THE EFFECT OF USING PHONETIC ALPHABET FOR BAHASA INDONESIA *(PABI)* ON THE ENGLISH PRONOUNCIATION FOR EFL UNIVERSITY STUDENT

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MAULANA MALIK IBRAHIM STATE ISLAMIC UNIVERSITY MALANG

2021

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In partial fulfillment of the requirement
For the degree of Sarjana in English Education
Faculty of Education and Teacher Training
Maulana Malik Ibrahim State Islamic University Malang

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2021

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The Effect of Using Phonetic Alphabet for Bahasa Indonesia (PABI) on the English Pronunciation for EFL University Students

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Malang, June 23, 2021

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Assalamuaikum Wr. Wb.

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MOTTO

إِنَّ مَعَ الْعُسْرِ يُسْرًا

ACKNOWLEDGMENT

بِسْـــــــــــــمِ اللهِ الرَّحْمَنِ الرَّحِيْمِ

In the Name of Allah SWT, The Beneficent, The Merciful

Praise and gratitude are to Allah SWT who has given His blessings so that I could finish writing my *sarjana's* thesis. The accomplishment in writing of my thesis is not without the guidance of some experts in the field of this thesis. First of all, I would like to express my sincere gratitude toward my advisor, Ibu Farid Munfaati, M.Pd for her immeasurable patience and guidance during the process of completing my thesis. I realize that without her, I probably will be fighting this battle alone. Secondly, I would like to my deliver my gratitude to the faculty members of English Education Department: Dr. H. Langgeng Budianto, M.Pd, as the head of English Education Department, and the secretary--- Dr. Alam Aji Putera, M,Pd, who has been very supportive during the completion on writing my thesis. I also would like to say thank you to my supervisor lecturer, Ibu Dr. Hj. Like Raskova Octaberlina, M.Ed, who has been very helpful in many ways during my study in this university.

Furthermore, I would like to grant the biggest thankfulness to my family for their sincere pray, positive motivation, and endless support. To my parents, thank you very much for slipping my name in your every prayer and for putting a lot of faith in me so far. Especially to my Mom, thank you for your great motivation to see me keep learning at this university. To my older sisters; Mba Umi and Mba Fatul, thank you for lending your ears to listen to my problem during this process and for your never ending support, both financially and

mentally. I also would like to present this achievement to my beloved nephew; Belva, Azzeil, Neilza' and Arsy for lifting the burden in me every time I see you. Your cheerful acts have lifted the burden up on my shoulders. I wish for your happiness forever.

In addition, I would like to thank my dearest friends; Kenny, Asna, Tamara, who have been actively supporting me during the process of completing my thesis and being a part of my colorful college life. I also would like to thank my friends who make me feel home; Mba Atin, Mba Yasmin and Della. They have been willing to accompany me during the ups and downs and make me feel comfortable around. You guys mean a lot to me. Thus, I also thank to Ustadzah Luki who has helped me a lot in communicating with my thesis advisor and sharing her thesis writing experiences in completing my own thesis.

Last but not least, I would like to give my deepest gratitude to the ones who helped me release my fatigue and bring me so much happiness, Liziqi. She has been my support system for more than 2 years. Although, we have never met before thank you very much for existing in this world and giving me meaning to live. Thank you for triggering a competitive side in me for years to keep achieving my dreams. Thank you so much for being the role model I will always aspire to be.

The researcher

ARABIC TRANSLITERATION

The writing of this thesis used the transliteration guideline based on a decree that published by the Minister of Religion of the Republic of Indonesia and the Minister of Education and Culture of the Republic of Indonesia No. 158 of 1987 and No. 0543b/U/1987 which can be described as follows:

Letters

أ	=	A	ز	=	Z	ق	=	q
ب	=	B	س	=	S	ك	=	k
ت	=	T	ش	=	Sy	ل	=	l
ث	=	Ts	ص	=	Sh	م	=	M
ج	=	J	ض	=	Dl	ن	=	N
ح	=	H	ط	=	Th	و	=	W
خ	=	Kh	ظ	=	Zh	ه	=	H
د	=	D	ع	=	‘	ء	=	,
ذ	=	Dz	غ	=	Gh	ي	=	Y
ر	=	R	ف	=	F			

A. Long Vowel

Vowel (a) long = â

Vowel (i) long = î

Vowel (u) long = û

B. Diphthong

أوْ= aw

أيْ= ay

أوْ= û

إيْ= î

TABLE OF CONTENT

APPROVAL SHEET ii

LEGITIMATION SHEET iii

THE ATTENTIVE COUNSELOR' NOTE iv

STATEMENT OF ORIGINALITY v

APPROVAL vi

ACKNOWLEDGMENT viii

ARABIC TRANSLITERATION x

LIST OF TABLES xiv

LIST OF APPENDICES xv

ABSTRACT xvi

ABSTRAK xvii

CHAPTER I 1

1.1 Background of the Study 1

1.2 Research Question 3

1.3 Research Objective 3

1.4 Significance of the Study 3

1.5 Limitation of the Study 4

1.6 Hypothesis 4

1.7 Definition of Key Terms 5

CHAPTER II 6

2.1 Pronunciation 6

2.1.1 The Elements of Pronunciation 7

2.1.2 Pronunciation Evaluation 8

2.2 Phonology and Phonetics 8
2.2.1 Sounds and Letters 10
2.2.2 Contrastive Analysis Theory 10
2.3 Phonetic Alphabet for Bahasa Indonesia (PABI) 11
2.3.1 Practical Use of PABI 12
CHAPTER III 14
3.1 Research Design 14
3.2 Subject of the Research 15
3.3 Research Instrument 16
3.3.1 Validity and Reliability Instrument 16
b. Reliability 18
3.4 Data Collection 19
3.5 Data Analysis 21
CHAPTER IV 24
4.1 Findings 24
4.1.1 The Result of Students' Pre-Test 24
4.1.2 The Result of Students' Post-Test 25
4.1.3 Normality Test on the Pretest and Posttest 26
4.1.4 Homogeneity Test of the Pre-test and Post-test 28
4.1.5 Significance Test 29
4.1.6 The Effect Test of Using the PABI on the Students' Pronunciation 30
4.2 Discussion 33
CHAPTER V 37
5.1 Conclusions 37
5.2 Suggestions 38

REFERENCES.....40

APPENDICES.....42

Appendix XV.....61

VALIDATION SHEET FOR INSTRUMENTS.....61

Notes from the validator:.....61

LIST OF TABLES

Tabel 2.1 The PABI transcription of Monosyllabic word 11

Tabel 2.2 The PABI transcription of Multisyllabic word 12

Tabel 2.3 The PABI transcription of Cluster sounds 12

Tabel 3.1 Validity of Instrument 17

Tabel 3.2 Reliability Test 19

Tabel 3.3 Cronbach's Alpha Interval 29

Tabel 3.4 Rubric of Scoring 21

Tabel 3.5. Effect Size Scale 23

Tabel 3.6 N-Gain Criteria 23

Tabel 4.1 The Result of Pre-test 24

Tabel 4.2 The Result of Post-test 26

Tabel 4.3 Normality Test of Pre-test 27

Tabel 4.4 Normality Test of Post-test 28

Tabel 4.5 Homogeneity Test 29

Tabel 4.6 The Result of Significance Test (T-test) 30

LIST OF APPENDICES

Appendix I: Pre-test Sheet 43

Appendix II: Post-test Sheet 44

Appendix III: Treatment 1 45

Appendix IV: Treatment 2 46

Appendix V: Treatment 3..... 47

Appendix VI: Treatment 4 49

Appendix VII: The Result of Pre-test and Post-test 50

Appendix VIII: Normality Test of Pre-test 52

Appendix IX: Normality Test of Post-test 54

Appendix X: Homogeneity Test 56

Appendix XI: Significance Test (T-test)..... 57

Appendix XII: Effect Size Test..... 59

Appendix XIII: N-Gain Test 60

Appendix XV: Bukti Konsultasi 65

Appendix XVI: Instrument Validation..... 67

ABSTRACT

Nurhalimah, Siti. 2021. The Effect of Using Phonetic Alphabet for Bahasa Indonesia (PABI) on the English Pronunciation for EFL University Students. Thesis, Department of English Education, Faculty of Education and Teacher Training, Maulana Malik Ibrahim State Islamic Univeristy Malang. Advisor: Farid Munfaati, M.Pd.

Keywords: Effect, PABI, Pronunciation

In line with the Indonesian curriculum 2013 which encourage a self-learning model, the PABI is presented as a practical guidance for the students. Interest thing when the PABI provides the way English words should be pronounced that written based on Indonesian phonetic system. The *PABI* is expected to assist EFL learners in Indonesia to be able to get the correct pronunciation in English.

The purpose of this study is to investigate the effect of using the PABI on English pronunciation for EFL university students. In the present study, the researcher used quantitative methodology with pre-experimental design. The data was collected from pre-test and post-test provided by 40 students of English Education Department at UIN Maulana Malik Ibrahim Malang, resulting a total of 80 recordings found. To determine the effect of the PABI, the data was analyzed by using T-test, Effect size test and N-gain test.

The findings showed that the value of T-test is 18,25 > 2,002. It can be concluded that the PABI has a significant effect on the students' pronunciation. Thus, the result of Effect size is 1,71, means that the PABI can be categorized to give a strong effect. It means that the use of the PABI has a big impact on the students' pronunciation. Therefore, the result of N-gain testing is 0,58. This result is compared with the Hage Scale that provides the criteria for N-gain testing. The result indicates a Medium criteria with the range of scale is between $0{,}3 \leq (g) < 0{,}7$. For the medium criteria, the researcher assumes that the PABI can be used to improve students' pronunciation.

ABSTRAK

Nurhalimah, Siti. 2021. *Efek Penggunaan Phonetic Alphabet for Bahasa Indonesia (PABI) terhadap penguasaan Pronunciation Bahasa Inggris pada Mahasiswa Perguruan Tinggi*. Skripsi, Jurusan Tadris Bahasa Inggris, Fakultas Ilmu Tarbiyah dan Keguruan, Universitas Islam Negeri Maulana Malik Ibrahim Malang. Pembimbing: Farid Munfaati, M.Pd.

Keywords*:* Efek, PABI, Pronunciation

Sejalan dengan kurikulum 2013 di Indonesia yang mendorong model belajar mandiri, PABI hadir sebagai sarana pendamping belajar yang mudah digunakan oleh siswa. Hal yang menarik adalah ketika PABI menyediakan cara mengucapkan sebuah kata dalam bahasa Inggris yang ditulis dengan acuan fonetik dalam Bahasa Indonesia. PABI diharapkan dapat membantu pelajar bahasa Inggris di Indonesia agar dapat mengucapkan pronunciation secara tepat.

Tujuan dari penelitian ini adalah untuk menginvestigasi efek penggunaan PABI terhadap pronunciation Bahasa Inggris pada mahasiswa di perguruan tinggi. Di dalam penelitian ini, peneliti menggunakan pendekatan kuantitatif dengan model pre-experimental. Data yang telah dikumpulkan diambil dari pre-test dan post-test dari 40 mahasiswa Tadris Bahasa Inggris di UIN Maulana Malik Ibrahim Malang. Didapatkan hasil sejumlah 80 rekaman yang berasal dari partisipan tersebut diatas. Untuk menentukan efek dari penggunaan PABI, data yang terkumpul dianalisis menggunakan uji T-test, Uji Effect size dan Uji N-Gain.

Hasil penelitian menunjukan bahwa pada uji T-test menunjukan angka 18,25 > 2,002. Dari hasil tersebut dapat kita disimpulkan bahwa penggunaan PABI memberikan efek yang signifikan terhadap pronunciation mahasiswa. Kemudian, hasil pada uji Effect size menunjukan angka 1,71 yang berarti bahwa efek dari penggunaan PABI dapat dikategorikan memberikan pengaruh yang kuat. Hal ini akan berdampak besar pada perubahan pronunciation siswa. Adapun hasil dari uji N-gain menunjukan angka 0,58. Hasil ini dibandingkan dengan skala Hage yang mencantumkan kriteria hasil dari uji N sendiri. Hasil perbandingan mengindikasikan tingkat menengah dari keefektifan penggunaan PABI dengan skala diantara $0{,}3 \leq (g) < 0{,}7$. Dari hasil skala menengah tersebut dapat dibuktikan bahwa PABI dapat digunakan untuk meningkatkan kemampuan pronunciation mahasiswa di perguruan tinggi.

مستخلص البحث

نور حليمة، سيتي. (2021). تأثير استخدام الأبجدية الصوتية للغة الإندونيسية (PABI) على إتقان نطق اللغة الإنجليزية لدى طلاب التعليم العالي. بحث جامعي. قسم تدريس اللغة الإنجليزية، كلية التربية وتدريب المعلمين، جامعة الإسلامية الحكومية مولانا مالك إبراهيم مالانج.

مشرفة : فريد المنفاتي، الماجستير في التربية

الكلمة الأساسية: الأبجدية الصوتية للغة الإندونيسية (PABI)، إتقان نطق، تأثير

تماشيًا مع منهج 2013 في إندونيسيا الذي يشجع نماذج التعلم المستقلة، فإن PABI موجودة كأداة مصاحبة للتعلم سهلة الاستخدام من قبل الطلاب. الشيء المثير للاهتمام هو عندما يوفر PABI طريقة لنطق كلمة باللغة الإنجليزية مكتوبة بمراجع صوتية باللغة الإندونيسية. من المتوقع أن يكون PABI قادرًا على مساعدة طلاب اللغة الإنجليزية في إندونيسيا على نطق النطق بشكل صحيح.

الغرض من هذه الدراسة هو معرفة تأثير استخدام PABI على نطق اللغة الإنجليزية لدى طلاب العالى أو طلاب الجامعات. في هذه الدراسة، تستخدم الباحثة المنهج الكمي بنموذج ما قبل التجربة. تم أخذ البيانات التي تم جمعها من الاختبار القبلي والبعدي لـ 40 طالبًا إنجليزيًا في جامعة الإسلامية الحكومية مولانا مالك إبراهيم مالانج. الحصول على نتائج عدد 80 تسجيلاً من المشاركين المذكورين أعلاه. لتحديد تأثير استخدام PABI، تم تحليل البيانات التي تم جمعها باستخدام اختبار T أو T-test واختبار حجم التأثير واختبار N-Gain.

أظهر الرقم 18.25> 2.002. من هذه النتائج، يمكننا أن نستنتج أن استخدام T-test أو Tأظهرت النتائج أن اختبار له تأثير كبير على نطق الطالب. بعد ذلك، تظهر نتائج اختبار حجم التأثير الرقم 1.71 مما يعني أنه يمكن تصنيف تأثير PABI N-Gain على أنه تأثير قوي. سيكون لهذا تأثير كبير على التغييرات في نطق الطلاب. تظهر نتائج اختبار PABIاستخدام نفسه. تشير نتائج N-Gain الذي تضمن معايير نتائج اختبار Hageكسب الرقم 0.58. تمت مقارنة هذه النتائج بمقياس بمقياس يتراوح بين 0.3 (جم) <0.7. من نتائج المقياس المتوسط، PABIالمقارنة إلى مستوى متوسط من الفعالية في استخدام لتحسين مهارات النطق لدى الطلاب في التعليم العالي.PABIيمكن إثبات أنه يمكن استخدام

CHAPTER I

INTRODUCTION

This chapter presents some important points dealing with the study of the research. It presents background of the study, research question, research objectives', significance of the study, limitation, hypothesis and definition of key terms.

1.1 Background of the Study

In the developing speaking skill, pronunciation is the most important elements to produce English word correctly. Based on Silalahi (2016) the way Indonesian EFL learners' pronounced English word is affected by the speech sound of *Bahasa Indonesia* as their native language. Nurul Ulfayanti and Maria Olga (2018), demonstrated that through on the contrastive analysis between Indonesian and English phonological system have some similarities and divergences in term of phonetic features. The divergences between both of the languages have been putting the learners of Bahasa Indonesia as the L1 in much difficult in learning English as the L2. Especially in the term of learning sound system since Bahasa Indonesia has its own sound system that is different from English. Particularly, it is supported by the result of a comparative analysis by Andi Pallawa (2013) that showed the group of English sounds that do not exist in Bahasa Indonesia sound system, such as: / æ, ɜ, ʌ, θ, v, ʃ/. Due to the differences, it might lead misunderstanding among participants of communication. For

instance, the word *ship* /sip/ will pronounce ‘ship’ rather than /ʃɪp/ because there is no /ʃ/ in Indonesian phonetic system.

Since the position of English as the most important subject in the schooling system in Indonesia, Swarna and Kumar (2019) pointed out that ESL teachers have to provide an effective approach and technique in term to reduce the barrier of students’ pronunciation. Hamied (2012) that also states that teaching of pronunciation call for practical innovation could be provided to support students’ self-learning and pronunciation practice on their own. In line with the challenge above, Rahman, (2015) offers a similar practical guidance may be provided in Bahasa Indonesia, either in a separate guide book or included in the English Pronunciation Dictionary for Bahasa Indonesia (EPDBI) for English learners in Indonesia. Supporting the research above, Yeni and Chowdhury (2020) in their article recommended PABI to be considered as an approach or instrument in teaching and learning pronunciation for Indonesian EFL learner. The concept of developing the PABI had adopted from the research by Domokos, Buza and Toderan in 2015 whose developed Romanian phonetic transcription dictionary. Yeni and Chowdhury (2020) also offered several strategies to use PABI. Using vocal instrument, audio/video clip and digital application are recommended by them.

Regarding to the above, the researcher figured out that there is a high consideration to use PABI especially for EFL university students who will be given a self-learning guidance to enhance their pronunciation. In order to prove

the chance of utilizing PABI as an approach in teaching and learning pronunciation, the researcher determined this research tends to measure the effect of utilizing PABI toward Indonesian EFL learners' on their English pronunciation in the university level.

1.2 Research Question

Based on the background above, the research question was formulated as "Does the use of the PABI have a significant effect on the students pronunciation?

1.3 Research Objective

In line with the research question stated above, the objective of the study is to investigate the effect of using PABI on English pronunciation for EFL university students.

1.4 Significance of the Study

In line with the objective of the study, generally this study provides an easy and practical approach in teaching and learning English for Indonesian. Theoretically, this study contributes to the part of linguistics, especially in comparing phonetic alphabet between two languages based on their speech production. Practically, this study provides example of instrument in teaching pronunciation for Indonesian EFL learners' that may possibly help teachers to improve their classroom. Thus, this study also provides a lot of examples supporting on how to pronounce English word correctly to improve students' pronunciation ability within speaking in their daily use. The researcher believed

that the significances above will be reached by the assumption of there is a significant effect of the use of PABI toward English pronunciation for EFL university students.

1.5 Limitation of the Study

This research focuses on the application of the PABI towards EFL university students to improve their English pronunciation. The subjects of the study were taken from 40 students of English education department in the eight semesters at UIN Maulana Malik Ibrahim Malang. The reason why the researcher chosen the subject as mentioned above is they already passed phonology and pronunciation courses. The treatments is given to the participant through drilling model by using audio recorder based on the mono-syllabic types of PABI that provided in the passages. The treatment is given for 4 times in 2 weeks. The measurement is constructed from 80 recordings of extracted from their audio massages. Each participant contributed in providing two (2) recordings in the pre-test and post-test as the data of this research. The identification of the effectiveness are measured and identified by using normalized gain calculation / N-test also Effect size test to provide the result precisely.

1.6 Hypothesis

As tentative answer to the research question, the research hypothesis (H_0) is the PABI does not have significant effect on the pronunciation of EFL university students. If the researcher can disproves the null hypothesis, she

discovers an (H1) is the accuracy of pronunciation can be achieved significantly by EFL university students after using the PABI.

1.7 Definition of Key Terms

The term employed in this research need to be explained to avoid misinterpretation. The definitions are follows:

- **Effect** is a result of something or the ability to bring about a result, especially it is caused by some previous phenomenon.
- **English Pronunciation** is a manner or rule in which someone utters English word correctly based on the human speech production.
- **PABI** is a practical guidance in term of pronouncing English provided to Indonesian EFL learner. It is systematically arranged based on the Indonesian phonological rules to help the learner producing an accurate pronunciation.

CHAPTER II

REVIEW OF RELATED LITERATURES

This chapter comprises some related and relevant theories that are applied in this study.

2.1 Pronunciation

Based on the Oxford Dictionary, pronunciation is the way in which a language or a particular word or sound spoken. It is also can be defined as the manner in which someone utters a word using phonetic symbol. Further definition taken from Dewi (2015) states pronunciation is the act of produce the true sounds and accents of letters in words and quantity of syllables.

Fraenkel (1984) has defined two steps how to learn pronunciation in a language:

a. List stage

   This stage is a foundation to learn how to recognize and differentiate the pattern and sound of the word by listening to the language.

b. Speaking stage

   In this stage, as a result by the human in order to produce or express words based on what they have learned before.

2.1.1 The Elements of Pronunciation

The essence of this theory explains how various elements of pronunciation are intended as a consideration to arrange the part of instrument evaluations in this research. The elements of pronunciation are the part of language that formed in the speech sound to produce words. It can be divided into two types, segmental and suprasegmental (Ramelan, 1985). Those are will be explained below:

a. Segmental Element

Segmental element is refers to the sound unit which is arranged the human speech production. Segmental element classified into vowel and consonant.

b. Suprasegmental Element

Supra segmental element can be defined as the style used in the producing words. Due to its position, the supra segmental element tend to present together with native language sound system in the producing sound. Wahyukti (2008) has pointed out three kinds of supra segmental element, as follow:

- Intonation

  Intonation is the movement between high and low pitch in the voice production (Ramelan, 1985). It is used to shows a word of different meaning, including expression and emotion.

- Stress

  Stress is how a specific syllable should be emphasized in a word when we pronouncing it. Stress is also being an important element of identity in English word (Kenworthy, 2012).

- Syllable

  Syllable is unit of spoken language consisting of a single sound continuously without any interruption of other word. It also can be referred to as the beats of spoken word.

2.1.2 Pronunciation Evaluation

Measuring student pronunciation can be conducted by using two kinds of testing. Lado (1961: 38) defined the testing are recognition and production test.

- Recognition test

  This test is emphasizing on the students' ability to analyze the pattern on the pronouncing words. It tends to relate with students listening skill when they receive the sound of the word.

- Production test

  In this test, the students are required to practice how pronouncing the words.

In line with this research, production test will be used by the researcher because it provides an appropriate strategy as a result to showed students' pronunciation ability.

2.2 Phonology and Phonetics

In order to develop our pronunciation, phonology and phonetic are the most important elements for successful oral communication in English (Jenskin, 2005). As one of the branch of linguistics, phonology is different with phonetic in that focus on the study. According to Ladefoged (1982) in the Phonology we learn

about the description of the system and pattern of the sound in a language. In this case, phonology also discussed the arrangement of sounds to form a syllable or a word to be spoken.

Meanwhile, based on Dardjowidjoyo (2009), phonetics is a science that deals with the sound of human language. Phonetics is focusing on the mechanism of sound dealing with the formation, production and perception of word (MacMahoon, 2006). Those characteristic above normally we know as three sub-branch of phonetics, namely acoustic phonetics, auditory phonetics and articulatory phonetics.

To get a better understanding, Dardjowidjoyo (2009) has pointed out the definition of sub-branch of phonetics following below:

a. Acoustic phonetics deals with the physical characteristic in the form of sound waves from the production of sounds.
b. Auditory phonetics deals with how sounds are perceive by our brain.
c. Articulatory phonetics focuses on how the sounds are produced. It deals with the speech mechanism that is involved in sound production.

In addition, articulatory phonetics also related with spelling and sounds of the word producing by human speech sound. It means, dealing with how to produce sounds based on the written text in term of the correct pronunciation. Related to this research which is focusing on the pronouncing English word the

writer concerns with the articulatory phonetics, especially to the English sounds are released by EFL learners in Indonesia.

2.2.1 Sounds and Letters

A sound is the noise that a human produces when communicating with another (Dardjowidjoyo, 2009). A sound may be represented by letters but both of them are not synonymous others. In addition, English pronunciation is different with other language. In the pronouncing English word there is no one to one correlation between sounds and letters. One crucial thing is English letters have more than one pronunciation. In certain cases, it can be showed in the letter /c/ that has two different sounds depending on the words below:

/s/ (city), also can be pronounced as /k/ in the word (cat).

On the contrary, Bahasa Indonesia pronunciation showed a direct relationship between spelling (means the letter) and how to produce sound of the word (Abrar, 2020). We can hear or look at written an Indonesian word and know how to spell and pronounce it. Regarding to this theory, the researcher realized that there is a missing space in both of language that may lead mispronounced by EFL learners in Indonesia.

2.2.2 Contrastive Analysis Theory

Contrastive analysis as one of the branches in linguistic is a system to compare of two languages with the aim to describe their similarities and differences (Johansson, 2008). In term of using contrastive analysis for learning

process, Dardjowidjoyo (2009) states that it helps us to show the problem that occurs and a learner may have in learning foreign language. Contrastive analysis researcher has pointed out the problems in learning foreign language into for groups:

a. There is a sound in language A does not occur in language B. The effect is appearing a problem to create the sound that faced by the speakers of B language.
b. There is a different of distributing a sound between language A and B.
c. There is a sound found in A and B language but produced differently in their speech sound.
d. There is a combination between two or more sounds in language A but not in language B.

2.3 Phonetic Alphabet for Bahasa Indonesia (PABI)

Phonetic Alphabet for Bahasa Indonesia is a practical guidance to learn pronouncing English word for Indonesian speakers' (Karlina, 2019). Utilizing *PABI* is similar to Bahasa Indonesia for transcribing pronunciation of English words. As quoted from her research paper, *PABI* is expected to assist EFL learners in Indonesia to be able to get the correct pronunciation in English. Rahman and Chowdhury (2019) point out the design of PABI based on the different types of English words

Table 2.1 PABI transcription of Mono-syllabic words

Word	IPA	PABI *(RP/GA)*
Like	/lɒɪk/	/laik/
Sheep	/ʃi:p/	/{sy}ip/

Table 2.2 The PABI transcription of Multi-syllabic words

Word	*IPA*	PABI
Waiting	/weɪtɪŋ/	/wei ti {ng}/

Table 2.3 The PABI transcription of Cluster sounds

Word	IPA	PABI
Afflict	/ə'flɪkt/	/ ə{fl} i {kt}

In line to this research, the suitable type of PABI here is transcription for mono-syllabic English words because this research is dealing with mini dictionary upon students' speaking material in passages.

2.3.1 Practical Use of PABI

Karlina, Rahman and Chowdhury (2020) offers in their research paper, *Designing Phonetic Alphabet for Bahasa Indonesia (PABI) for the teaching of intelligible English pronunciation in Indonesia,* that there are several addition strategies and tools in order to apply PABI effectively. They proposed the design of PABI in line with teaching and learning pronunciation for Indonesian EFL students, as follows:

a. Vocal (Musical) Instrument

This is a practical strategy to provide PABI as a self-training within music instrument for learners to get familiar with their vocal. The learners will be made familiar by the following basic human vocal system characteristic.

b. Audio/Video Clip

This strategy is aimed to include audio or video clip into PABI guide book. It will help the learners to conduct a self-learning in order to integrate the concept of English and Indonesia phonemes. In order to improve their pronunciation, the learners have to apply the strategy repeatedly, either using a recorder then practicing in front of a mirror or with a conversational partner.

c. Digital Application

Due to the technological era, developing a digital application can be an alternative way to apply the PABI that run on the devices like smartphone and tablet. The representative of this strategy can be showed like an electronic dictionary.

In line with the treatment that will be given to the subjects, the researcher determined to apply the second strategy through voice note including the voice recording of the PABI word list that provide in the passages.

CHAPTER III

RESEARCH METHOD

This chapter highlights the research methods applied in this research. It covers the research design, subject of the research, research instruments, data collection, also data analysis. Each issue is addressed in the following parts respectively.

3.1 Research Design

This study is designed to have quantitative methodology with pre-experimental design in order to measure the effect and detailed analysis of the study. Quantitative methodology is known as a process to collect the data statistically using the structural instruments through polls, survey or by manipulating pre-statistical data (Bacon, 2015). In short, quantitative methodology focuses on gathering numerical data and generalizing it across groups of people to explain particular phenomenon (Babbie, 2010). The reason why the researcher used this methodology with pre-experimental design is because the researcher aimed to establish as certain as possible the effect of using *Phonetic Alphabet for Bahasa Indonesia* and also to find the problem caused by two different systems of languages by using appropriate statistically test.

To find the data, the researcher needed to use appropriate *one-group pretest-posttest design.* Jacobs and Sorensen (2010) in their book of *Introduction*

to Research in Education, provides an illustration of one-group pretest-posttest design below;

Protest	**Independent**	**Posttest**
T_1	X	T_2

Regarding to illustration above, this design involves three (3) steps: (1) testing a pretest to measure the dependent variable; (2) applying the treatment to subject; (3) testing a posttest to measure the effect after the treatment to the dependent variable. In this study, the researcher chose this design in order to provide an appropriate result because it illustrates quite well the way external variables may operate to expose the internal validity of design.

3.2 Subject of the Research

The population of the research is EFL students at UIN Maulana Malik Ibrahim Malang who have been learning English as the L2. The representation of EFL university learners are chosen from English education department. Numbers of subject determined by the researcher are 40 students of English education department at the same class. They were especially the students who actively in the last year which mean eight semesters. The selection of the students whom finished phonology and pronunciation courses is considered able to convince the result of the measurement. It can be indicated that the students have been learned and have more experience about English pronunciation in depth. Due to the limited numbers of the subject on the population above, the technique that is used

by the researcher to get the sample was non-probability with saturation sampling. It means all of the subjects in the eight semester of English education department are selected to become the sample in order to provide the result accurately.

3.3 Research Instrument

In order to accomplish the purpose of this research, there are two instruments used for this study: main instrument and supplementary instrument. The main instrument is post-test and pre-test. The instruments are provided in a passage then the participants have to read and record their voice. This instrument is appropriate to give evidences as a result of student improvement precisely. In addition, the supplementary instrument of this research were the laptop and internet connection to access, collect and analyze the data and the feature of voice note in Whatsapp application which became the source as the result of the test.

3.3.1 Validity and Reliability Instrument

a. Validity

Quantitative research is always dealing with measurement. The important consideration in collecting and measuring the data is the instrument's validity. As defined by the American Educational Research Association in the *Standards for Educational Research Association* (1999), Validity is the degree to which evidence and theory support the interpretations of test score entailed by proposed uses of test. *The Standards for Educational and Phonological Testing* has categorized validation into three types: Evidence Based on Test Content, Evidence Based on Relation to a Criterion and Construct-related Evidence.

In order to measure the validity of the instrument, the researcher used *the validity content*. It assumed that the content of the instrument provided the data accurately to prove the hypothesis. Before applying to the sample, 21 participants non-sample in any other university are selected to test the question in the instrument through Product Moment correlation technique by using SPSS statistic 25. The aim of this test was to determine the validity of the instrument. The result of r product that represents the instruments' question should equal or more higher than r table at significant level of 5 %. (Sugiyono, 2012). As mentioned in the criteria, the result of the test is illustrated in a table below:

Table 3.1 Validity of the Instrument

Question	R Table	R Product	Validity
1	0,433	0,58876	Valid
2	0,433	0,661006	Valid
3	0,433	0,666108	Valid
4	0,433	0,027565	Invalid
5	0,433	0,664227	Valid
6	0,433	0,452808	Valid
7	0,433	0,225303	Invalid
8	0,433	0,472879	Valid
9	0,433	0,291	Invalid
10	0,433	0,47035	Valid
11	0,433	0,774071	Valid
12	0,433	0,296977	Invalid
13	0,433	0,456746	Valid
14	0,433	0,466561	Valid

The researcher has designed both of the pre-test and post-test with a same passage. It is consisted of 14 questions. There are 10 questions classified as valid because the score of *r* product is higher than *r* table. In the contrary, there are 4 questions classified as invalid because the score of *r* product is lower than *r* table. To avoid bias in this research, the researcher determined to cast out the invalid questions. It can be concluded that the instruments of this research are consisted of 10 valid questions.

b. Reliability

In term of research, it cannot be denied that during measurement is always involves some error. This phenomenon is mostly caused by unreliable instrument. This is why reliability becomes the fundamental part in measurement. Azwar (2010) has defined reliability is the consistency of the instrument that showed the meaning of accuracy in the measurement. In short, reliability is also concerned with the effect of error on the scoring within the instrument. In order to find the accuracy data in this research, the reliability test is used Alpha Cronbach's formula and calculated in the SPSS version 25 for windows. The result is illustrated by the table below:

Table 3.2 Reliability

Reliability Statistics

Cronbach's Alpha	N of Items
,741	14

The result shows the reliability of cronbach's alpha is 0,741. The value of the test can be interpreted based on the criteria as follow:

Table 3.3 Cronbach's Alpha Interval

Interval	Criteria
0,00 – 0,20	Less Reliable
0,21 – 0,40	Rather Reliable
0,41 – 0,60	Quite Reliable
0,61 - 0,80	Reliable
0,81 – 1,00	Very Reliable

According the criteria above, it can be conclude that the instrument of this research is reliable because 0,61 < 0,741 < 0,80.

3.4 Data Collection

Data collection technique allows the researcher to systematically collect information about the object of the study. This study used pre-test and post-test as the instruments to collect the data for measuring the effect of students' pronunciation. The data here refers to the participants' voice recording based on the passage that provided by the researcher. The steps to collect the information are described below:

a. Pre-test

In order to classify the ability of pronunciation by the participants, the researcher had to create pre-test first. The test is consisted of a passage including 10 items of mono-syllabic English word that the researcher provided in paper sheet. The participants are asked to read the passage and record their voice through the feature of voice note in Whatsapp application.

b. Treatment

After giving the pre-test, the researcher given the treatment to a group in the same class by using a list of English word based on the PABI (*Phonetic Alphabet for Bahasa Indonesia*) transcription in a paper sheet. The word transcription is focusing on the mono-syllabic type within the passages. The lists of the word are provided in a table. The table is consisted by two columns including the phonetics structure of each word. The words are transcribed into both of IPA (*International Phonetic Alphabet*) and PABI. The participants are given the treatment in 4 times in 2 weeks. Drilling model is applied to deliver the voice recording of the researcher based on the PABI word list through Whatsapp application. As the characteristic of PABI to provide an independent self-learning, the participants are required to identify individually the correct pronunciation of the word based on the list of the word.

c. Post-test

To complete the data collection, the post-test is given to the participants of this research. The aim of the post-test is to know whether the use of PABI to the EFL university learners giving an effect toward their pronunciation or not. The post-test is consisted of a passage. The researcher only focusing on the mono-syllabic word provided in the treatment. Thus, the researcher identified and analyzed of 10 words in the post-test passages in order to compare the result to know the effect significantly.

3.5 Data Analysis

The data is collected through post-test and pre-test by using inferential statistic. Scoring criteria is also used to measure the effect of utilizing PABI *(Phonetic Alphabet for Bahasa Indonesia)* toward EFL learners' pronunciation. The steps on this research involved the following formulas:

a. Scoring pre-test and post-test:

$$\text{Score} = \frac{\sum Students' correct\ answer}{\sum maximum\ score}\ x\ 100$$

Table 3.4 Rubric of Scoring:

Aspect	1	2	3
Vowel Sound	Regularly fails to pronounce vowel	Only a few of error to pronounce vowel	Consistently pronounce vowel appropriately
Consonant Sound	Regularly fails to pronounce Consonant	Only a few of error to pronounce Consonant	Consistently pronounce Consonant appropriately
Word Accent	Rarely places the stress in the correct syllable	Occasionally places the stress in the correct syllable	Consistently places the stress in the correct syllable
Intonation	Inaccuracies word ending intonation	Fairly accurate word ending intonation	Accurate word ending Intonation

(Brown, 2014)

b. To calculate the mean score of students' pre-test and post-test, the researcher used this formula:

$$\bar{x} = \frac{\sum x}{N}$$

Notes:

$\bar{x}$ = mean score

$\sum x$ = sum of all scores

N = total number of subject

(Gay, 2006)

c.Proofing the hypothesis by using T-test through Microsoft excel 2010

d. Determining the size of effect by using Effect size formula:

$$\text{Effect size} = \frac{(post\text{-}test\ average\ score) - (pre\text{-}test\ average\ score)}{Standard\ Deviation}$$

The result of effect size is interpreted by the criteria below:

Table 3.5 Effect Size Scale

Size	Interpretation
0 – 0,20	Week effect
0,21 – 0,50	Modest effect
0,51 – 1,00	Moderate effect
>1,00	Strong effect

(Cohen, 2007)

e. Testing N-Gain to measure the impact of utilizing PABI in as the treatment. The researcher used this formula:

$$(g) = \frac{(post\text{-}test\ score) - (pre\text{-}test\ score\ )}{skor\ maximum - (pre\text{-}test\ score\ )}\ x\ 100\ \%$$

(Archambault, 2008)

The result compared with the criteria below:

Table 3.6 N-gain Level Criteria

Interval	**Criteria**
$(g) < 0,3$	Low
$0,3 \leq (g) < 0,7$	Medium
$(g) \geq 0,7$	High

(Hake, 1998)

CHAPTER IV

FINDINGS AND DISCUSSION

This chapter presents both findings and discussion deal with the result of the test in this research.

4.1 Findings

The findings provide the result of students' pronunciation scores obtained from the pre-test and post-test to examine the significance and hypothesis testing. The testing is divided into T-test and effect size that supported by normality and homogeneity test to ensure the result appropriately.

4.1.1 The Result of Students' Pre-Test

The result of students' pronunciation pre-test was provided in Appendix 7. The highest score in the pre-test was 83. Then, for the lowest score was 44. From the result of pre-test, the data can be classified as follows:

Table 4.1 The Result of Pre-test

No	Classification	Score	Frequency	Percentage
1	A (Very Good)	80 – 100	3	7,5 %
2	B (Good)	66 – 79	20	50 %
3	C (Enough)	56 – 65	12	30 %
4	D (Less)	40 – 55	5	12,5 %
5	E (Bad)	30 – 39	0	0 %
Total			40	100 %

Based on table 4.1 , it can be described that among the population, there were 7,5% of students classified as *Very Good* which means there is no error at all, so they pronounced the word accurately. Then, there were 50% of students classified as *Good*. This range showed the dominant percentage of the pre-test which can be interpreted that they pronounced the word almost accurately with an error in one of the phonetic features within their speech production. Further, there were 30% of students classified as *Enough, which* means some errors of the phonetic feature in English speech sound were popping up when they had to try to pronounce the word but it was still understandable. Under the percentage above, there were 12,5% of students classified as *Less* which is also considered as the last number of the percentage that showed the result of students' pronunciation in the pre-test, regardless the last range with the percentage of 0% means there was no students reached this score. The *Less* category means students' pronunciation is underrated with a lot or more than a half of error that appeared on the phonetic features and might lead to misunderstanding for the meaning.

4.1.2 The Result of Students' Post-Test

The score of students' pronunciations on the post-test was discovered in Appendix 7. It was obtained from the students' pronunciation ability after utilized the PABI that put it on the passage after the treatment given to them. As the result, the highest score in the post-test was 100. Then the lowest score was 51. In general, the result of Post-test can be presented in table follows:

Table 4.2 The Result of Post-test

No	Classification	Score	Frequency	Percentage
1	A (Very Good)	80 – 100	27	67,5 %
2	B (Good)	66 – 79	9	22,5 %
3	C (Enough)	56 – 65	3	7,5 %
4	D (Less)	40 – 55	1	2,5 %
5	E (Bad)	30 – 39	0	0 %
Total			40	100 %

Based on table 4.2, there were 67,5% of students classified as *Very Good*. This result showed more than a half of the population is pronouncing English perfectly accurate in line with the phonetic features. Then, there were 22,5% of students classified as *Good.* It means that they have pronounced the word with one error in term of the English phonetic features that provided in the passage. Also, there were 7,5% of students classified as *Enough* which can be described that there is a few errors in their pronunciation such as mispronounce regarding the phonetic feature but the meaning was recognized well. The last category showed that there was 1 or 2,5% of students classified as *Less*. It is remarkable as several errors occurred within phonetic features while the students were pronouncing the English words.

4.1.3 Normality Test on the Pretest and Posttest

Before processing the data through statistical analysis to find out the significance and hypothesis testing, the normality test must be conducted to determine whether the result of the pre-test and post-post are feasible to be used as

the measurement in this research. The data were calculated by using Microsoft Excel 2010 which can be described as follows:

a. Normality Testing of the Pre-Test

The calculation of the data on the normality test of pre-test was attached in Appendix 8. To sum up the data of the normality test, the result can be showed as follows:

Table 4.3 Normality Test of the Pre-Test

Lo	L Table	Interpretation
0,128	0,140	Normal Distribution

Based on table 4.3, It can be interpreted that the result of the pre-test (*Lo*) is 0,128. To find out whether the data on the pre-test can be used or not, the number of the *Lo* must be compared to the L Table (Ghasemi, 2012). For 40 sample of the test, the number of L table is 0,140. For comparing the result, if the number of Lo is under the number of L table the result shows a normal distribution. Based on the result above, it can be written 0,128 < 0,140 means that the number of Lo is lower than L table. Thus, it can be concluded that the data on pre-test is distributed normally. Thus, the data can be used for measuring test in this research.

b. Normality Test of the Post-Test

The calculation of the data on the normality test of the post-test was provided in Appendix 9. The result is presented as follows:

Tabel 4.4 Normality Test of the Post-Test

Lo	L Table	Interpretation
0,092	0,140	Normal Distribution

The result of the table showed that the number of the post-test is 0,092 while for the L table is 0,140. From the data above, the result can be written as 0,092 < 0,140 which means that the Lo is lower than L table. By using the same comparative rules, it can be concluded that the data on the post-test is categorized to distribute normally.

4.1.4 Homogeneity Test of the Pre-test and Post-test

After ensuring that the result of pre-test and post-test was distributed normally, the researcher should calculate it into the homogeneity test. This test is aimed to carry out whether the data on the pre-test and post-test are homogeneous or not, which means that the spread of the score should be similar. In this research, the researcher is performing the statistical test by using the following formula:

$$F = \frac{Sx^2}{Sy^2} = \frac{larger\ variance}{smaller\ variance}$$

Based on the statistical analysis of the normality test (see Appendix 10), it showed that the standard deviation (S) and the variance (S^2) can be presented as follows:

Table 4.5 Homogeneity Test

Data	Standard Deviation (S)	Variance (S^2)
Pretest (X)	10,67	113,84
Posttest (Y)	11,23	126,11

$$F = \frac{Sx^2}{Sy^2} = \frac{126,11}{113,84} = 0,902$$

From the calculation above, it is obtained that the result of *F ratio* 0,902 and the *F Table* 4,09 with *df numerator* = 1 and *df denominator (n-1)* 40-1 = 39. Therefore, the variances are similar then the F ratio will be close to 1 or the result of F ratio is smaller than F table. In this research, the data obtained by the researcher can be written as 0,092 < 4,09 (*F ratio < F table)*. Thus, it can be concluded that the F ratio is homogeneous also means that the data on the pretest and posttest are spreading similarly.

4.1.5 Significance Test

The significance test is conducted to find out whether there is a significant effect of using the PABI on the students' pronunciation ability by using T test formula through Microsoft Excel 2010. This test is aimed to answer the hypothesis of this research and also called hypothesis testing. The researcher provided the calculation of the T-test in Appendix 11. The following table presented the summary of the result of the T-test:

Table 4.6 The Result of Significance Test (T-test)

T-test	T-table
18,25	2,002

Based on the table 4.6 , for the level of significance 0,05 or 5 % and the degree of freedom *(df) (n-1)* = (40-1) =39, the result can be written as 18,25 > 2,002 (T test > T table). It can be interpreted that the result of T-test is higher than T table. Regarding to the result above it is concluded that the null hypothesis can be rejected. Thus, it is indicated that the use of the phonetic alphabet for bahasa Indonesia (PABI) has a significant effect on the students' pronunciation.

4.1.6 The Effect Test of Using the PABI on the Students' Pronunciation

The effect size and N-Gain testing are two technical properties of the test on this research that indicated the effect of using the PABI on the students' pronunciation with the appropriate scale on the measurement. These are the two most fundamental features of a test to demonstrate how do the students engage with their speech production to produce the English words accurately.

a. Effect Size Testing

Effect size is commonly used to find out whether the treatment given by the researcher has an effect which is in line with the purposes of the test. Instead of only reporting the result

statistically, this test is also allowed the researcher to presents the assumption on how big the effect is, based on the standardized scale provided in the previous chapter. To ease the measurement, Microsoft Excel 2010 was used in this research. The calculation of the effect size was provided in Appendix 12. However, the researcher has also put the formula and the basic calculation used on the effect size test to give a summary of the result:

$$Effect\ size = \frac{Post\ test\ average\ score - Pre\ test\ average\ score}{Standard\ deviation}$$

$$Effect\ size = \frac{84{,}2\ - 65{,}95}{10{,}67}$$

$$Effect\ size = \ 1{,}71$$

The result of effect size test is 1,71. To describe the meaning of this number, it should be compared with effect size scale that already figured out by Cohen (2007). Based on the Cohen's scale, the number of 1,71 as the result of this test can be categorized as a strong effect. It means that the use of the PABI has a big impact on the students' pronunciation.

b. N-Gain Testing

N-Gain testing is conducted to find out the impact of the treatment after using the PABI specifically. This test is similar to

the effect size test that discovered the effect after the sample being treated by the PABI. However, both of the tests have different intentions in terms of demonstrated the result. The N-Gain test focused on showing the detailed improvement of the students' pronunciation as a result of the effect itself. The researcher was using Microsoft Excel 2010 in order to help the calculation of the test. To sum up the result of N-gain testing, the researcher has to determine the calculation by the following formula:

$$Effect = \frac{\Sigma\, N\ Gain}{\Sigma\, Sample}$$

$$Effect = \frac{23{,}22}{40}$$

$$Effect = 0{,}58$$

. The result of N-gain testing is 0,58. To demonstrate the meaning of the result, it must be compared with the Hage Scale that provides the criteria for N-gain testing. The result indicates a Medium criteria with the range of scale is between $0{,}3 \leq (g) < 0{,}7$. For the medium criteria, the researcher assumes that the PABI can be used to improve students' pronunciation.

4.2 Discussion

As the second language, English gains important positions along its part as an educational subject in Indonesia. To ease a communication, one of the basic abilities that must be mastered by Indonesian EFL students is pronunciation. However, it seems to be difficult to pronounce English fluently since the differences in speech production between English and Bahasa Indonesia. It is also supported by Dardjowidjojo that demonstrated the contrastive analysis theory between both languages in his book of *Indonesian Phonetic and Phonology*. That is the reason why we should take our full attention to overcome this problem. One of the strategies that might be useful is developing practical guidance which is in line with the Indonesian speech production. The PABI presents a strategy as the solution above since it provides the way how to pronounce English word based on the Indonesian phonological system.

The PABI is designed to support self-learning activity,which means that it can be used by the students without any guidance from the teacher. In this research, the researcher applied the PABI through the passages. She put the PABI in the table as the word list to help students when they had to pronounce the word on the passages. The words chosen by the researcher are having different phonetic features that do not appear in Bahasa Indonesia including ʒ, tʃ, ð, tʃ, ʌ, dʒ. The students are required to read the passage then they have to record their voice. It will be analyzed by the researcher to find out the effect of using the PABI on their pronunciation.

The first step conducted by the researcher was, distributed the pre-test. As the participants, there are 40 students followed the test. In the pre-test, the students are given a passage by the researcher. Then they have to read and record their voice through on the voice note features of WhatsApp. The result showed that the highest score is 83 and the lowest is 44. It shows that the students are having different basic ability in terms of pronunciation. Thus, the researcher applied the treatment of using the PABI through the passages. The students are given 5 passages that containing the PABI then they have to practice their pronunciation by their self. The last, the post-test was given to the students to discover the score of students' pronunciations after the treatments that have been applied to them. The result showed the highest score is 100 and the lowest is 81. The data above was considered to the calculation on this research.

After the researcher implemented the PABI in the EFL university learners and calculated the data, the result of this research can be concluded as the following:

1. There was a significant effect on students' pronunciation after using the PABI on the EFL university students.

   Regarding to the first hypothesis (H1) that assumed there was a significant effect toward students' pronunciation after using the PABI is accepted. It was proven by the result of T-test that shows the number 18,25 which was higher than T-table 2,002. It can be indicated that there was an effect after using the PABI. Most of the students showed the result of their pronunciation score between the pre-test and post-test are

differently. This result can be used to determine that the PABI gave an impact on the students' pronunciation. Practically, the students are supported to correct their pronunciation directly. Regardless of the guidance of the teacher, they can use the PABI by comparing the word such as how to use the dictionary in order to find out the way English words should be pronounced. Those reasons above are strongly supported the alternative hypothesis (H1) to be accepted in this research.

2. The PABI is useful for students' pronunciation ability.

The researcher finds out that the students can pronounce the word correctly after using the PABI. The result above can be indicated as the effect of using the PABI that was proven by effect size and N-Gain testing. Those tests above are showing similar results in terms of discovering the number of effects along with the use of the PABI. The effect size test showed the number of the effect was 1,71 that means the PABI has a strong impact on students' pronunciation. This result is proven by the score of pre-test and post-test. After the treatment, the researcher is indicated that the score of post-test was higher than the pre-test. It is concluded that there was an improvement on students' pronunciation after using the PABI. Thus, the researcher also found out on how big the effect of the use of the PABI by using N-gain test. This test is aimed to determine the number of improvement as the correction while they had to pronounce the word that showed by the students after using the PABI. The result shows the number of the N-gain test was 0,58 which means on the

medium scale. It can be interpreted that the PABI has given a medium effect toward students' pronunciation ability.

Generally, the result of this research regarding on the effect of using the PABI was related to the research conducted by Karlina, Rahman, and Chowdhury (2020) that assumed the PABI can be used to improve students' pronunciation. The assumption of the previous research is proven by this research that indicated the use of the PABI has a significant effect and useful for pronunciation ability of EFL university students.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

This chapter presents conclusions and suggestions of this study. The conclusion is drawn from the research findings and discussion. The suggestions were intended to the next research which related to this study.

5.1 Conclusions

Focusing on pronunciation ability, the PABI was implemented to EFL university students at UIN Maulana Malik Ibrahim Malang. The result of the data analysis showed that the mean of students' pronunciation in pre-test is 65. Then, the mean of students' pronunciation in post-test is 84. The data showed that the result of the post-test is higher than the pre-test. It can be indicated that there is a difference in students' pronunciation score after using the PABI. The results are continued to hypothesis testing by using T-test. The T-test showed the number 18,25 compare to the t-table 2,002. Since the result of t-test is higher than t-table, it can be concluded that null hypothesis can be rejected. Therefore, it can be assumed that the PABI have a significant effect toward students' pronunciation ability.

Besides presenting the data to prove the significant effect, the result of the pre-test and post-test also indicated that the PABI is useful for student's pronunciation. It is proven by the effect size and N-gain testing which measured the effect as an implication of the PABI. The researcher determined the effect by

using the effect size test. The result showed the effect size is 1,71. It means that the PABI have a strong impact on the students' pronunciation. As the implication, it can be realized that the students can pronounce the word correctly after using the PABI. Thus, the result of N-gain test that showed the number of 0,58 which means in the medium scale. It can be interpreted on how big the PABI as affected on the students' pronunciation ability. The results are in line to support the research by Karlina, Rahman, and Chowdhury (2020) that assumed the PABI can be used to improve students' pronunciation. Thus, the PABI becomes a practical media which is recommended in teaching and learning pronunciation in Indonesia.

5.2 Suggestions

Regarding the significances of the study aforementioned in the first chapters, this study might present suggestions related to the next research. First, this study contributes to the part of linguistics, especially it gives insightful theory in comparing phonetic alphabet between English and Bahasa Indonesia discussed in the previous chapter. Second, this study provides practical guidance in terms of teaching and learning pronunciation for Indonesian EFL students. It is supposed to be a concern by the teacher since the curriculum is supporting to develop a model of self-learning activity. Third, this study presents several examples of pronouncing English words by dropping the PABI through the passage which is in line with the handbook that is used in Indonesian school system.

Several parts of this study are not discovered further. This might be recommended for the next researchers who are interested in conducting research in the same field. First, this study is only concerning with phonetic features which do not present in Bahasa Indonesia. Therefore, the next researchers are highly encouraged to the extent of the phonetic features in this area. Second, further researchers who are interested in this issue may do further and deeper research on the non-students' participants to capture the Indonesian pronunciation ability in general. Third, the next researchers are encouraged to develop the implementation of the PABI through another media for the daily necessities

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APPENDICES

Appendix I: Pre-test

Language Learning in the United States

Most of people in the United States speak only one language:English. **They** do not learn to speak a second language. High schools **teach** **language**. But very few **students** learn to speak well. Why do not Americans have a **vision** to speak other language? First, most American never travel to other countries. The United States is a very **large** country. Americans **should** travel a long distance and not leave the United States. They do not need to learn a second language. Second, one of the countries next to the United States is Canada. Most people in Canada speak **English**. **Some** Americans live near Canada. Third, many people in other parts of the world also speak English. If Americans travel to other countries, they can speak English there, too. Some Americans **think** that it is a mistake to speak only English. They believe it is very important to learn a second language. Maybe someday other Americans will agree. Then more people will speak a second language in the United States.

Appendix II: Post-test

Language Learning in the United States

Most of people in the United States speak only one language:English. **They** do not learn to speak a second language. High schools **teach** **language**. But very few **students** learn to speak well. Why do not Americans have a **vision** to speak other language? First, most American never travel to other countries. The United States is a very **large** country. Americans **should** travel a long distance and not leave the United States. They do not need to learn a second language. Second, one of the countries next to the United States is Canada. Most people in Canada speak **English**. **Some** Americans live near Canada. Third, many people in other parts of the world also speak English. If Americans travel to other countries, they can speak English there, too. Some Americans **think** that it is a mistake to speak only English. They believe it is very important to learn a second language. Maybe someday other Americans will agree. Then more people will speak a second language in the United States.

No	Word	PABI	IPA	Phonetic
1	Teach	Ti:c’	/tiːtʃ/	tʃ
2	They	{‘Th}ei	/ðeɪ/	ð
3	Student	‘S{cu}den	/ˈsʃuːdnt/	tʃ
4	Language	La{ng}wei’j	/ˈlæŋgwɪdʒ/	dʒ
5	Vision	‘vi:{zhen}	/ˈvɪʒn/	ʒ
6	English	Iŋglei’{esh}	/ˈɪŋglɪʃ/	ʃ
7	Some	Sɒm	/sʌm/	ʌ
8	Large	Lar’{j}	/lɑːdʒ/	dʒ
9	Should	{sh}ul’d	/ʃəd/	ʃ
10	Think	{Th}iŋ’	/θɪŋk/	θ

Appendix III: Treatment 1

All birds have ***feathers*****,** and all animal with feathers are birds. No other major of group of animals is so easy to categorize. All birds have wings, too, but wings are not peculiar to birds.

Many adaptations are found in ***both*** feathers and wings. Feathers from the soft down of geese and ducks, the long decorative plumes of ostriches, and the strong flight feathers of eagles and hawks. Wings vary from ***short***, broads one of chicken, ***which*** seldom fly to the long, slim ones of albatrosses, which spend almost all their live soaring on air currents. In penguins, wings have been modified into flippers and feathers into a waterproof covering. In kiwis, the wings are almost impossible to detect.

Yet diversity among birds is not so striking as it is among mammals. The difference between a hummingbird and a penguin is immense, but hardly as startling as that between a bat and a whale. It is ***variations*** in details rather than in fundamental patterns that have been important in the adaptation of birds to many kinds of ecosystems.

No	Word	PABI	IPA	Phonetic
1	Feather	Fether	/ˈfeðər/	ð
2	Variation	Veria{sh}'en	/ˌveriˈeɪʃn/	ʃ
3	Both	Bouth	/bəʊθ/	θ
4	Short	[Sh}or:t	/ʃɔːt/	ɔ
5	Which	Wi:c	/wɪtʃ/	tʃ

Appendix IV: Treatment 2

Today I would like to explain the Mohs' scale, used in what is called the "***scratch*** test". This scale is based on the simple fact that harder minerals scratch softer ones. For example, a diamond; quartz crystal can scratch a fieldspar crystal, but not the ***other*** around.

The scale is named for Frederich Mosh, the mineralogist who devised it in 1812. His scale spans the ***range*** of minerals known at that time, from the softest to the hardest. By performing a scratch test using known minerals and a few common tools, an unidentified mineral sample can be placed between two points on the scale. By referring to the scale, the mineral can then be identified.

I have here a collection of the mineral included on the Mohs' scale, as well as the tools necessary to complete this exercise. I would like you each to take a mineral sample from the basket at the front of the room and classify it according to its place on the Mohs' scale. First, however, I ***should*** give you a little warning. The hardness of any mineral depends on the ***strength*** of the bonds between ions or atom - the stronger the bond, the harder the mineral. Because bond strength may differ various angles of a crystal, the hardness may vary slightly depending on the direction in which the mineral sample is scatched, so to be sure to scratch each sample in several different directions.

No	Word	PABI	IPA	Phonetic
1	Scratch	Skrac'	/skrætʃ/	tʃ
2	Other	ɑther	/ˈʌðə(r)/	ð
3	Range	Rei:nj	/reɪndʒ/	dʒ
4	Should	{sh}ul'd	/ʃəd/	ʃ
5	Strength	Streŋ{th}	Streŋkθ	θ

Appendix V: Treatment 3

In the days before telephones, radio and ***television***s, the only network of ***public*** communication that could ***reach*** farmers was the mail. But this was not the mail as we know it today. At ***that*** time, in the early nineteenth century, mail delivery was uneven and widely scattered. In fact, many people living in the rural areas got no email at all. In the early decades of the century, mail carriers were privately employed – they did not work for the government. Many years later, when the government finally took ***charge*** of delivering mail, it was not mostly in cities that mail got delivered to people's homes. So farmers still had a problem, they had to go to a post office to collect their mail, which, was not always nearby.

Farmers' requests to have mail brought to their homes were at first met with outrage. What could be more ridiculous, many urban residents asked, than paying government employees to travel miles across the countryside with an occasional letter? Nevertheless, farmers' organizations succeeded in convincing the United States Congress that farmers needed mail delivery. Finally in 1891 rural free delivery, known as RFD, came into being. In a sense, rural free delivery was the most important communications revolutions in United States history. Rural Americans were not lifted out of the relatively isolated communities they lived in. Because of rural free delivery, there now ran a highway to the world form every farmer's doorstep.

No	Word	PABI	IPA	Phonetic
1	Television	Telivi{zy}'n	/ˈtelɪvɪʒn/	ʒ
2	Public	pɒblik	/ˈpʌblɪk/	ʌ
3	Reach	Ri:c	/ri:tʃ/	tʃ
4	That	{Th}et	/ðæt/	ð
5	Charge	Car'j	/tʃɑ:dʒ/	tʃ , dʒ

Appendix VI: Treatment 4

A tomahawk is a small ax used as a tool and weapon by North American Indian tribes. An ***average*** tomahawk was not very long and did not weight a great deal. Originally, the head of tomahawk was made of a ***shape***d stone or an animal bone and was mounted on a wooden handle. After the arrival of the European settlers, the Indian began to use tomahawk with iron heads. Indian males and females of all ages used tomahawks to ***chop*** and cut wood, pound stakes into the ground to put up wigwams, and do many other chores. Indian warriors relied on tomahawks as weapons and even ***threw*** them at their enemies. ***Some*** types of tomahawks were used in religious ceremonies. Contemporary American idioms reflect this aspect of American heritage.

No	Word	PABI	IPA	Phonetic
1	Average	Aver'(e)j	/ˈævərɪdʒ/	dʒ
2	Shape	Sye(i)p	/ʃeɪp/	ʃ
3	Chop	'Cop	/tʃɒp/	tʃ
4	Threw	{Th}ruw	/θruː/	θ
5	Some	Sɒm	/sʌm/	ʌ

Appendix VII: The Result of Pre-test and Post-test

Sample	Pretest		Postest	
	X	X2	Y	Y2
1	56	3136	88	7744
2	76	5776	94	8836
3	50	2500	58	3364
4	44	1936	77	5929
5	72	5184	94	8836
6	50	2500	77	5929
7	72	5184	88	7744
8	61	3721	68	4624
9	72	5184	88	7744
10	76	5776	88	7744
11	72	5184	83	6889
12	72	5184	94	8836
13	61	3721	77	5929
14	61	3721	72	5184
15	56	3136	83	6889
16	76	5776	94	8836
17	76	5776	88	7744
18	72	5184	94	8836
19	72	5184	88	7744
20	66	4356	83	6889
21	76	5776	100	10000
22	61	3721	83	6889
23	61	3721	83	6889
24	61	3721	88	7744
25	44	1936	51	2601
26	83	6889	100	10000
27	83	6889	100	10000
28	61	3721	77	5929
29	50	2500	61	3721
30	76	5776	94	8836
31	50	2500	77	5929
32	72	5184	88	7744
33	66	4356	77	5929
34	61	3721	83	6889
35	56	3136	77	5929
36	61	3721	83	6889
37	72	5184	88	7744
38	72	5184	88	7744
39	76	5776	94	8836
40	83	6889	100	10000
Σ	**2638**	**178420**	**3368**	**288512**
Mean	65,95		84,2	
Max	83		100	
Min	44		51	

Appendix VIII: Normality Test of the Pre-Test

Sample	X	Zi	f(zi)	s(zi)	N
1	56	-0,93252	0,175534	0,025	-0,150533647
2	44	-2,05717	0,019835	0,075	0,055165044
3	44	-2,05717	0,019835	0,075	0,055165044
4	50	-1,49485	0,067477	0,175	0,107522598
5	50	-1,49485	0,067477	0,175	0,107522598
6	50	-1,49485	0,067477	0,175	0,107522598
7	50	-1,49485	0,067477	0,175	0,107522598
8	56	-0,93252	0,175534	0,225	0,049466353
9	56	-0,93252	0,175534	0,225	0,049466353
10	61	-0,46392	0,321353	0,45	0,128646582
11	61	-0,46392	0,321353	0,45	0,128646582
12	61	-0,46392	0,321353	0,45	0,128646582
13	61	-0,46392	0,321353	0,45	0,128646582
14	61	-0,46392	0,321353	0,45	0,128646582
15	61	-0,46392	0,321353	0,45	0,128646582
16	61	-0,46392	0,321353	0,45	0,128646582
17	61	-0,46392	0,321353	0,45	0,128646582
18	61	-0,46392	0,321353	0,45	0,128646582
19	66	0,004686	0,501869	0,5	-0,001869451
20	66	0,004686	0,501869	0,5	-0,001869451
21	72	0,56701	0,714646	0,75	0,035353589
22	72	0,56701	0,714646	0,75	0,035353589
23	72	0,56701	0,714646	0,75	0,035353589
24	72	0,56701	0,714646	0,75	0,035353589
25	72	0,56701	0,714646	0,75	0,035353589
26	72	0,56701	0,714646	0,75	0,035353589
27	72	0,56701	0,714646	0,75	0,035353589
28	72	0,56701	0,714646	0,75	0,035353589
29	72	0,56701	0,714646	0,75	0,035353589
30	72	0,56701	0,714646	0,75	0,035353589

31	76	0,941893	0,826876	0,925	0,098123672
32	76	0,941893	0,826876	0,925	0,098123672
33	76	0,941893	0,826876	0,925	0,098123672
34	76	0,941893	0,826876	0,925	0,098123672
35	76	0,941893	0,826876	0,925	0,098123672
36	76	0,941893	0,826876	0,925	0,098123672
37	76	0,941893	0,826876	0,925	0,098123672
38	83	1,597938	0,944972	1	0,055028372
39	83	1,597938	0,944972	1	0,055028372
40	83	1,597938	0,944972	1	0,055028372
X	**65,95**				0,128646582
S	**10,67**				
L-tabel	0,140089				

Appendix IX: Normality Test of the Post-test

Sample	X	Z	F	S(zi)	N
1	51	-2,95637	0,001556	0,025	0,023444
2	58	-2,33304	0,009823	0,05	0,040177
3	61	-2,06589	0,019419	0,075	0,055581
4	68	-1,44256	0,074572	0,1	0,025428
5	72	-1,08638	0,138656	0,125	-0,01366
6	77	-0,64114	0,260716	0,3	0,039284
7	77	-0,64114	0,260716	0,3	0,039284
8	77	-0,64114	0,260716	0,3	0,039284
9	77	-0,64114	0,260716	0,3	0,039284
10	77	-0,64114	0,260716	0,3	0,039284
11	77	-0,64114	0,260716	0,3	0,039284
12	77	-0,64114	0,260716	0,3	0,039284
13	83	-0,10686	0,457451	0,475	0,017549
14	83	-0,10686	0,457451	0,475	0,017549
15	83	-0,10686	0,457451	0,475	0,017549
16	83	-0,10686	0,457451	0,475	0,017549
17	83	-0,10686	0,457451	0,475	0,017549
18	83	-0,10686	0,457451	0,475	0,017549
19	83	-0,10686	0,457451	0,475	0,017549
20	88	0,338379	0,632461	0,725	0,092539
21	88	0,338379	0,632461	0,725	0,092539
22	88	0,338379	0,632461	0,725	0,092539
23	88	0,338379	0,632461	0,725	0,092539
24	88	0,338379	0,632461	0,725	0,092539
25	88	0,338379	0,632461	0,725	0,092539

26	88	0,338379	0,632461	0,725	0,092539
27	88	0,338379	0,632461	0,725	0,092539
28	88	0,338379	0,632461	0,725	0,092539
29	88	0,338379	0,632461	0,725	0,092539
30	94	0,872663	0,808576	0,9	0,091424
31	94	0,872663	0,808576	0,9	0,091424
32	94	0,872663	0,808576	0,9	0,091424
33	94	0,872663	0,808576	0,9	0,091424
34	94	0,872663	0,808576	0,9	0,091424
35	94	0,872663	0,808576	0,9	0,091424
36	94	0,872663	0,808576	0,9	0,091424
37	100	1,406946	0,920278	1	0,079722
38	100	1,406946	0,920278	1	0,079722
39	100	1,406946	0,920278	1	0,079722
40	100	1,406946	0,920278	1	0,079722
X	**84,2**			L Hitung	0,092539
S	**11,23**				
L Tabel	0,140089				

Appendix X: Homogeneity Test

Data	Standard Deviation	Variance
Pre-test (X)	10,67	113,8489
Post-test (Y)	11,23	126,1129
F	0,902754	
F Tabel	4,091279	

Appendix XI: Significance Testing (T-test)

Sample	Pretest (X)	Posttest (Y)	Gain (d)	Xd	Xd2
1	56	88	32	13,75	189,0625
2	76	94	18	-0,25	0,0625
3	50	58	8	-10,25	105,0625
4	44	77	33	14,75	217,5625
5	72	94	22	3,75	14,0625
6	50	77	27	8,75	76,5625
7	72	88	16	-2,25	5,0625
8	61	68	7	-11,25	126,5625
9	72	88	16	-2,25	5,0625
10	76	88	12	-6,25	39,0625
11	72	83	11	-7,25	52,5625
12	72	94	22	3,75	14,0625
13	61	77	16	-2,25	5,0625
14	61	72	11	-7,25	52,5625
15	56	83	27	8,75	76,5625
16	76	94	18	-0,25	0,0625
17	76	88	12	-6,25	39,0625
18	72	94	22	3,75	14,0625
19	72	88	16	-2,25	5,0625
20	66	83	17	-1,25	1,5625
21	76	100	24	5,75	33,0625
22	61	83	22	3,75	14,0625
23	61	83	22	3,75	14,0625
24	61	88	27	8,75	76,5625
25	44	51	7	-11,25	126,5625

26	83	100	17	-1,25	1,5625
27	83	100	17	-1,25	1,5625
28	61	77	16	-2,25	5,0625
29	50	61	11	-7,25	52,5625
30	76	94	18	-0,25	0,0625
31	50	77	27	8,75	76,5625
32	72	88	16	-2,25	5,0625
33	66	77	11	-7,25	52,5625
34	61	83	22	3,75	14,0625
35	56	77	21	2,75	7,5625
36	61	83	22	3,75	14,0625
37	72	88	16	-2,25	5,0625
38	72	88	16	-2,25	5,0625
39	76	94	18	-0,25	0,0625
40	83	100	17	-1,25	1,5625
Σ	**2638**	**3368**	**730**		**1545,5**
			18,25		
T Table	2,02269092				

Appendix XII: Effect Size Testing

Sample	Pretest (X)	Posttest (Y)
1	56	88
2	76	94
3	50	58
4	44	77
5	72	94
6	50	77
7	72	88
8	61	68
9	72	88
10	76	88
11	72	83
12	72	94
13	61	77
14	61	72
15	56	83
16	76	94
17	76	88
18	72	94
19	72	88
20	66	83
21	76	100
22	61	83
23	61	83
24	61	88
25	44	51
26	83	100
27	83	100
28	61	77
29	50	61
30	76	94
31	50	77
32	72	88
33	66	77
34	61	83
35	56	77
36	61	83
37	72	88
38	72	88
39	76	94
40	83	100
Σ	**65,95**	**84,2**
Effect Size	1,710402999	
	Strong Effect	

Appendix XIII: N-Gain Testing

Sample	Pretest (X)	Posttest (Y)	*N* Gain
1	56	88	0,727273
2	76	94	0,75
3	50	58	0,16
4	44	77	0,589286
5	72	94	0,785714
6	50	77	0,54
7	72	88	0,571429
8	61	68	0,179487
9	72	88	0,571429
10	76	88	0,5
11	72	83	0,392857
12	72	94	0,785714
13	61	77	0,410256
14	61	72	0,282051
15	56	83	0,613636
16	76	94	0,75
17	76	88	0,5
18	72	94	0,785714
19	72	88	0,571429
20	66	83	0,5
21	76	100	1
22	61	83	0,564103
23	61	83	0,564103
24	61	88	0,692308
25	44	51	0,125
26	83	100	1
27	83	100	1
28	61	77	0,410256
29	50	61	0,22
30	76	94	0,75
31	50	77	0,54
32	72	88	0,571429
33	66	77	0,323529
34	61	83	0,564103
35	56	77	0,477273
36	61	83	0,564103
37	72	88	0,571429
38	72	88	0,571429
39	76	94	0,75
40	83	100	1
		***N* Gain**	0,580633

Appendix XIV Bukti Konsultasi

BUKTI KONSULTASI SKRIPSI

JURUSAN TADRIS BAHASA INGGRIS

Nama : Siti Nurhalimah

NIM : 17180024

Judul : The Effect of Using Phonetic Alphabet for Bahasa Indonesia (PABI) on English Pronunciation for EFL University Students

Dosen Pembimbing : Farid Munfaati, M.Pd

No	Tgl/Bln/Thn	Materi Bimbingan	Tanda Tangan Pembimbing Proposal Skripsi
1	25/11/2020	Konsep penelitian dan penambahan previous study	
2	2/12/2020	Description of research planning	
3	13/01/2021	Validity and Reliability Test	
4	21/01/2021	Chapter 1,2,3	
5	25/01/2021	Chapter 1,2,3 Revised 1	
6	27/01/2021	Chapter 1,2,3 Revised 2	
7	30/03/2021	Chapter 4,5	

8	11/06/2021	Chapter 4 Revised	
9	12/06/2021	Chapter 5 Revised	
10	17/06/2021	Appendix	
11	21/06/2021	Final Thesis Revised	

Malang, 21 Juni 2021

Menyetujui,

Dosen Pembimbing

Farid Munfaati, M.Pd

NIP. 19860420 20180201 2 225

Mengetahui,

Ketua Jurusan TBI

Dr. H. Langgeng Budianto, M.Pd

NIP. 19711014 20031210 01

Appendix XV

VALIDATION SHEET FOR INSTRUMENTS

Name of the student : Siti Nurhalimah

NIM : 17180024

Thesis title : The Effect of Using Phonetic Alphabet for Bahasa Indonesia (PABI) on the English Pronunciation for EFL University Students

Validator : Dr. Shirly Rizki Kusumaningrum, M.Pd

This validation sheet is used to obtain an assessment from the validator on the pre-test and post-test that will be used by the researcher. Every feedback is essential for improving the quality of the instruments.

The result declared that the instruments of pre-test and post-test are **proper to use to collect the data**. However, it would be wise if the researcher is considering the notes that given by the validator.

Notes from the validator:

1. Based on the result of interviewing the researcher, she mentioned that the phonetic alphabet that become the focus are: /ʒ/, /ʌ/, /ʧ/, /ð/, and /ʤ/. However, there are two "new" phonetic alphabet /ʃ/ and /ɵ/ and has no /ð/.
2. If the researcher would like to use these five /ʒ/, /ʌ/, /ʧ/, /ð/, and /ʤ/, I guess the researcher should focus only on these five and provide more examples for each phoneticalphabet.
3. The researcher also needs to think about "the focus" whether it is consonant **OR** vowel which – of course – should be supported with a number of literature reviews. Using these two (consonant and vowel) altogether – to my personal opinion.
4. If the researcher would like to use previously used instrument, be wise. It

could always be adopted OR adapted based on the needs of the present study.

5. Are you going to also include the box of phonetic alphabet? I think it should be omitted.

Dr. Shirly Rizki Kusumaningrum, M.Pd

CURRICULUM VITAE

Siti Nurhalimah was born on January 23, 1999 in Kediri. She has grown up also in Kediri. Now she lives at Jalan Masjid Al-Ishlah RT/RW:12/02, Kediri with her family. She graduated from SDN Sukorejo 1, Kediri in 2011. She then graduated from SMP Negeri 3 Kediri in 2014. After graduating middle school, she attended high school and graduated in 2017. She is now almost finishing her undergraduate study as an English Education student at UIN Maulana Malik Ibrahim Malang.

She has been developing her interest in English since middle school. She actively joined English Club in middle school and accepted a fully funded scholarship for intensive short English course at Pare for one month. She was also an active member of HMJ TBI (Department of English's students association). She is interested to the field of education. Her internship at SD Islamic Global School Malang has helped her a lot in developing a sense of professionalism in teaching and learning of English language.

In any other chance, you can contact her by email on ulumut49@gmail.com or by phone on +6281238342327.