

Conference Paper

A Contrastive Analysis of Indonesian and Arabic Phonetics

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Abstract

There are some factors causing some challenges for non-Arabs speakers in learning Arabic, which include non-linguistic and linguistic ones. These factors also influence Indonesian students learning Arabic as a foreign language. In general, Indonesian students find difficulties in learning Arabic due to a number of differences between Indonesian as their first language (L1) with Arabic as the target language (L2) at almost all aspects of linguistics. The process of learning L2 which does not show its linguistic equations in their L1 has led the assumption among Arabic students in Indonesia that the language is difficult to learn. Therefore, this study aims to: (1) describe the similarities between Indonesian and Arabic phonetics; (2) describe the differences between Indonesian and Arabic phonetic; and (3) offer a formulation of Arabic learning pattern for speakers of Indonesian learning Arabic to help them learn the language easier. This research applied a comparative descriptive qualitative approach. The result of data analysis shows three findings; (1) There are 16 (sixteen) similar sounds of Indonesian and Arabic phonemes; (2) There are 7 (seven) Indonesian phonemes that do not exist in Arabic; and (3) There are 13 (thirteen) Arabic phonemes that do not exist in Indonesian. Based on these findings, it is suggested that the teaching of Arabic language should prioritize the similar sounds in Indonesian and Arabic.

Keywords: Contrastive analysis, Arabic, Indonesian, linguistics, phonetics

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1. Introduction

Besides mastering technology-related skills, the ability to communicate in foreign languages is one particular skill needed in this era of Industry 4.0. Regarding the importance of foreign language mastery, Indonesian government made English the only foreign language mandatorily taught in formal educational institutions from secondary up to university level (Fithriani, 2017). This decision could be understood as English is the world's most widely spoken language (Fithriani, 2018). However, it does not mean that educational institutions in Indonesia offers only English as the foreign language to

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learn. There are many other languages taught in Indonesia, such as; Arabic, Chinese, France, and Japanese.

Among these additional foreign languages, Arabic is the most common language learned by Indonesian students. It happens because Arabic becomes a compulsory subject in all level of Islamic schools in Indonesia. Furthermore, the learning of Arabic by Indonesian Muslim community could be traced back to the period of the arrival of Islam in the archipelago. Yet, the Arabic learning is not well-developed comparing to other foreign language learning such as English, Mandarin, and many others.

There would be some factors contributing to that reality. It could be twofold: linguistically and non-linguistically. Linguistically, there are a great deal of difference between Indonesian and Arabic at all linguistic derivatives including phonetics. The learning process which does not address the phonetic similarities existing in Arabic and Indonesian would support to the assumption that Arabic is reasonably difficult to learn.

Nasution (2015) demonstrated an example of the unexpected issue which is about learners in Islamic boarding school who learnt foreign language such as Arabic for years starting from beginner level, intermediary, and upper-intermediary level, and even to University level; who have an opportunity to travel to the country where the language is used for either tourism or study overseas; however, as they previously did not learn the sound element within the language, they sometimes found that they use a different language to that used by its native speaker because it is not understandable even both of them use the same language. Indeed, they have met the appropriate structure and syntax of the language, and when they turn to the written, it could be assumed that everyone would get what they are about to say. By that rationales, this study aims to: (1) depict similarity of phonetics in either Indonesian or Arabic, (2) depict difference of phonetics in either Indonesian or Arabic, (3) Formularize the pattern of learning phonetic in Arabic to Indonesian native speaker.

2. Literature Review

2.1. Phonetics in Indonesian language

Etymologically, the term “*phonetic*” was drawn from English ‘*phonetics*’ which means “a linguistic term which concerns to how to sound a sound” or, “a system of sound within a language” (Kementerian Pendidikan dan Kebudayaan, 2016). In other regards, Samsuri (1987, p. 91) contended phonetics as “a science to investigate the sound of

language regardless to its function to differentiate meaning.” Verhaar (1993) pointed out phonetics as “a study of spoken sound.” Kridalaksana (2013) defined phonetics as “a science which concerns to the investigation, production, delivery, and acceptance the sound of language.” Definition by Verhaar (1993) is acclaimed as the most powerful in contrast to other related definitions as language could differ which sound could produce meaning, and which could not.

In Indonesian, sound could be registered into two major registers: vowel and consonant.

2.1.1. Vowel

Vowel sound or vocoid is produced from airflow of lung without articulatory hitch. There are six vowel phonemes in Indonesian: /i/, /e/, /a/, /u/, /ɔ/ dan /o/. Alwi *et. al.* (1998) explained that phoneme /i/ is a fore highly lifted-up vowel stretching the two lips into the sides. Phoneme /u/ works similarly but implied to rear part of tongue. The major examples of these two phonemes are /ikan/, /tba/, /pinta/, /padi/ dan /juga/, /jumpa/, /maju/.

Vowel /e/ is sounded by elevating the edge of tongue, lower than /i/ is. These mid-front vowels are articulated through neutral formation of the lips with no stretch and rounded up. The obvious distinction between these two is the elevation level of tongue, as well as those between /o/ and /u/, excluding /o/ and /u/ which are rear vowels. To produce /o/ sound, the lips formation is less rounded-up comparing to /u/ sound. In contrast, phoneme /ɔ/ is mid-intermediary. To sound it, the middle part of tongue elevates, and the lips are in neutral position, as shown by /ɔntah/, /bɔsar/ dan /sɔrta/. Besides, there are duplicated sound or diphthongs such as /ai/, /au/ dan /oi/ when to sound /cukai/, /harimau/, dan /amboi/.

Thus, it could be concluded that regarding to the up and down position of the tongue in articulating the sound, vowels in Indonesian could be classified into three; (1) higher vowels such as /i/ and /u/, (2) mid vowels such as /e/ and /o/, and (3) lower vowels such as /a/.

2.1.2. Consonant

Consonant sound or contoid is articulated through the airflow from the lung and prevails hitch from tools of articulation (articulator). There are 22 (twenty-two) sound variants in

Indonesian, they are /b/, c, /d/, /f/, /g/, /h/, /j/, /k/, /l/, /m/, /n/, /ń/, /ŋ/, /p/, /q/, /r/, /s/, /š/, /t/, /v/, /w/, /x/, /y/, /z/.

According to Alwi *et. al.* (1998), the classification of the twenty-two consonants is based on three factors: (1) status of the vocal cord,; (2) the area of articulation/ vocalization; and (3) the way it is articulated/vocalized. Regarding to the status of vocal cord, consonants might be categorized into bilabial, labiodental, alveolar, palatal, veral, or glottal, and regarding to the way it is vocalized, consonants could be resisted, fricative, nasal, buzzed, or lateral. The consonants in Indonesian could be presented as follow:

TABLE 1: Indonesian' consonants classification according to Alwi *et. al.* (1998: 66).

Area and the way it is articulated		Bilabial	Labio dental	Dental/ Alveoral	Palatal	Velar	Glotal
Hitch	Unsounded	p		t		k	
	Sounded	b		d		g	
Affricate	Unsounded				c		
	Sounded				j		
Fricative	Unsounded		f	s	š	x	h
	Sounded			z			
Nasal	Sounded	m		n	ń	ŋ	
Buzzed	Sounded			r			
Lateral	Sounded			l			
Semi vocal	Sounded	w			y		

Based on the table above, there are three sounds, they are š = sy, ń = ny and ŋ = ng which have no nothing to do with the list of Indonesian letters. However, these phonemes take apart in the sound articulation within Indonesian.

2.2. Phonetics in Arabic language

In the Arabic corpus, phonetic or sound is named as “فونيتيك” borrowing from English, and so as in many situations, the word phonetic/sound is termed as “علم الأصوات”. Bisr (1980) argued that phonetics as a study about sound when it is articulated and gives impact to the hearings regardless its meaning within particular language. Likewise, the characteristic of language depends on its sound rather than its function in the structure of language.

As phonetics in Indonesian, in Arabic, phonetics was divided into two majors; vowel and consonant phonemes.

In conclusion, the system of sound in Indonesian and Arabic could be analyzed collectively by utilizing some theoretical framework of sound and articulation in the study on phonetics.

3. Research Method

This study employed qualitative approach to obtain data from library research to incorporate literatures, books, articles, journals, and internet materials. The data were collected through library method by utilizing a great number of printed and non-printed materials relating to Indonesian and Arabic phonetics as the primary source before they were examined, studied, and analyzed. The primary source of the data included Kamâl Muhammad Bisr's (1980) *Ilmu al-Lughât al-Ām (al-Ashwât)*, Ahmad Sayuti Ansari Nasution's (2015) *Bunyi Bahasa ('Ilmu Al-Ashwat Al-'Arabiyah)*, Abdul Chaer's (2012) *Linguistik Umum*, Sahkholid Nasution (2017) *Pengantar Linguistik Bahasa Arab*, and Hasan Alwi et. al.'s (1998) *Tata Bahasa Baku Bahasa Indonesia*. To analyze the data, this study employed contrastive-descriptive technique.

4. Result and Discussion

Based on the previously-mentioned theoretical framework, the comparison between Indonesian and Arabic phonetics could be presented as follows:

4.1. Description of vowel in Indonesian and Arabic

The analysis between the two languages is presented in table 2. Vowel /i/ and /u/ in Indonesian is high-front as such as vowel /i/ and /يَ/ (long-stressed) in Arabic. While vowel /u/ in Indonesian is High-rear as such as vowel /u/ and /وُ/ in Arabic. Vowel /e/ in Indonesian is mid-intermediate, while vowel /E/ in Indonesian is mid-intermediate as such as vowel /e/ in Arabic, and vowel /o/ is rear-intermediate and no basis in Arabic. Whereas, vowel /a/ in Indonesian co-exists as such as vowel /اَ/ in Arabic. Both of them is front-low/mid and has no basis in rear-low within the two languages.

4.2. Description of consonant in Indonesian and Arabic

Analyzing consonant in both languages could be conducted through considering the area of articulation and the way it is articulated. The area of articulation consists of eleven

TABLE 2: Indonesian and Arabic Vowels.

	Front		Mid		Rear	
	Indonesian	Arabic	Indonesian	Arabic	Indonesian	Arabic
High	i	ي & اِي			u	وُ & اُو
Intermediate	e		ﺀ	ﺀ	o	
Low	a	ا				

parts, bilabial, labio-dental, inter-dental, apico-alveolars, Apico-dental-alveolars, Fronto-palatals, Medio patatals, Dorso Velars, Dorso-Uvulars, Root-Pharyngeals, dan Glottals. While, there are three ways to articulate, namely: explosive, fricative, and intermediary.

1. Bilabial which in Arabic is called شفثانية, consonant which is articulated by the convergence between the upper lip as the active articulator and the lower lip as the passive articulator.
2. Labio-dental which in Arabic is called شفاهية أسنانية, consonant which is articulated by the cooperation between lower lip as the active articulator and upper teeth as the passive one.
3. Inter-dental which in Arabic is called بين أسنانية, consonant which is articulated by touching the tongue-tip as the active articulator to the mid-area between lower and upper lip as the passive one.
4. Apico-alveolars which in Arabic is called زلقى لساوي, consonant which is articulated by touching the tongue-tip as the active articulator to the gum as the passive one.
5. Apico-dental-alveolars which in Arabic is called زلقى لساوي أسناني, consonant which is articulated by touching the tongue-tip as the active articulator to the base of upper teeth as the passive articulator.
6. Fronto-palatals which in Arabic is called طرف غاري, consonant which is articulated by touching the edge of tongue as the active articulator to the palate as the passive articulator.
7. Medio patatals which in Arabic is called وسط غاري, consonant which is articulated by elevating the mid-area of tongue as the active articulator to the palate as the passive articulator.
8. Dorso-velars which in Arabic is called قصى طبقي, consonant which is articulated when the tongue base as the active articulator touches the soft palate.
9. Dorso-uvulars which in Arabic is called قصى لساوي, consonant which is articulated by convergence of the tongue base to uvula.

10. Root-pharyngeals which in Arabic is called جزار حلقي, consonant which is articulated by the approaching base of tongue to the esophagus without directly touching it.
11. Glottals which in Arabic is called هنجري, consonant which is articulated by sticking vocal cords thus the air from the lung is exhaled.

Regarding to the area and the way the consonant is articulated, consonant in Indonesian and Arabic could be grouped as its kinds. To better understanding, it can be shown in table 3 below.

TABLE 3: Consonant in Indonesian and Arabic.

Area of articulation	Way of articulation												
	Explosive				Fricative				Mid				
	B		T		B		T		Pd.	Lt.	Tr.	Ns.	Sv.
	kh	rq	kh	rq	kh	rq	kh	rq	B	B	B	B	B
Bilabial		b ب	p									m م	w و
Labio dental						v		f ف					
Inter dentals					و			ث					
Aviko alveolars						z ز	ص	s س			r ر		
Aviko-dental alveolars	ض	d د	ط	t ت						ل ل		n ن	
Fronto Palatals								ش sy	ج ج			ny	
Medio Palatals													ي y
Darso Velars		g		k ك	غ		kh خ						
Darso Uvular			ق										
Root Paryngeals						ع		ح					
Glottals		ء						h ه					

Note:

B = Voiced T = Voiceless

Kh = *Mufakhhkam* (heavy accentuation) Rq = *Muraqqaq* (light accentuation)

Pd.B = Voiced affricative Lt.B = Voiced lateral

Tr.B = Voiced trills N.B = Voiced nasal

Sv.B = Voiced semi-vowel

As shown in table 3 above, it could be concluded that there are some consonants in Indonesian which share similarity in the area of articulation and the way they are articulated to consonant in Arabic. They are / b ب /, /m م/, /w و/, /f ف/, /z ز/, /s س/, /r ر/, /d د/, /t ت/, /l ل/, /n ن/, /sy ش/, /ج ج/, /k ك/, /kh خ/ dan /h ه/. On the other hand, there are some unique consonants exist in Indonesian only in terms of the area of articulation and the way they are articulated such as /p/, /v/, /g/ and sound /ny/. And oppositely, so do in Arabic such as /ح ح/, /ق ق/, /غ غ/, /ط ط/, /ض ض/, /و و/, /ث ث/, and /ء ء/.

4.3. Pattern of learning phonetics in Arabic to Indonesian native speakers

The analysis between the two languages is presented in table 2. Vowel /i/ and /u/ in Indonesian is high-front as such as vowel /i/ and /سي/ (long-stressed) in Arabic. While vowel /u/ in Indonesian is High-rear as such as vowel /u/ and /و/ in Arabic. Vowel /e/ in Indonesian is mid-intermediate, while vowel /e/ in Indonesian is mid-intermediate as such as vowel /e/ in Arabic, and vowel /o/ is rear-intermediate

In light of similarity and difference of phonetics in Indonesian and Arabic, it could be suggested a pattern of learning phonetics in Arabic to Indonesian native speakers.

1. Prioritizing to learn vowels in Arabic which have similarity in articulation to vowels in Indonesian. Furthermore, it is followed by learning consonants in Arabic which have similarity in articulation to vowels in Indonesian. It could be argued that setting up a priority in learning some shared-similarity materials would allow learners to learn Arabic easily. Al-Fauzan (2011) argued that, "If we could draw comparison between the learners and Arabic, we would like to discover two major things: (1) we could discover that within the language acquired by the learners, there would be some sounds which correspond to those exist in Arabic. (2) we could discover that that within the language acquired by the learners, there would be some sounds which do not correspond to the system of sound in Arabic and this would lead to difficulty to the learners who try to articulate them.
2. Scheduling learning vowels and consonants with no similarities between Indonesian and Arabic.
3. To support that, it could be expected that Arabic trainers excel in structure and the system of Arabic (as foreign language) as well as structure and the system of Indonesian as the first language.

Those three patterns of learning might be suggested as an effort to reconsider the support of learners' first language (Indonesian) to their ability in learning Arabic in Indonesia.

5. Conclusion

As mentioned previously, the similarities and the differences in Indonesian and Arabic phonetics could give impact to the pattern of learning Arabic in Indonesia. There are three points to conclude from the analysis. First, the similarities of vowels in Indonesian

and Arabic include the followings; (1) vowel /a/ is similar to *harkat fathah* /ا/; (2) vowel /i/ is similar to *harkat kasrah* /ي/; and (3) vowel /u/ is similar to *harkat dhammah* /و/. Meanwhile, for the differences of vowels between the two languages are (1) vowel /e/, /ɔ/, and /o/ exist in Indonesian only but not in Arabic; (2) vowel /ɑ/ (â, long stress), /iː/ (î, long stress), and /uː/ (û long stress) exist in Arabic only but not in Indonesian; and (3) diphthong and duplicative vowels (/ai/, /au/ and /oi/,) exist in Indonesian only but not in Arabic.

Second, there are some similarities as well as differences of consonant in Indonesian and Arabic, which can be summarized in table 4.

TABLE 4: Similarities and differences of consonant in Indonesian and Arabic.

Similarities		Differences	
Indonesian	Arabic	Existing in Indonesian only	Existing in Arabic only
b	ب	c	ث
d	د	g	ح
f	ف	p	خ
h	ه	v	ذ
j	ج	x	ق
k	ك	ń = ny	ش
l	ل	ŋ = ng	ع
m	م		غ
n	ن		ض
r	ر		ص
s	س		ط
t	ت		ظ
š = sy	ش		
w	و		
y	ي		
z	ز		

Third, prioritizing in learning Arabic phonetics which have similar sound to those exist in Indonesian rather that to learn the those which has different sound in order to support the learners to learn the language easily especially to beginner level.

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