

**THE ACOUSTIC CHARACTERISTICS OF STOP SOUNDS  
PRODUCED BY EAST JAVANESE STUDENTS OF ENGLISH  
STUDYING AT UNIVERSITY OF 17 AGUSTUS 1945 SURABAYA**

**A THESIS**

**Presented in a Partial Fulfillment of The Requirements for Completing  
The Sarjana Degree in Department of English Language and Literature**



**By :**

**OZZA SARVIYA SOETJAHYATI**

**1611403088**

**FAKULTAS SAstra  
UNIVERSITAS 17 AGUSTUS 1945 SURABAYA  
2018**

**THE ACOUSTIC CHARACTERISTICS OF STOP SOUNDS  
PRODUCED BY EAST JAVANESE STUDENTS OF ENGLISH  
STUDYING AT UNIVERSITY OF 17 AGUSTUS 1945 SURABAYA**

**A THESIS**

**Presented in a Partial Fulfillment of The Requirements for Completing  
The Sarjana Degree in Department of English Language and Literature**



**By :**

**OZZA SARVIYA SOETJAHYATI**

**1611403088**

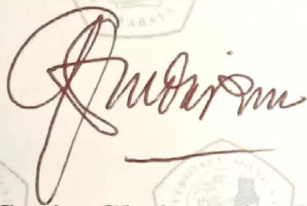
**FAKULTAS SASTRA  
UNIVERSITAS 17 AGUSTUS 1945 SURABAYA  
2018**

## APPROVAL SHEET I

This is to certify that the Sarjana Thesis of OZZA SARVIYA SOETJAHYATI entitled "THE ACOUSTIC CHARACTERISTICS OF STOP SOUNDS PRODUCED BY EAST JAVANESE STUDENTS OF ENGLISH STUDYING AT UNIVERSITY OF 17 AGUSTUS 1945 SURABAYA" has been approved by the thesis advisor for further approval by the Examining Board

Surabaya, July 16 2018

Advisor,



**Dra. Susie Chrismalia Garnida, M.Pd.**




## APPROVAL SHEET II

This is to certify that the Sarjana Thesis of OZZA SARVIYA SOETJAHYATI entitled "THE ACOUSTIC CHARACTERISTICS OF STOP SOUNDS PRODUCED BY EAST JAVANESE STUDENTS OF ENGLISH STUDYING AT UNIVERSITY OF 17 AGUSTUS 1945 SURABAYA" has been approved by the thesis Examining Committee as the requirement for Sarjana Degree in English Literature

Surabaya, 16 July 2018

Thesis Examining Committee



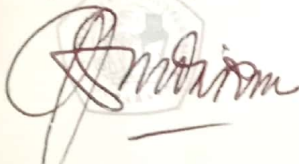
Ni Ketut Mirahayuni, Ph.D.

Chairperson



Bramantya Pradipta, S.Hum., M.Hum.

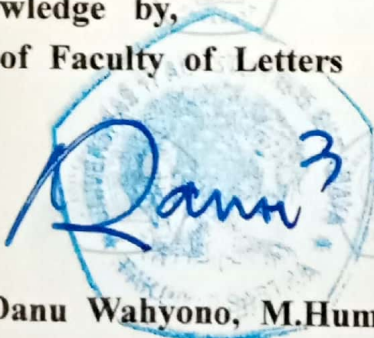
Secretary



Dra. Susie Chrismalia Garnida, M.Pd.

Member

Acknowledge by,  
Dean of Faculty of Letters



Drs. Danu Wahyono, M.Hum.

## SURAT PERNYATAAN

Yang bertanda tangan dibawah ini:

Nama : Ozza Sarviya Soetjahyati

NBI : 1611403088

Program Studi : Sastra Inggris

Dengan ini menyatakan bahwa skripsi saya dengan judul **“THE ACOUSTIC CHARACTERISTIC OF STOP SOUNDS PRODUCED BY EAST JAVANESE STUDENTS OF ENGLISH STUDYING AT UNIVERSITY OF 17 AGUSTUS 1945 SURABAYA”** belum pernah diajukan untuk memperoleh gelar sarjana atau gelar akademis lainnya di suatu perguruan tinggi, dan sepanjang pengetahuan saya juga tidak mengandung karya atau pendapat yang pernah ditulis atau diterbitkan oleh orang lain, kecuali yang secara tertulis diacu dan disebutkan dalam daftar pustaka.

Bilamana di kemudian hari ditemukan ketidak sesuaian dengan pernyataan ini, maka saya bersedia dituntut dan di proses sesuai dengan ketentuan yang berlaku.

Demikian pernyataan ini dibuat dengan sesungguhnya dan dengan sebenar-benarnya.

Surabaya, 8 Agustus 2018

METERAI  
TEMPEL

TGL 20  
DD942AFF218087147

6000  
ENAM RIBU RUPIAH

Ozza Sarviya Soetjahyati

**PERNYATAAN PERSETUJUAN  
PUBLIKASI KARYA ILMIAH UNTUK  
KEPENTINGAN AKADEMIS**

Yang bertanda tangan di bawah ini, saya mahasiswa:

Nama : Ozza Sarviya Soetjahyati

Nomor Mahasiswa : 1611403088

Demi pengembangan ilmu pengetahuan, saya memberikan kepada Badan Perpustakaan Untag Surabaya karya ilmiah saya yang berjudul:

THE ACOUSTIC CHARACTERISTICS OF STOP SOUNDS PRODUCED BY  
EAST JAVANESE STUDENTS OF ENGLISH STUDYING AT UNIVERSITY  
OF 17 AGUSTUS 1945 SURABAYA

berserta perangkat yang diperlukan (bila ada).

Dengan demikian saya memberikan kepada Badan Perpustakaan Untag Surabaya hak untuk menyimpan, mengalihkan dalam bentuk media lain, mengelolanya dalam bentuk pangkalan data, mendistribusikan secara terbatas, dan mempublikasikannya di internet atau media lain untuk kepentingan akademis tanpa perlu meminta izin dari saya maupun memberikan royalti kepada saya selama tetap mencantumkan nama saya sebagai penulis.

Demikian pernyataan ini yang saya buat dengan sebenarnya.

Dibuat di Surabaya

Pada tanggal: 23 Oktober 2018

Yang menyatakan



(Ozza Sarviya Soetjahyati)

## ABSTRACT

This thesis is a research on acoustic characteristics of stop sounds produce by East Javanese students of English studying at University of 17 Agustus 1945 Surabaya. The aim of this research is to analyse the duration between the release of the sound and the start of the voicing vowel. The analysis is based on the theory of acoustic phonetic of Peter Ladefoged (2003 & 2010) and Keith Johnson (2003). This study uses descriptive qualitative approach, focusing on the duration of stop sound and the start of voicing vowel. To do the analysis, the writer takes data by making a list of sentences containing stop bilabial English sounds [b] and [p], alveolar [d] and [t] and velar [g] and [k] in the initial position. The writer records the English stop sounds pronunciation by the subjects. The result of this research are: based on the stop sounds, the sequence of duration that have the longest duration is the sound [d], [g], [t], [p], [b], and [k]. Based on the data, each data has different duration on each sounds, data 1 (N.A) has median duration in sounds [g], [p], and [k], data 2 (A.G) has the longest duration in sounds [g], and [t], the shortest duration in sound [t], data 3 (A.N) has median duration in sound [d], data 4 (M.B) has the longest duration in sound [b], the median duration in sound [d] and the shortest duration in sounds [g], [k], and [b], data 5 (D.A) has the longest duration in sounds [d], [p], and [k], the median duration in sounds [b] and [k]. This study will provide important information and knowledge for the readers and students in department of English Language.

**Keywords:** Stop sound, acoustic phonetics, VOT

## ACKNOWLEDGEMENT

First of all, the writer would say Alhamdulillah for having completed my thesis. The writer would like to thank Allah SWT for His guidance, blessing and mercy so that the writer finally finished her thesis. Writing this thesis would not have been completed without some supports from many people. The writer wants to express her thanks to:

1. The writer's thesis advisor, Dra. Susie Chrismalian Garnida, M. Pd. who has guided and helped her in finishing this thesis.
2. To the chairperson, Ni Ketut Mirahayuni, MS., Ph.D and secretary of examiner Bramantya Pradipta, S. Hum., M. Hum. who has provided many suggestions for her thesis.
3. To a very kind person Pak Hero Patrianto who has helped the writer patiently how to research and analyse using Praat application.
4. All English Department lecturers for their guidance from the beginning until the end of the writer study time in University of 17 Agustus 1945
5. For all her subjects who have contribute their melodious voice and willingness to support her for data collection of this thesis.
6. The writer's parents, Papa Lukmansyah and Mama Ayu Hayati, for loving, affection, support, their prayer and who have financed her education until the end. For her late Papa Hary Soetjahyo and her beloved talkative Grandma Selviya who always encouraged her.
7. The writer's beloved friends Dita Latifa Nazdarani and Ananda Arief Stefani who always give the writer support in any situation. Also Bagus Bintang Permana who give the writer motivation.
8. Also do not forget to thank for all her 8<sup>th</sup> semester friends from English Department.



## TABLE OF CONTENTS

### TITLE PAGE

APPROVAL SHEET .....	i
APPROVAL SHEET .....	ii
ACKNOWLEDGEMENT .....	iv
ABSTRACT .....	v
I. INTRODUCTION .....	1
1.1 Background of the Study .....	1
1.2 Statement of the Study .....	3
1.3 Objective of the Study .....	3
1.4 Scope and Limitation .....	3
1.5 Significance of the Study .....	3
1.6 Organization of the Study .....	3
II. REVIEW OF RELATED LITERATURE .....	5
2.1 Previous Study .....	5
2.2 Acoustic Phonetics .....	6
2.3 Elements of Acoustic Phonetics .....	6
2.3.1 Speech Production .....	6
2.3.2 Wave .....	7
2.3.2.1 Periodic and Aperiodic Waves .....	8
2.3.3 Energy .....	9
2.3.3.1 White Noise and Hissing Sound .....	10
2.3.4 Stop .....	11
2.4 Acoustic Cues for Consonants .....	12
2.5 Duration .....	14
2.6 English Consonants Sounds .....	14
2.7 Organ of Speech .....	14

	2.8 Place of Articulation .....	15
	2.9 Manner of Articulation .....	16
III.	RESEARCH METHOD .....	17
	3.1 Research Method .....	17
	3.2 Instrument of the Study .....	17
	3.3 Source of the Data .....	17
	3.4 Data Collection Procedure .....	18
	3.5 Data Analysis Procedure .....	18
III.	IV. ANAYSIS .....	19
	4.1 Voiced Bilabial Stop [b] .....	19
	4.1.1. Longest Duration Data 4 (M.B) .....	20
	4.1.2. Median Duration Data 5 (D.A) .....	21
	4.1.3. Shortest Duration Data 5 (D.A) .....	22
	4.2 Voiced Alveolar Stop [d] .....	22
	4.2.1 Longest Duration Data 5 (D.A) .....	23
	4.2.2 Median Duration Data 4 (M.B) .....	24
	4.2.3 Shortest Duration Data 3 (A.N) .....	25
	4.3 Voiced Velar Stop [g] .....	25
	4.3.1 Longest Duration Data 2 (A.G) .....	26
	4.3.2 Median Duration Data 1 (N.A) .....	27
	4.3.3 Shortest Duration Data 4 (M.B) .....	28
	4.4 Voiceless Bilabial Stop [p] .....	28
	4.4.1 Longest Duration Data 5 (D.A) .....	29
	4.4.2 Median Duration Data 1 (N.A) .....	30
	4.4.3 Shortest Duration Data 1 (N.A) .....	31
	4.5 Voiceless Alveolar Stop [t] .....	31
	4.5.1 Longest Duration Data 2 (A.G) .....	32
	4.5.2 Medium Duration Data 5 (D.A) .....	33
	4.5.3 Shortest Duration Data 2 (A.G) .....	34
	4.6 Voiceless Velar Stop [k] .....	34
	4.6.1 Longest Duration Data 5 (D.A) .....	35
	4.6.2 Median Duration Data 1 (N.A) .....	36
	4.6.3 Shortest Duration Data 4 (M.B) .....	37
V.	CONCLUSION .....	38

BIBLIOGRAPHY .....	39
--------------------	----

APPENDIX