention to prosodic speakers. A number of prosody studies have been conducted by several researchers such as Sugiyono (2003), Roosman (2003), Syarfina (2008), and Yustanto (2018).

Misinterpretation of information acceptance on utterance occurs due to errors in prosody use. Simply, the speaker's error in articulating sound intonation, duration, and intensity potentially causes different meanings on the produced utterances or sounds.

Conseptually, sound reflects three basic characteristics, which are the tone, intensity, and quality. Each of the three characteristics is associated with a source producing waves. The tone depends on a frequency wave, the intensity depends on wave amplitude, where the quality depends on the waveform. The right combination of these three characteristics produces a beautiful sound. This article aims to reveal intensity and politeness of interrogative sentences in Javanese spoken utterance by both male and female speakers.

II. LITERATURE REVIEW

To provide clear understanding, this article limits several terms such as: first, the basic intensity is the basic sound strength, which is the initial intensity in utterance. Second, the final intensity is the last strength in a speech. Meanwhile, *Julat* intensity is the range of strength calculated based on the range between the highest and the lowest intensity. In addition, it is necessary to explain about the duration or temporal structure needed in expressing an utterance.

Temporal structure of language is defined as a set of regularities that serve function to determine speech duration and pause in spoken utterance of a language. Temporal common structures are used to signal inter-word cohesion and disconnection in other elements of weakened word parts before the prosody boundary (Heuven and van, 2007). In addition to duration, a sound constitutes intensity.

Sound intensity depends on magnitude of the wave amplitude. Intensity concerns about the physical characteristics of a sound. The increased intensity leads to increasing on sound loudness or strength. Similarly, the loudness depends on fundamental frequency and sound characteristics and duration (time) of sound (Lehiste, 1977).

Intensity or loudness comes from the width of the airwaves (Hayward, 2000). In general, the intensity of the wave is proportional to the quadrate amplitude. In the complex wave i.e., the ratio of the amplitude is 2: 1, thus, the ratio of intensity is 4: 1. In case where the amplitude ratio is 5: 3, the intensity ratio should be 25: 9 (Hayward, 2000). Sound intensity units are denoted by decibels or commonly marked with dB.

In a particular society, intensity affects the sense of politeness that relates how someone speaks. Politeness, according to Brown and Levinson (1987) was inspired by Goffman's concept (1967), which is caring about individual's "face" of both a speaker or his/her speaking partner. The term for "face, not only physical form, but rather "face" as a public image, or simply "self-esteem" that a person holds in society. Politeness language concerns about a speaker's awareness on other people's faces (Yule, 2008). Broadly speaking, politeness is about strategies or norms which are linguistically expressed by speakers to prevent him from speaking of potentially unpleasant communication or threatening his speech partner (Gunarwan, 2007).

III. METHOD

This research uses experimental method as the data analysis model. The experimental method is mainly applied in finding and measuring speech acoustic features, and calculating respondents' assessment of the data being tested. The research data are in the form of Javanese *Ngoko* speech style utterances that reflect prosodic characteristics. The data were obtained from speech experimental production in the Javanese declarative mode. The technique used in sampling the data is purposive sampling technique. The respondents being researched to meet criteria in this study were classified as both male and female.

The analyzed prosodic features in this study are the Javanese language utterances in interrogative mode. Data were collected through recording the Javanese language use spoken by respondents who were divided into target sentences with *Apa*-Subject-Predicate *(Apa-S-P)* sentence patterns of *Apa adik ngombe?* 'Does sister drink?', *Apa*-Subject-Predicate -Object *(Apa-S-P-O) Apa adik ngombe susu?* 'Does sister drink milk?', and *Apa*-Subject-Predicate-Object-Adverb *(S-P-O-Adv) Apa adik ngombe susu neng pawon?* 'Does sister drink milk in the kitchen?'.

After data had been collected, data segmentation was then carried out by carefuly sorting the selected data into a single segment, in this case, segmentation is done by way of sentence to sentence, per-single segment, to sound per-sound. After the data were classified into their segmentations, the intonation contour stylization or simplification was undetaken to gain the fundamental frequency curve (F_0). This stylation is a basic frequency simplification step by removing the F_0 irrelevant detail. The result is close copy stylization which only constitutes all the relevant tone flows. In measuring and describing characteristics of the prosodic speech, a number of stages in the IPO approach was adopted (*Instituut voor Perceptie Onderzoek*) specifically, the 't Hart, *et al*'s (2006) was further developed.

The numbers obtained from the stylizing result were analyzed by applying statistical analysis. To seek out the numbers obtained from this process, the data were analyzed using statistical analysis. To find out the meaningfulness of the statistical test, thus it was used significance numbers. Statistical test result is meaningful if the significance number is smaller or equal to 0.05.of the statistical test, it is used significance numbers. The statistical test results are meaningful only if the significance number is smaller or equal to 0.05. The numbers show that out of one hundred data analyzed, there were only 5% unsupported. In contrast, 95% of the data is supported. The significance value of 0.05 indicates a significant difference, while the 0.01 significance number is commonly marked very significant, very real, or very meaningful (Sudjana, 1989).

IV. RESULT AND DISCUSSION

To obtain an overview of the occurring intensity from the respondents, a stylization was carried out to obtain the close copy. From the stylization of the sentence data with *Apa-subject-predicate (Does-S-P)* pattern, the number of basic intensity (BI) was obtained, it is a point where a speech utterance begins, the final tone intensity (FI) or the ending point a utterance, and range intensity (RI) i.e. intensity range in a speech utterance as presented below in Table I.

TABLE I. SIGNIFICANCE OF BASIC INTENSITY (BI), FINAL INTENSITY (FI), LOWEST INTENSITY (LI), HIGHEST INTENSITY (HI), AND RANGE INTENSITY (RI) IN DB, INTERROGATIVE SENTENCES IN *APA-S-P* PATTERNED

	Male	Female	Significance
BI	75.8721	79.8684	0,34
FI	71.7635	76.6586	0,05
LI	82.2948	83.3103	0,17
HI	75.2795	77.9489	0,09
RI	10.5312	6.65170	0,01
Duration	2.02780	2.00200	0,78

The table above shows the difference in the significance calculations of BI, FI, RI, HI, and RI, with a number of significance marked as below or equal to 0.05. Therefore, there are significant differences between the FI, and RI, both of which were related to speech utterances produced by male and female groups. This is due to differences is primarily associated habits, regular and accustomed work, these both automatically influenced at the time individual expresses certain sentences, the sentence reflects a different intensity.

The calculation of acoustic characteristics is undertaken to find out the significance values of BI, FI, RI, HI, and JI of interrogative sentences in *Apa-subject-predicate-object (Does-S-P-O)* patterned. The calculation result is shown below in Table II.

TABLE II. SIGNIFICANCE OF BASIC INTENSITY (BI), FINAL INTENSITY (FI), LOWEST INTENSITY (LI), HIGHEST INTENSITY (HI), AND RANGE INTENSITY (RI) IN DB, INTERROGATIVE SENTENCES IN *APA-S-P-O* PATTERNED

	Male	Female	Significance
BI	79.7435	77.4839	0,22
FI	70.3007	67.2977	0,17
LI	82.5933	82.8469	0,78
HI	75.8181	76.2842	0,75
RI	12.2926	15.5491	0,08
Duration	1.42320	1.46460	0,53

Based on the information in table 2, a conclusion can be drawn that the significance value tends to be insignificant (intensity value above 0.05). In other words, there were found no difference in the intensity between male and female groups at the time expressing sentences in *Apa-S-P-O* patterned.

Table 3 is a table that presents the significance of BI, FI, RI, LI, and RI interrogative sentences in *Apa-Subject-Object-Predicate-Adverb (Does-S-P-O-Adv)* patterned.

TABLE III. SIGNIFICANCE OF BASIC INTENSITY (BI), FINAL INTENSITY (FI), LOWEST INTENSITY (LI), HIGHEST INTENSITY (HI), AND RANGE INTENSITY (RI) IN DB, INTERROGATIVE SENTENCES IN *APA-S-P-O-ADV* PATTERNED

	Male	Female	Significance
BI	78.8673	80.5531	0,23
FI	66.1839	70.3959	0,02
LI	82.0147	83.3173	0,11
HI	68.9904	73.9025	0,01
RI	15.8307	12.9213	0,05
Duration	1.19980	1.21230	0,83

The result of significance calculation in BI, FI, LI, HI, and RI on the interrogative sentence in *Apa- S-P-O-Adv* patterned indicates that the number of significance leads to a smaller or equal value to 0.05 found in FI (0.02), HI (0.01), and RI (0.05). From all the significance values, it is conclded that the speech utterances between male and female groups in sentences of *Apa-S-P-O-Adv* patterned are, therefore, quite different. Thus, both male and female groups expressed the interrogative sentences in *What-S-P-O-Adv* patterned with different final, highest. and range intensities.

Every society recognizes two distinctive sexes, which are male and female. Conceptually in Sociolinguistics, gender distinguishes kinds of speech spoken by male and female. Physically the difference underlying between men and women can be acknowledged from their body shapes. In addition, they can also be distinguished based on the produced sounds. Male produces larger volume of voice than female. Female's voice is distinguished into two, alto and soprano, while male has tenor and bass voice. In terms of the way many tribes in Indonesia speak their language; female's voices are softer than the male's. With regard to intonation, female's final intonation is longer, a rather spoiled, soft and slow voice. The Javanese society are known as the people who speak with speech style, where the Javanese female's speech style is identical to *kenes*, an articulated intonation up and down, fast and loud, such a style is characterized an epic figure of Srikandi which is in contrast to a figure called Sembadra which is gentle (Sumarsono, 2002).

The findings of this study conclude that in terms of the interrogative speech mode, it is found the intensity between male and female speech utterances. However, in *Apa-S-P-O* sentence patterned there was not found any difference in intensity.

Various surveys and studies have been conducted in a lot of countries which conclude that out of various variables such as social, ethnic, and age class factors, female are consistently found to use closer or standard speech style pattern or high prestige accent, compared to male's speech style.

. In terms of social roles, female or women hold different roles from the male. It is from this social role that the language spoken by female is different from that of the male. Some of these reasons maintain an argument that female's speech is greater in intensity than the male's.

In this study, it is found that female's speech pattern is indicated to be higher in terms of the basic tone rather than the male's. Cruttenden (cited in Syarfina, 2008) suggests that the fundamental frequency of male ranges from 60 Hz to 240 Hz, while female ranges from 180 Hz to 400 Hz. From the number of such frequency, the male voice is lower than the female's; the male's tone of voice is lower than female's.

In line with Cruttenden, other researchers such as Clark and Yallop (1995) provide another illustration that the average fundamental frequency range of English speakers is 80-200 Hz for male speakers, 150-300 Hz for female, and 200-500 Hz for children. The fundamental frequency range used by speakers in the process of producing sound reflects physical differences in the larynx.

This study also found that female tends to have a higher final tone than male's. Although women naturally have a high base tone, it is not directly proportional to the final tone.

Other studies reveal that female speakers often use a second language compared to their mother tongue. Therefore, the intonation of the second language influences and overwhelms at the time a female speaks mother tongue. Thus, female's high-end tone is greater due to the influence of the second language, which is the Indonesian.

With regard to politeness, Gunarwan (2005) proposes that politeness in Javanese sense is associated with the principle of harmony. The principle of harmony refers to the needs of each individual to maintain social balance (harmony). The essence of the harmony principle is conflict avoiding concern. This principle formulates that the high intensity is considered as a lack of speech courtesy *kurmat*, lack of *andhap asor* (modesty), *empan papan* (self-conscious), and the lack of *tepa slira* (tolerance).

V. CONCLUSION

The results of intensity analysis of interrogative sentences, the *Apa-S-P*, *Apa-S-P-O*, and *Apa-S-P-O-K* sentences patterned spoken by male and female reflect different intensity. Additionally, this difference indicates a decrease in tone at the end of the sentence. This means that almost all sentences of this type have a higher base intensity than the final intensity. In other words in this type of sentence, the tone pronounce decreases (Yustanto, 2018).

This study is quite significant especially for the sake of regional language preservation that the languages have been gradually becoming extinct. Through the discovery of Javanese language speech patterned numbers and intensity, it is expected that in the meantime, learners can learn the Javanese pattern of numbers and intensity to produce correct speech. Pragmatically, this finding is greatly useful bearing in mind, speech with the good suprasegmental (duration, frequency, and intensity), in combination with certain contexts shall produce a good speech. Since utterances with inappropriate intensity or volume (tend to be high) in certain groups of people is commonly categorized as irreverent or less polite speech.

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