

## Intonation and Intensity of President Joko Widodo's Speech

Emmy Erwina<sup>1\*</sup>, Alvy Mawaddah<sup>2</sup>, Muhammad Kiki Wardana<sup>3</sup>

<sup>1,2,3</sup> Faculty of Language & Communication, Universitas Harapan Medan, Medan.

\*Corresponding Author: [emmyerwina@gmail.com](mailto:emmyerwina@gmail.com)

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### ABSTRACT

This study aims to investigate the prosody of speech by the head of state related to the answer to the question that has recently gone viral and trending is President Jokowi's speech answer to the question on YouTube, with the title "Why the Capital City Not Move to Papua?". The head of state of the Republic of Indonesia (Joko Widodo) used data in the form of speech related to the conversation. The utterances were obtained from a video titled "Why the Capital City Did Not Move to Papua? Moreover, it is downloaded from YouTube. Then, the data is selected from several sentences President Joko Widodo spoke. The voice data will be extracted and coded at the analysis stage using Praat 6.0.54 (1). This research was conducted because, until now, the study of acoustic phonetics has rarely been done. On the other hand, phonetic descriptions, especially acoustic phonetic descriptions, namely the intonation and intensity of President Jokowi's speech, are important to study. The purpose of this study is to physically document sound, preservation, teaching, and language dignity in the midst of the symptoms of language shift. This study is an effort that is in line with the scientific aspects of phonetics and maintaining language heritage in terms of speech. This study's results prove differences in acoustic values in the measurement results of the data "Jokowi's Answer Asked by Elementary School Children Why the Capital City is Not in Papua" on the VIVA.CO.ID YouTube account. All acoustic features were measured, namely frequency, duration, pressure, and intensity. From the analysis results, it can be concluded that the resulting tone contour shows two patterns: the rising and descending patterns. The rising pattern at the end of the utterance indicates that the utterance is unfinished, while the falling pattern at the end explains that the utterance's intonation is final. In addition, there are many increases in frequency and intensity in the data, where the increase mostly occurs when Mr. Jokowi mentions the words "Papua," "Aceh," "Sabang," "Marauke," "Capital," "North," "South," "Gitu," and "Yes."

**Keywords:** Intonation, Intensity, Speech, President Joko Widodo, Praat



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### 1. Introduction

Language is the most important component of communication. It is the tool that people use every day to communicate, interact, and express their thoughts (Ariesta et al., 2021). Language is a communication tool that can change with the development of human civilization (Putri & Ermanto, 2022). In the linguistic system, speech is one of the most basic things that determine the occurrence of communication.

One of the most important components of language is intonation (in the case of spoken language), which is important because this component always accompanies speech sound units. However, it is not easy to understand intonation simultaneously as written sound marks. Intonation helps speech come alive. Every language has unique speech patterns (Rois et al., 2022; Mubin et al., 2021). For example, intonation in English is different from intonation in Indonesian; similarly, intonation in Indonesian may differ from intonation in regional languages in Indonesia (Suryani & Damayanti, 2012).

In linguistics, intonation and intensity belong to suprasegmental elements, parts of speech that follow segmental elements. These segmental elements can be described as orthographic sound marks or letters. However, suprasegmental elements are still somewhat challenging to describe and apply universally. Identifying suprasegmental components, or prosody, requires a particular approach, including fields such as acoustic physics. According to Sieb Noteboom (Noteboom, 1997), prosody includes being the part that controls the modulation of pitch contour, segment stretching-shrinking, syllable duration, and intensional fluctuations in loudness.

A recent widely discussed phenomenon is President Jokowi's speech on YouTube titled "Why Didn't the Capital Move to Papua?". In this context, a Papuan child asked a question related to why the Capital City did not move to Papua, and then President Jokowi affirmed the answer by conveying several reasons for the Papuan child's question. Therefore, this study wants to examine the intonation and intensity of President Joko Widodo's speech.

Thus, this study will thoroughly examine stress and intensity as suprasegmental language components. Therefore, this research can be categorized as the study of acoustic phonetics. Related to the study of language sounds when they propagate in the air, including the study of waves, frequency, and intensity of sound (Chaer, 2020) Using Pratt's software, this study analyzed and described intonation and some elements that may be present in it (Welbi & Ito, 2002; Van Heuven, 1994).

This research aims to explain how the intonation of President Jokowi's speech from the answers to questions on YouTube, with the title "Why the Capital City Not Move to Papua?" and explain how the intensity of President Jokowi's speech from the answers to questions on YouTube, with the title "Why the Capital City Not Move to Papua?".

This research was conducted because, until now, the study of acoustic phonetics has rarely been done. On the other hand, phonetic descriptions, mainly acoustic phonetic descriptions, namely the intonation and intensity of President Joko Widodo's speech, are important to study. The purpose of this study is to physically document sound, preservation, teaching, and language dignity in the midst of the symptoms of language shift. This study is an effort that is in line with the scientific aspects of phonetics and maintaining language heritage in terms of speech.

## 2. Method

This research employs the IPO (Institute voor Perceptie Onderzoek) approach, developed by T'Hart, Collier, and Cohen (Hart et al., 1990), to analyze speech intonation and intensity. The IPO approach is relevant to this study as it provides a systematic framework for investigating speech perception through three primary stages: speech production, acoustic analysis, and perception testing. This study will focus on the acoustic analysis stage to identify intonation and intensity characteristics within a specific communicative context.

The data is analyzed from the speech of President Joko Widodo, which is on YouTube, with the title *Jawaban Jokowi Ditanya Anak SD Kenapa Ibu Kota Tidak di Papua* (Jokowi's Answer Asked by Elementary School Children Why the Capital City is Not in Papua). Then, the Praat software is used to analyze the intonation and intensity of the sentences of President Jokowi's answers to questions on that video. The use of PRAAT in this study helps analyze the size of the frequency (pitch) and intensity of speech so that the results are in the form of numbers in units of Hz for pitch and dB for intensity (Huinck et al., 2004; Kartikasari et al., 2013).

In collecting data, the researcher used a Sony ICD recorder to record President Jokowi's intonation speech from the answer to the question on the video, then used the Audacity program to clean the speech data after recording to produce clean target sentences. As previously explained, the acoustic-phonetic approach is an analytical approach that uses instruments that can visualize speech to be measured and obtain more accurate results (Hayward, 2000; Sugiyono, 2003).

Once the data was collected, it was processed to the acoustic analysis stage. In this acoustic analysis, the researcher followed the three stages suggested by the IPO approach: speech segmentation, stylization or simplification of intonation contours, and pitch measurement with the PRAAT program. First, the speech sounds were segmented. The boundaries of the sound units to be analyzed were identified through delineation. Each section was named with a conventional phonetic symbol. In the next stage, a fundamental frequency1 (F0) curve is created through a technique known as stylization or simplification of intonation contours. This is done using an analysis method that employs F0 synthesis (Syarfina, 2008; 2014; Syarfina et al., 2022; 2023;).

There are several ways to measure pitch. The first is done manually by clicking on specific constituents in the control editor. The second way is to open the pitch tier file in the Praat program to display the overall frequency of pitch change points. Absolute pitch measure (Hertz). The results of pitch measurements can be used to create pitch streams or speech contours that show the relationship of one pitch to another. In addition, the components of melodic features or intonation can be obtained, which include the base tone, final tone, range, and peak tone. Then, the analysis results get the utterance intonation value from the data.

Furthermore, the intensity can be analyzed by opening the intensity tier file in the Praat program to display the overall intensity of the intensity change points in absolute intensity size (db). The results of intensity measurements can be used to create intensity flows or loudness contours that show the relationship between one intensity and another. In addition, the components of sound loudness or intensity can be obtained, which

include basic intensity, final, range, and peak intensity. Then, the result of the analysis is the utterance intensity value of the data.

### 3. Result and Discussion

This study aims to examine the intonation and intensity of the speech of the President of the Republic of Indonesia, Mr. Jokowi. The source of research data is from the Youtube account VIVA.CO.ID *Jawaban Jokowi Ditanya Anak SD Kenapa Ibu Kota Tidak di Papua* (Jokowi's Answer Asked by Elementary School Children Why the Capital City is Not in Papua).

Several Papuan students had the opportunity to meet directly with President Joko Widodo in an audience held at the Cendrawasih Ballroom, Swiss-Belhotel, Jayapura City, Papua Province, on Friday, July 7, 2023. During the meeting, the students initially displayed their skills in counting to President Jokowi. After that, President Jokowi gave the children the opportunity to ask questions. The data analyzed by the researcher starts from minute 3:39 to 5:00 minutes.

Data on Jokowi's Statement (translated into English).

Text:

Sentence 1: Why is not the capital moved to Papua?

Sentence 2: Yes, Indonesia is very big.

Sentence 3: From Papua to Aceh, from Sabang to Merauke

Sentence 4: Very extensive.

Sentence 5: Well, if the eastern one is chosen, yakan, then if the capital is chosen in Papua, the one from Aceh to Papua is very far from here

Sentence 6: 9 hours from Aceh to Papua, by airplane, that is, if by ship it could take weeks, yes.

Sentence 7: So the capital was chosen in the middle, so the archipelago was chosen in Kalimantan.

Sentence 8: In the center from the east close, from Papua close, from Aceh also close in the center, from the North It's close, and from the South, it is also close.

Sentence 9: So it was chosen in the middle. Already? Yes, thank you.

Sentence 10: Already? Yes, thank you.

#### Sentence 1: Why isn't the capital moved to Papua?

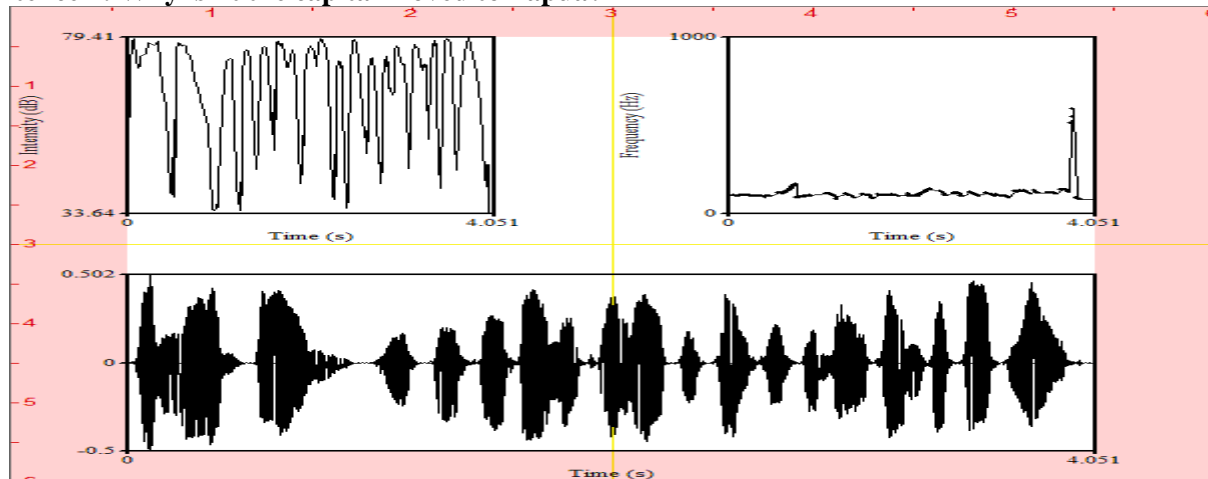
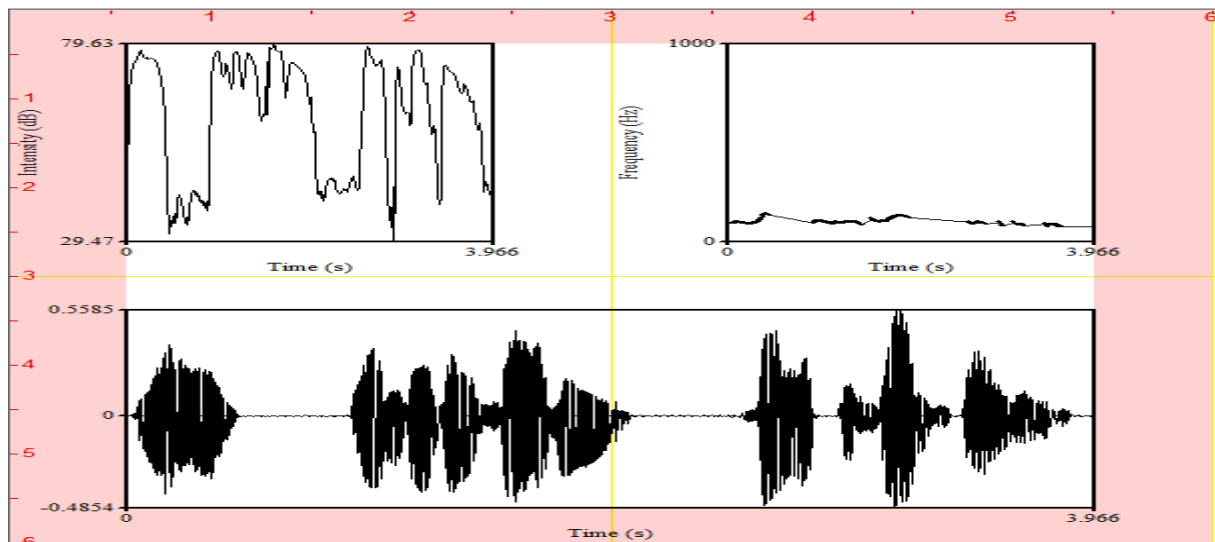


Figure 1. Sentence: Why hasn't the capital been moved to Papua?

Figure 1 above shows the analysis results of frequency, duration, and intensity derived from Mr. Jokowi's speech in interrogative sentences. "Why isn't the capital moved to Papua?". Before Mr. Jokowi answered the girl's question, Mr. Jokowi repeated his question, "Why is the state capital not moved to Papua?". The analysis results show that the data is 4.05 seconds long, the frequency at the initial tone is 102.9Hz and ends with the final tone of 78.5Hz, but there is a frequency spike of 594.1Hz at the mention of "-pua." The intensity has a stable graph without spikes, with intensity at the beginning of 79.21dB and ending at 46.39 dB.

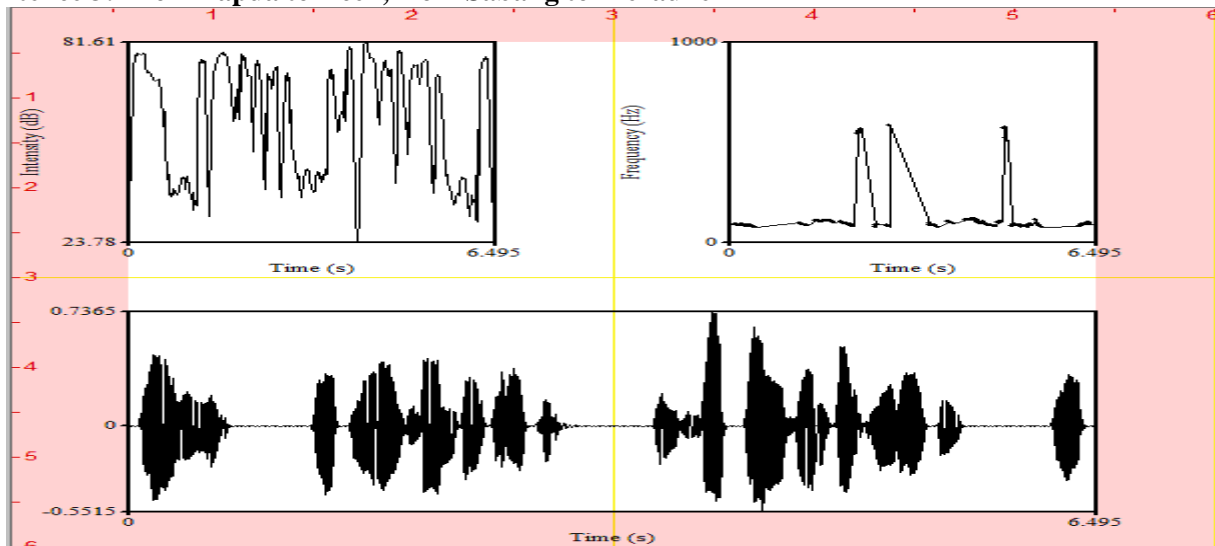
#### Sentence 2: Yes, Indonesia is very big



**Figure 2.** Sentence: Yes, Indonesia is very big.

Figure 2 above shows the analysis results of the declarative sentence "This is yes, Indonesia is very large." The data has a duration of 3.96, the frequency at the beginning is 90.7Hz, at the end 75.06Hz, and an average of 98.9HZ. The intensity averages 72.47dB, with an intensity at the beginning of 78.14dB and the end of 44.82 dB. The data shows a decrease after the words "this is yes" and "Indonesia is" because there are two pauses in the data before continuing to the next word, and in the phrase "very large," there is emphasis because Mr. Jokowi implicitly emphasizes that Indonesia is very large.

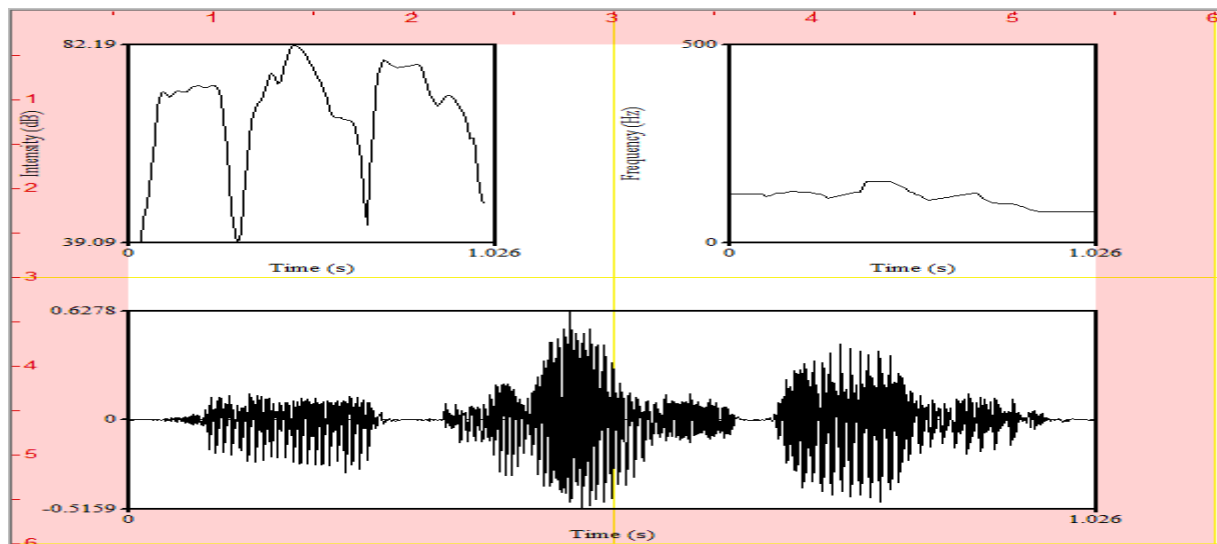
### **Sentence 3: From Papua to Aceh, from Sabang to Merauke**



**Figure 3.** Sentence: From Papua to Aceh, from Sabang to Merauke

Figure 3 above is the analyzed image of the sentence "From Papua to Aceh, from Sabang to Merauke, Yes." The data lasts 6.49 seconds with an initial frequency of 88.58 Hz and a final value of 87.14 Hz. The initial intensity is 42.84, and the final value is 77.67 dB. The data also averaged 91.2Hz frequency and 72.59dB intensity. In the data, there were three pauses in the sentence and three frequency spikes in the words "-to Aceh" and "-to Merauke" with frequency values above 500Hz. This happened because Mr. Jokowi once again emphasized that Indonesia's territory from Sabang to Merauke.

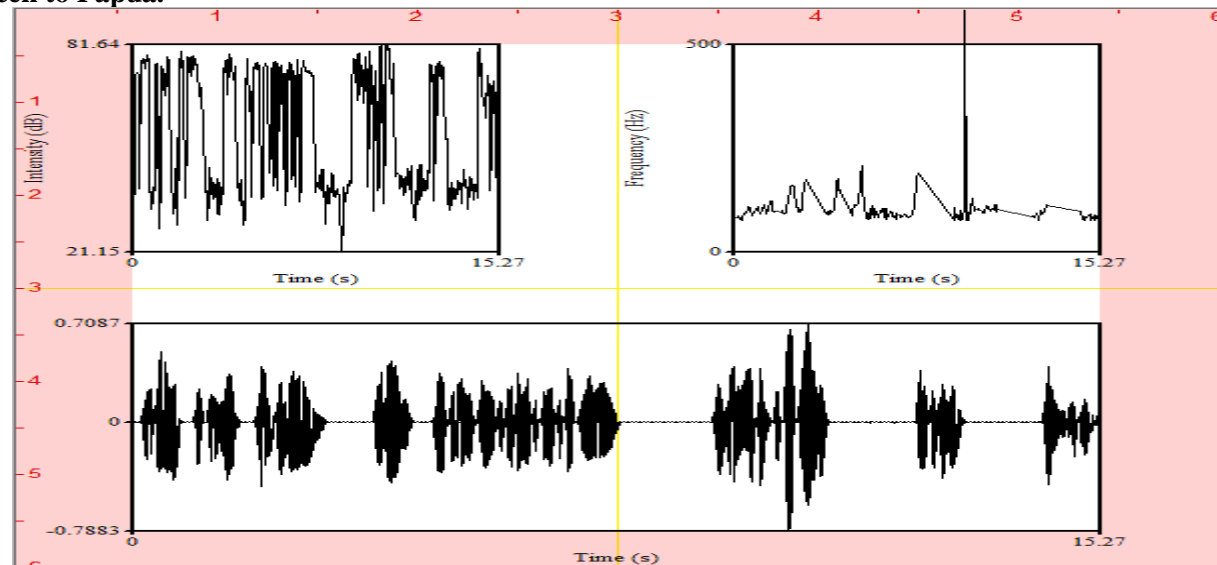
### **Sentence 4: Very extensive.**



**Figure 4.** Sentence: It is very spacious.

Figure 4.4 above is an image of the results of the analysis of declarative sentences, namely the sentence "Very wide. " The data has a duration of 1.02 seconds with an initial pitch frequency of 123 Hz and an end of 76.92 Hz, an intensity at the beginning and end of 62.13 dB. From these data, there is no significant change in the frequency and intensity of the sound, so the data has a stable average frequency and intensity of 119.5 Hz and 74.25 dB.

**Sentence 5:** Well, if the eastern one is chosen, then if the capital is chosen in Papua, it is very far from Aceh to Papua.

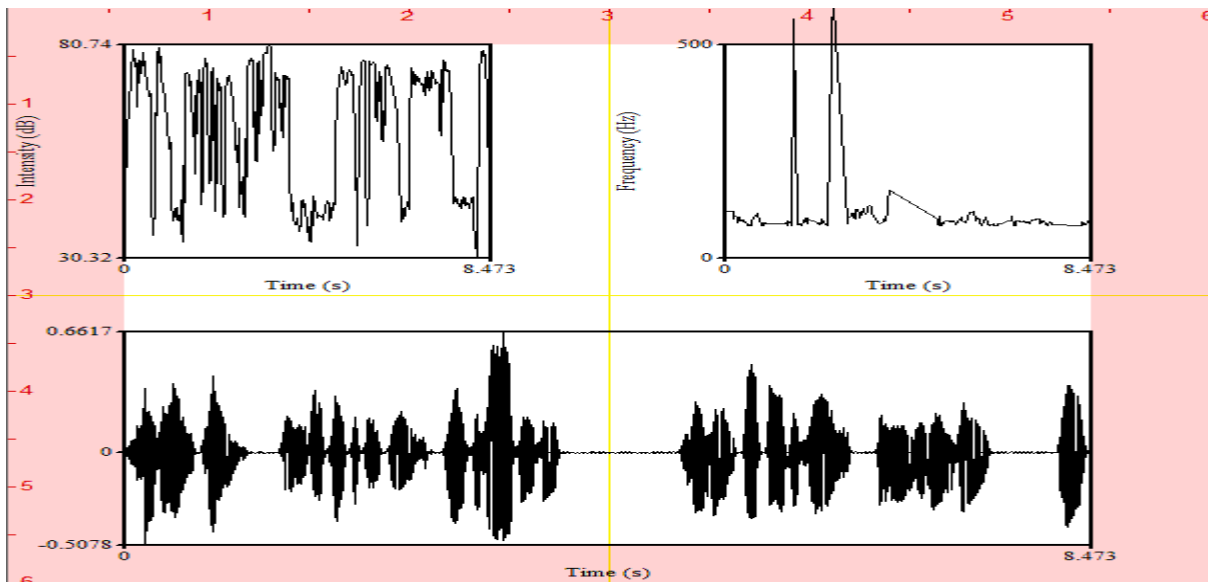


**Figure 5.** Sentence: Well, if the eastern one is chosen, yakan, then if the capital is chosen in Papua, from Aceh to Papua, it is a long way from here.

Figure 5 above is an image of the results of the analysis of the declarative sentence: "Well, if the East is chosen, yakan, later if the capital is chosen in Papua, from Aceh to Papua, it is very far. " The data has a duration of 15.36 seconds with a frequency at the beginning of 82.81Hz, at the end of 82.68Hz, and an average of 106.4 Hz. The intensity averages 71.70dB, with an intensity at the beginning of 37.6 dB and 65.1 dB at the end.

In the data, there are regular up-and-down frequency waves that occur 6 times in the sentence "-the eastern one, *yakan*, later if the capital is chosen in papua from Aceh-," but in the last wave, there is a very high spike of 583.3 Hz precisely on the word "Aceh." In addition, there is a regular and repetitive increase and decrease in intensity points from beginning to end, with the lowest value of 32.55dB and the highest of 81.61 dB.

**Sentence 6:** 9 hours from Aceh to Papua by airplane; if you take a ship, it could take weeks.

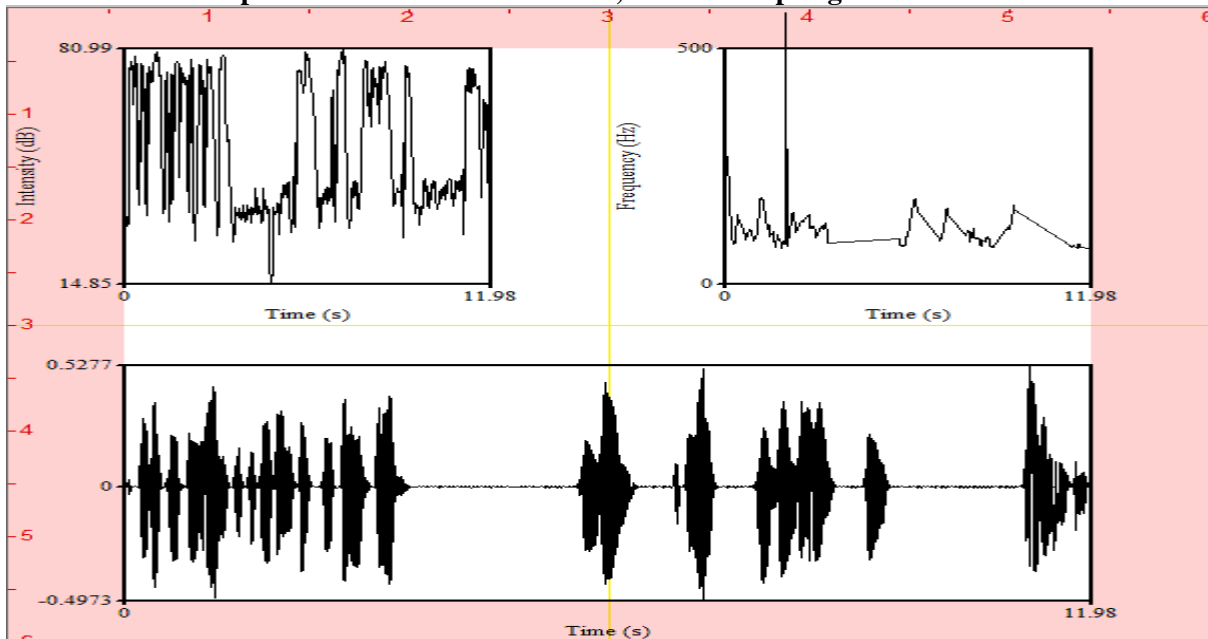


**Figure 6.** Sentence: 9 hours from Aceh to Papua by airplane; that is, if you take a ship, it can take weeks, yes.

Figure 6 above is an image of the results of the analysis of declarative sentences, the sentence "9 hours from Aceh to Papua, by plane, if by ship it can take weeks, yes." The data lasts 8.47 seconds, with a frequency value of: 90.0 hertz and an intensity value of 71.75 decibels.

In the data, there were three short pauses between words and two long pauses in the middle and end of the sentence, and between the first and second short pauses, there were two frequency spikes with a frequency spike of 486.5 Hz to 596.6 Hz. These spikes occurred when "Aceh" and "Papua" were mentioned.

**Sentence 7: The capital was chosen in the middle, so the archipelago was chosen in Kalimantan.**



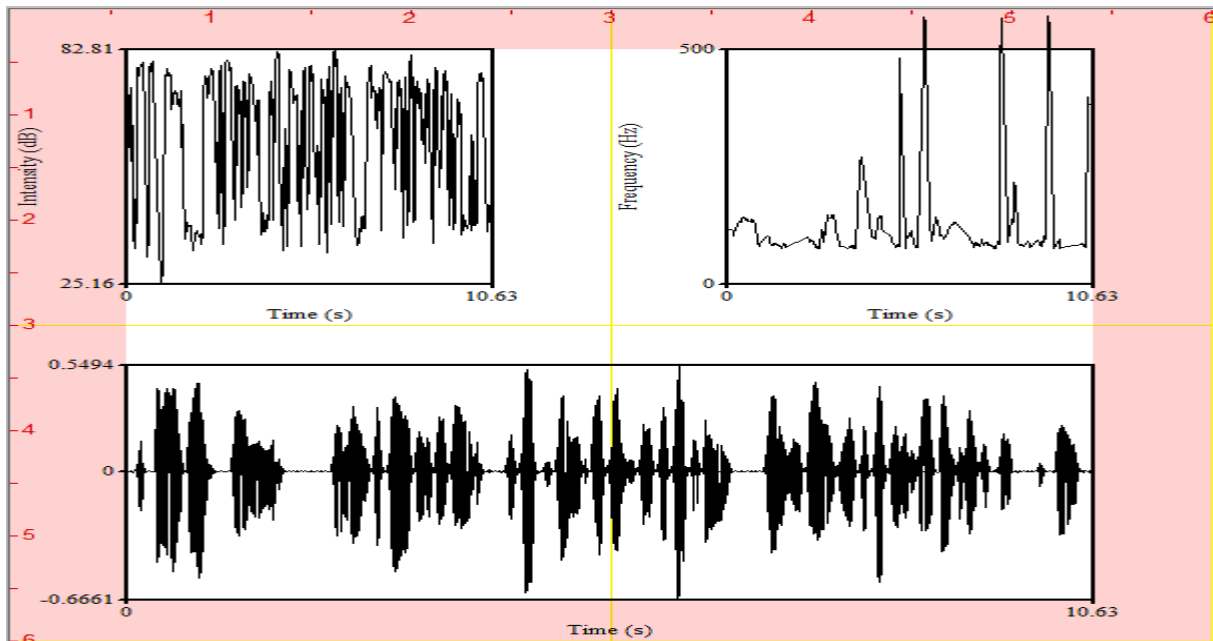
**Figure 7.** Sentence: So the capital was chosen in the middle, so the archipelago was chosen in Borneo.

Figure 7 above is an image of the results of the analysis of declarative sentences: "So the capital was chosen in the middle, so the archipelago was chosen in Kalimantan." The data lasts 11.97 seconds with an initial frequency of 271.3 Hz and a final frequency of 75.58 Hz. The initial Intensity value is 65.37 dB, and the final value is 57.08 dB. The data also averaged a frequency of 112.1 Hz and an intensity of 70.74 dB.

There were two long pauses in the middle and end of the data, with three short pauses occurring between the long pauses. The second long pause itself occurred when Mr. Jokowi wanted to say "in Kalimantan," where there was a long pause between the words "in" and "Kalimantan", this shows and ensures that Kalimantan is a strategic place as the capital because it is in the middle. In addition, there was also a frequency spike at the

beginning of the sentence of 576.8 Hz when Mr. Jokowi mentioned the word "capital"; this was to emphasize what subject was being discussed.

**Sentence 8: In the middle from the East is close, from Papua is close, from Aceh is also close in the middle, from the North is also close, from the South is also close.**

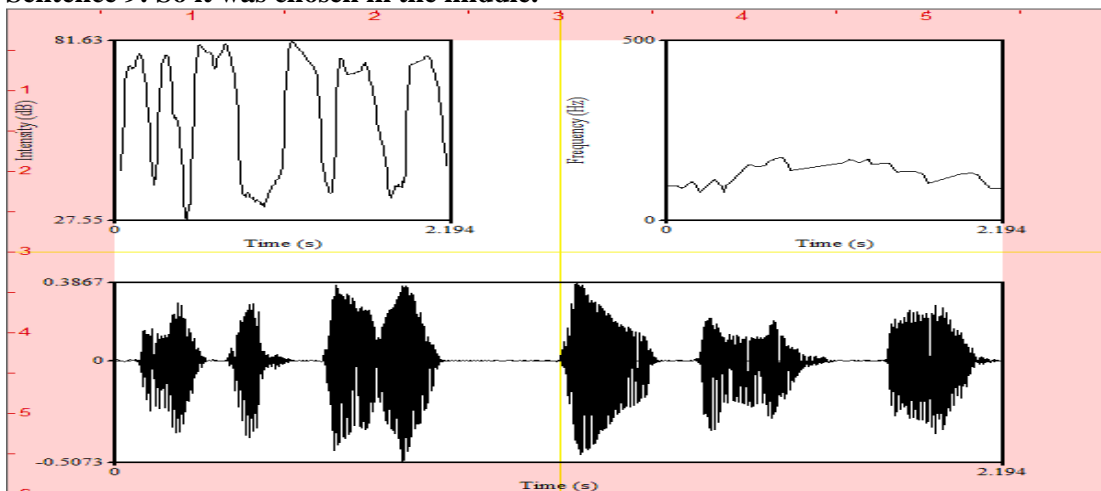


**Figure 8.** Sentence: In the center from the East is close, from Papua is close, from Aceh is also close in the center, from the North is also close, from the South is also close.

Figure 8 above is an image of the results of the analysis of declarative sentences, "In the middle from the East is close, from Papua is close, from Aceh is also close in the middle, from the North is also close, from the South is also close." The data has a sound duration of 10.63 seconds, with an initial frequency of 116.7Hz and a final value of 384.9Hz. The initial intensity value is 45.34dB, and the final value is 44.47 dB. The data has an average frequency of 104.8 Hz and an intensity of 72.62 dB.

In the data, there were many frequency increases six times from the middle to the end of the recording. The increased value starts from 243.1 Hz to 573.9 Hz. The first increase occurred in the phrase "-from Papua is close, from Aceh is also close." The second increase occurred in the phrase "-from the North is also close, from the South is also close," and the last increase occurred at the end of the sentence on the word "so" where this is to emphasize Mr. Jokowi's statement.

**Sentence 9: So it was chosen in the middle.**



**Figure 9.** Sentence: So it was chosen in the middle



Figure 9 above is an image of the results of the analysis of declarative sentences consisting of the sentence "So chosen in the middle." The data lasts 1.02 seconds with an initial frequency value of 96.26 Hz and an end of 74.12 Hz. The initial Intensity value is 89.29 dB, and the final is 77.1 dB. There were no significant irregularities or changes in the data other than two long pauses between the data. So, the data has stable average frequency and intensity values of 119.5 Hz and 74.25 dB.

#### Sentence 10: Already? Yes, thank you.

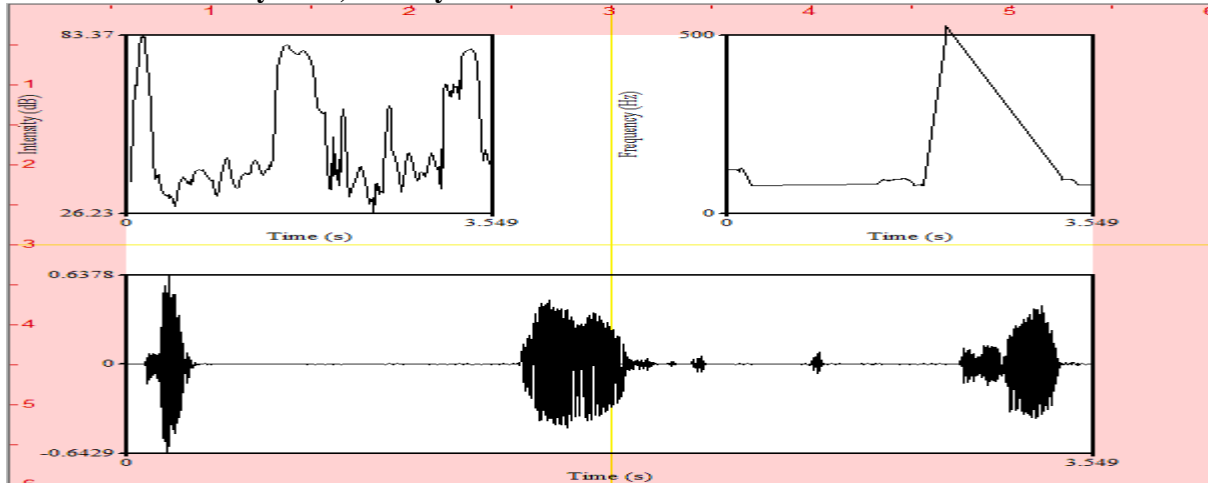


Figure 10. Sentence: Already? Yes, thank you.

The figure above is the result of analyzing the interrogative and declarative sentences of the sentence "Already? Yes, thank you." It can be seen that the last sentence is a question word followed by a closing phrase. The analysis results show that the data lasts 3.54 seconds with an average frequency value of 94.7 Hz and an average intensity value of 71.18 dB.

Based on the data, the frequency at the beginning is 123Hz and ends with 80.23Hz, but there is a frequency spike of 528.7Hz at the mention of "yes." The intensity has a reasonably stable graph with one spike in intensity occurring in the same place with a frequency of 80.39 dB with an intensity at the beginning of 67.45dB and ending with 46.64 dB.

#### 4. Conclusion

This study's results prove differences in acoustic values in the measurement results of the data "Jokowi's Answer Asked by Elementary School Children Why the Capital is Not in Papua" on the VIVA.CO.ID YouTube account. All measured acoustic features, namely frequency, duration, pressure, and intensity, were measured from the analysis results, and it can be concluded that the resulting tone contour shows two patterns, namely the rising pattern and the descending pattern. The rising pattern at the end of the utterance indicates that the utterance is unfinished, while the falling pattern at the end explains that the utterance's intonation is final.

In addition, there were many spikes in frequency and intensity in the data, where the spikes mainly occurred when Mr. Jokowi mentioned the words "Papua," "Aceh," "Sabang," "Marauke," "Capital," "North," "South," "Gitu," and "Yes." The spike shows emphasis when Mr. Jokowi mentions these words, and the words are used to describe Indonesia, so we can understand that Mr. Jokowi is very serious about the plan to move the capital for the good of Indonesia and the people themselves. In addition, the spikes in the words "So" and "Yes" show the affirmation of Mr. Jokowi's words against his statement.

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