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Popular Phonetic Mapping in The Qur'an and Its Implications on Teaching Arabic for Non-Native Speakers

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Abstract: The advantages of Arabic as the language of the Qur'an are its variety of sounds in each word with derivations in various forms and meanings. This study aimed to map popular phonetics with repetition rate in the Qur'an in order to build implicative concepts in Arabic learning for non-native speakers. The research used a qualitative approach with the type of literature research. As a preliminary research, data were obtained through documentary techniques from the Qur'an and Surah al-Wāqi'ah was taken as a data source because it represented the criteria as a popular surah. The analysis used a content analysis approach through the stages of condensation, presentation and conclusions. The results of the study was found that popular phonetics had vocal repetitions of 1,015 short vowels, 246 long vowels and 1,512 consonants. The results showed that the frequency of repetition of both vowels and consonants in the Qur'an had a phonetic sequence pattern from front to back, which was in line with Chomsky's universal rules and the natural order hypothesis of Krashen. In addition, the results were complemented by the hypothetical presupposition of the implications in Arabic learning for non-native speakers, both linguistically, psychologically, and pedagogically.

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Introduction

Emad A. Latif emphasized that the phonetics of Colloquial Arabic (CA) are different from the phonetics of Modern Standard Arabic (MSA).[1] Arabic phonetics with regional dialects are more often found in non-formal spoken and written conversations. This was caused by differences in the background of the speakers, for example in the pronunciation of the sound of the letter ق '*qāf*' for the Egyptians into the sound of the

[1] Emad Abdul Latif, "Arabic Political Discourse," *The Routledge Handbook of Arabic Linguistics* (2017): 1–580, https://doi.org/10.4324/9781315147062.

letter ء '*hamzah*'. For non-native speakers, as in Indonesia, a similar phenomenon can also be seen. Javanese, Sundanese, Madurese, and from other ethnic backgrounds, they might produce different sounds of certain letters like د, ذ , ظ, ض. Their first language also impacts the pronunciation in certain Arabic letters.[2] This topic is always attractive to be studied because the phonetic segment becomes a fundamental problem in the early period of foreign language learning.

Basically, Prophet Muhammad said that each letter in the Qur'an has ten good deeds (*hadith narrated al-Tirmidhi*). Thus, reciting the Qur'an for Muslims becomes a sacred ritual. In the previous study, Surah al-Wāqi'ah[3] is being one of the most popular surahs among other surahs such as QS. Yāsīn, al-Kahfi, ar-Rahmān, al-Mulk as well as other short surahs. Research by Junaidi[4] found empirical facts that reciting the Qur'an fluently has a significant influence on Arabic language skills. This finding is very logical because (1) Arabic is the language of the Qur'an, (2) There is a normative recommendation to read the Qur'an itself, (3) Fluency in Arabic is considered strict because if it sounds incorrect, the sense is also different. Hence, the research on popular Arabic phonetics is getting more interesting.

The previous classical research on the phonetics of the Qur'an can be seen from what was done by Imam Syafi'i (150-204 H). He counted the letters in the Qur'an along with the details of each number of letters and found 1,027,000 letters, the most letters is ا (*alif*) and the least letters is ظ (*ḍā'*). The details can be seen in the opening of the book *al-Futūhāt al-Ilāhiyyah*.[5] The previous research on the phonetics of the Qur'an such as Al-'Ūfī ,[6] Tajabadi,[7] Shooshtari,[8] Purwita,[9] and Mohamed,[10] Tajabadi and Mohamed

[2] Isnainiyah Isnainiyah, "Penggunaan Nama-Nama Orang Madura Ditinjau dari Bentuk Aslinya dalam Bahasa Arab," in *Seminar Nasional Bahasa Arab Mahasiswa II* (2018): 429–42.

[3] M. Khoirul Rizal, "Tradisi Pembacaan Surat Al-Waqi'ah di Kalangan Santri (Studi Living Qur'an di Pondok Pesantren Al Falah Ploso Mojo Kediri)", *Skripsi IAIN Salatiga* (2021).

[4] Junaidi Junaidi, and Baiq Mulianah, "Pengaruh Kefasihan Membaca Al-Qur'an terhadap Keterampilan Membaca pada Bidang Studi Bahasa Arab," *El-Tsaqafah : Jurnal Jurusan PBA* 19, no. 2 (2021): 199–215, https://doi.org/10.20414/tsaqafah.v19i2.2949.

[5] Sulaiman bin Umar Al-Ajili Asy-Syafii, *al-Futuhat al-Ilahiyyah li Tawdhih Tafsir al-Jalalain li al-Daqaiq al-Khafiyyah* (Beirut: Dar al-Kutub al-Ilmiyyah, 2011).

[6] I. bin M. Ali al-'Ūfī, "Al-Af'āl Al-Nāsikhah Al-Shā'i'ah Fi Surah Al-Baqarah Wa Fā'idatu Ta'līmiha Lighayri Al-Nātiqīna Bihā," *Al-Majallah Al-'Alamiyyah Li Kullliyah Al-Tarbiyyah* 33, no. 3 (2017): 110–38.

emphasize on phonetics related to the rules of reciting the Qur'an as in *'Ilm at-Tajwīd*. Purwita conducted more research on the phonetics of the Qur'an related to the development of sound similarity identification technology. Meanwhile, Al-'Ūfī studied the phonetics of certain surah in the Qur'an.

From previous studies, it was known that phonetic mappings are more limited in structural studies and associated with the science of recitation. Therefore, this study aimed to map how popular phonetics in the Qur'an was by taking Surah al-Wāqi'ah that is one of the surahs and often recited by Muslims. As the novelty, this is not only structurally linguistics, but also functionally researched that related to the strategic implications of learning Arabic as a foreign language or for non-native speakers. The analysis used a content analysis approach through the stages of condensation, presentation and conclusions.

Methods

This study used a descriptive qualitative approach, with the type of literature research, because, the data source and discussion were based on text analysis. Considering the language of the Qur'an is the standard Arabic with the most authentic phonetic system, the study focused on the phonetic of the Qur'an, with the primary source Surah al-Wāqi'ah. The selection of this letter was carried out by purposive sampling by considering the characteristics as (1) popular reading, (2) the number of verses is relatively small from other surahs, and (3) more in accordance with the theme of research that examines popular phonetics.

Phonetic data were collected manually by using documentary techniques with elaboration from various secondary sources that support the data. This technique collected and

[7] Farzaneh Tajabadi and Aliyeh Kord-e Zafaranlu Kambuziya, "Determination of Quranic Verse-Final Pauses'(Fawāṣil) Phonetic Model Based on Phonological Distinctive Features," *Islamic Studies and Culture* 2, no. 1 (2018): 1–18.

[8] Mohammad Ebrahim Khalifeh Shooshtari and Taleb Rabiei, "A Phonetics Study of Surah Yunus," *Reasarch in Arabic Language* 20, no. 20 (2019): 1–20, https://doi.org/10.22108/rall.2018.111384.1142.

[9] Naila Iffah Purwita et al., "Typo Handling in Searching of Quran Verse Based on Phonetic Similarities," *Register: Jurnal Ilmiah Teknologi Sistem Informasi* 6, no. 2 (2020): 130–40, https://doi.org/10.26594/register.v6i2.2065.

[10] Yuslina Mohamed, Mesbahul Hoque, Tuan Haji Sulaiman Bin Ismail, Mohamed Hj Ibrahim, Nurhasma Muhamad Saad, and Nurul Nazariah Mohd Zaidi. "Relationship Between Phonology, Phonetics, and Tajweed: A Literature Review." In *4th International Conference on Sustainable Innovation 2020–Social, Humanity, and Education ICoSIHESS 2020* (2021): 407-411.

examined the official documents that were valid and guaranteed to be valid.[11] After the data were obtained, the analysis stage was done by using content analysis techniques that were aligned with the Miles, Huberman, and Saldana techniques[12] through (1) data condensation, (2) data presentation, and (3) conclusion drawing.

Results and Discussion

Popular Phonetics in Surah al-Wāqi'ah

Popular Vowels

Popular vowels (*al-'Aṣwāt al-Mutaharrikah al-Syā'i'ah*) in Surah al-Wāqi'ah were found about 1,261 pieces included short vowels or long vowels. By adapting Clare tabulation[13] about Arabic phonetics to IPA, the data are presented as in table 1.

Table 1. Popular Vowels and Semivowels in Surah al-Wāqi'ah

Order	1	2	3	4	5	6	7
IPA Symbol	[a]	[i	[u]	[a:]	[a:]	[i:], [ij]	[u:],[uw]
Ministry of Religion Transliteration	a	i	u	Ā	ā	ī, y	ū,w
Arabic Graphemes/Letters	◌َ	◌ِ	◌ُ	ا	ى	ي	و
Number of repetitions	593	213	209	103	6	58	79

The data in table 1 with the Brierley tabulation above showed seven vowel columns, but phonetically, there are six vowels, which are short vowels [a], [i], [u] and long vowels [a:], [i:], [u:]. Columns 4 and 5 are the same. Both of them are *alif layyinah* that has no vowel (*sukūn*), only as a marker of vowel length [a]. The difference is only in the grapheme because *alif layyinah* has two graphemes, namely the standing line ا like *alif yābisah* (which has a vowel)[14] and the curved line ى is like the letter *yā'* but without the dots. Therefore, Nadir Java[15] considered that the use of writing of symbol "ى" as

[11] Hardan et al., *Buku Metode Penelitian Kualitatif Dan Kuantitatif*, I (Yogyakarta: CV Pustaka Ilmu, 2020).

[12] Matthew B Miles, A Michael Huberman, and Johnny Saldana, *Qualitative Data Analysis: A Methods Sourcebook*, 3rd ed. (USA: Sage Publications, 2014).

[13] Clare Brierley et al., "A Verified Arabic-IPA Mapping for Arabic Transcription Technology, Informed by Quranic Recitation, Traditional Arabic Linguistics, and Modern Phonetics," *Journal of Semitic Studies* 61, no. 1 (2016): 157–86, https://doi.org/10.1093/jss/fgv035.

[14] Arief Rahman Hakim, "Alif Layyinah dalam Perspektif Morfologis", *Repository of Maulana Malik Ibrahim State Islamic University of Malang* (2020).

[15] Nadir Java, "Al-Alif Al-Layyinah wa al-Yābisah," accessed November 27, 2021, https://javanet.sudanforums.net/t39-topic.

"s*yā'"* is incorrect, it should use " ي " with two dots below. In surah al-Wāqi'ah, it is known that the most repetitions to the least for short vowels are [a], [i], [u], and slightly different on long vowels, namely [a:], [u:], [i:].

Grapheme "و" and "ي" other than as semivowels [w] and [j] or identical consonants with vowels [u] and [i], regardless of their role in a syllable. Hence, the sound [w] is considered to have the same formant frequency as [u]. Similarly, the formant frequency [j] is the same as [u]. Forman refers to R.G.Keen[16] as the spectral form produced by the acoustic resonance of the human vocal tract. But in reality, Maddieson and Emmorey[17] found that vowels and semivowels differed in amplitude or 'pre-eminence', syllable function, and time. Apart from this polemic, the data of this study have provided empirical evidence as presented in table 1 that the front vowel has more repetitions than the back vowel.

Table 2. Popular Vowel/Consonant Diacritics in Surah al-Wāqi'ah

Order	1	2	3	4	5	6	7
IPA Symbol	-	-	[an], [a:]	[in]	[un]	[t], [h]	[ʔa], [ʔi], [ʔu]
Transliteration	-	-	an, ā	In	un	t, h	-
Arabic grapheme	◌ً	◌ٌ	◌ٍ	◌ِ	◌ُ	ة	ٱ
Number of repetitions	375	136	22	37	19	22	56

The data in table 2 showed that Arabic phonetic diacritics adapting the Brierley tabulation[18]. The uniqueness of the Arabic language can also be seen from the existence of diacritical markers which was considered by Yasser Hifny as an important component in the development of the text system into Arabic. This is mainly related to the phonetic transcription algorithm according to the rules of use.[19] Syllables with diacritics ◌ْ (*sukūn*)

[16] R.G. Keen, "Human Voices and the Wah Pedal," accessed November 27, 2020, http://www.geofex.com/Article_Folders/wahpedl/voicewah.htm.

[17] I. Maddieson and K. Emmorey, "Relationship between Semivowels and Vowels: Cross-Linguistic Investigations of Acoustic Difference and Coarticulation.," *Phonetica* 42, no. 4 (1985): 163–74, https://doi.org/10.1159/000261748.

[18] Clare Brierley, Majdi Sawalha, Barry Heselwood, and Eric Atwell. "A Verified Arabic-IPA Mapping for Arabic Transcription Technology, Informed by Quranic Recitation, Traditional Arabic Linguistics, and Modern Phonetics." *Journal of Semitic Studies* 61, no. 1 (2016): 157-186.

[19] Yasser Hifny, "Open Vocabulary Arabic Diacritics Restoration," *IEEE Signal Processing Letters* 26, no. 10 (2019): 1421–25, https://doi.org/10.1109/lsp.2019.2933721.

on a letter means the absence of a vowel on that letter. Diacritical ◌ّ (*syaddah*) as a double sound. Diacritical ◌ً, ◌ٍ, ◌ٌ (*tanwīn*) means that the letters with this diacritic are pronounced like meeting the nun [n] without vowel, so it is also called *the nunation*. Suffix ة (*tā' marbūṭa*) to signify nouns and feminine adjectives (*mu'annats*) which are only used at the end of words. Pronunciation can be a consonant [t] and [h]. As for diacritics and glyphs, ٱ (*hamzatal-waṣl*) represents the classical Ottoman script, which in phonetic mapping is transcribed as [ʔi], [ʔu], or [ʔa].[20] Table 2 provided empirical facts that the diacritic *sukūn* represents the most popular diacritic because it has the most repetitions than the others.

Popular Consonants

Popular consonants (*al-'Aṣwāt aṣ-Ṣāmitah ash-Syā'i'ah*) can be classified into 2 parts. First, popularity is reviewed based on the type of sound. In *Surah al-Wāqi'ah*, there are 1512 consonants found consisting of various sounds that differ from one another. Each sound also has a different level of popularity. Figure 1 shows the ten most popular phonetic series, namely [n], [m], [l], [w], [ʔ], [k], [j], [t], [r], and [b], while the ten most rare phonetic sequences are [ɣ], [x], [tˤ], [dˤ], [ðˤ], [z], [ð], [ɵ], [d], [sˤ]. From here, the sound [n] occupies the most popular position with 199 repetitions and the sound [ɣ] occupies the least frequent position with only 4 repetitions.

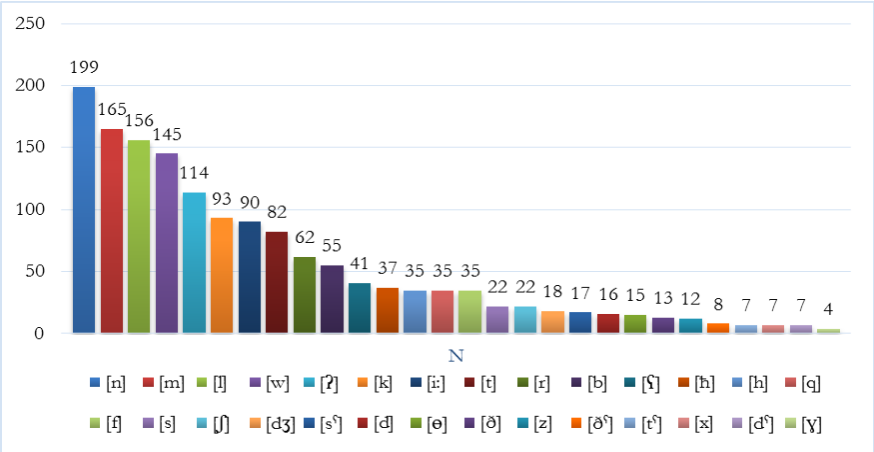

Figure 1. Frequency of Repetition of Consonants in Surah al-Wāqi'ah

[20] Clare Brierley, Majdi Sawalha, Barry Heselwood, and Eric Atwell. "A Verified Arabic-IPA Mapping for Arabic Transcription Technology, Informed by Quranic Recitation, Traditional Arabic Linguistics, and Modern Phonetics." *Journal of Semitic Studies* 61, no. 1 (2016): 174-175.

The transcription of the consonants in figure 1 follows the standard in IPA as Arabic fuṣḥā or MSA phonetic transcription that can be adapted from Brierley,[21] and Ziafat.[22] In addition, Al-Shishtawi[23] also added IPA as a variation of phonetic transcription [n] ن (*nūn)* with [ŋ], [ɲ] and [ɱ], due to nasal assimilation and meeting certain letter sounds afterward according to the behavior of the noon *sakinah* and tanween.

Furthermore, popular phonetics is reviewed based on the place where the sound comes out (*makhraj*) or the articulatory point. Conceptually, the number of articulatory phonetics of Arabic has different point of views among Arab linguists, so that in terms of the number of categories of *makhraj*, there are different. Tamam Hasan[24] divided it into ten. Basyar,[25]Shariq,[26]Salameh,[27] and Nasution divided it in to eleven. Although Basyar, Shariq, Salameh, and Nasution have the same point of views in eleven categories, the details in each category are different. Among the differences, for example, the sound "و" [w] was viewed as bilabial by Hasan, Salameh, and Nasution, but by Shariq it was included as labio-velar. Therefore, as an operational reference for consistency of analysis, this study chose the category formulated by Nasution. This consideration is based on (1) the categorization formulation is closer to the opinion of the majority of linguist experts and (2) closer to the phonetics of MSA and the Qur'an.

Nasution's version of articulatory consonants is as follows.[28] Bilabial consonants (الشفتانية) consist of ب [b], م [m], و [w]. Labio-dental consonants (الشفهية الأسنانية)

[21] Brierley et al.

[22] Nishmia Ziafat et al., "Correct Pronunciation Detection of the Arabic Alphabet Using Deep Learning," *Applied Sciences (Switzerland)* 11, no. 6 (2021): 1–19, https://doi.org/10.3390/app11062508.

[23] Hamid Ibrahim Al-Shishtawi, "The Behavior of Noon Saakinah and Tanween in Qur'anic Recitation: In the Light of Generative Phonology," *International Journal of Language & Linguistics* 5, no. 4 (2018): 81–89, https://doi.org/10.30845/ijll.v5n4p9.

[24] Tamam Hasan, *Al-Lugat Al-'Arabiyyah: Ma'nāhā Wa Mabnāhā* (Dar al-Tsaqafah, 1994).

[25] Kamal Muhammad Basyar, *'Ilm Al-Lugat Al-'Ām Al-Aṣwāt*, 7th ed. (Cairo, Egypt: Dar al-Ma'arif, 1969).

[26] Mohammed Shariq, "Arabic and English Consonants: A Phonetic and Phonological Investigation," *Advances in Language and Literary Studies* 6, no. 6 (2015): 146–52, https://doi.org/10.7575/aiac.alls.v.6n.6p.146.

[27] Mohammad Yahya Bani Salameh, "The Phonetic Nature of Consonants in Modern Standard Arabic," *English Linguistics Research* 4, no. 3 (2015): 30–57, https://doi.org/10.5430/elr.v4n3p30.

[28] Ahmad Sayuti Anshari Nasution, *Fonetik & Fonologi Alquran* (Jakarta: Amzah, 2018).

in the form of sound ف [f]. Apico-interdental consonants (اللثوية بين الأسنان)in the form of soundث [θ], ذ [ð], ظ [ðˤ]. Apico-dental consonants (اللثوية الأسنانية) in the form of sound ت [t], د [d], ط [tˤ], ض [dˤ], ل [l], ن [n]. Apico-alveolar consonants (اللثوية الأسلية) in the form of sound ر [r], ز [z], س [s], ص [sˤ]. Fronto-palatal consonants (الغارية الطرفية) that are ج [dʒ] and ش [ʃ]. Medio-palatal consonants (الغاري الوسطي) that is sound of ي [j]. Dorso-velar consonants (الغاري الوسطي) that is خ [x], غ [ɣ], ك [k]. Dorso-uvular consonants (اللهوي القصي) that is sound of ق [q]. Rooto-pharyngeal consonants (الحلقية الجذرية) that is sound of ح [ħ], ع [ʕ]. As for the glottal consonants (الحنجرية) that is sound of هـ [h] and ء [ʔ].

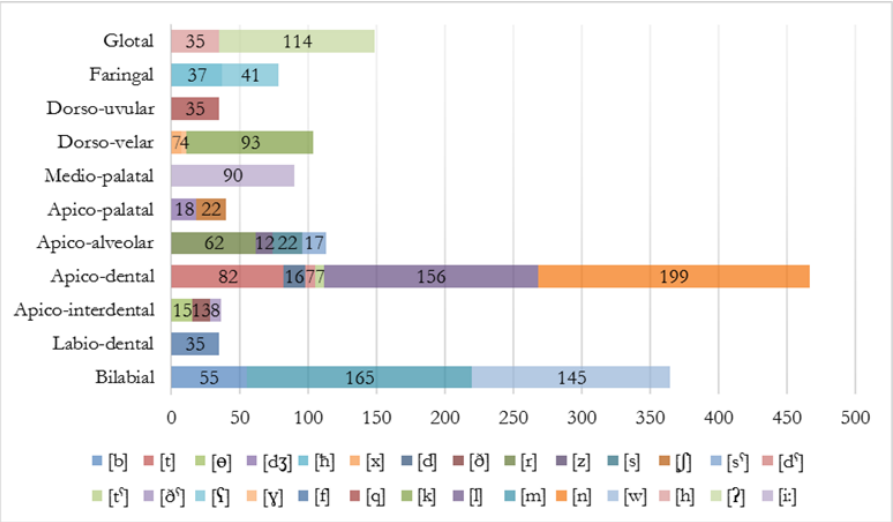

Figure 2. Popular Consonants in Surah al-Wāqi'ah

The data in figure 2 reveals that based on 1512 consonants contained in *Surah al-Wāqi'ah* by using Nasution's formula, the following repetitions were found. 1) Apico-dental consonants 467 times, i.e. [t] 82 times, [tˤ] 7 times, [d] 16 times, [dˤ] 7 times, [l] 156 times, [n] 199 times. 2) Bilabial consonants 365 times, namely [b] 55 times, [m] 165 times, and [w] 145 times. 3) Glottal consonants 149 times, namely [ʔ] 114 times and [h]

35 times. 4) Apico-alveolar consonants 113 times, namely [r] 62 times, [s] 22 times, [sˤ] 17 times, and [z] 12 times. 5) Dorso-velar consonants 104 times, in the form of [k] 93 times, [ɣ] 4 times, and [x] 7 times. 6) The 90 times medio-palatal consonant is [j]. 7) Pharyngeal consonants 78 times, namely [ħ], [ʕ]. 8) Apico-palatal consonants 40 times, namely [dʒ] and [ʃ]. 9) Apico-interdental consonants 36 times, namely [θ], [ð], [ðˤ]. As for 10) dorso-uvular consonants [q] and 11) labio-dental consonants [f], both have 35 times.

This finding showed that apico-dental consonants are the most popular articulatory phonetics, while dorso-uvular and labio-dental consonants are the least common. The number of repetitions of certain types of sound is not always the same as articulatory repetition. However, the pattern can be abstracted and form a sequence. The average front consonant has more repetitions than the back consonant. This front and back division borrows Catford's term in describing phonetics based on the subdivisions of the tongue,[29] like in figure 3.

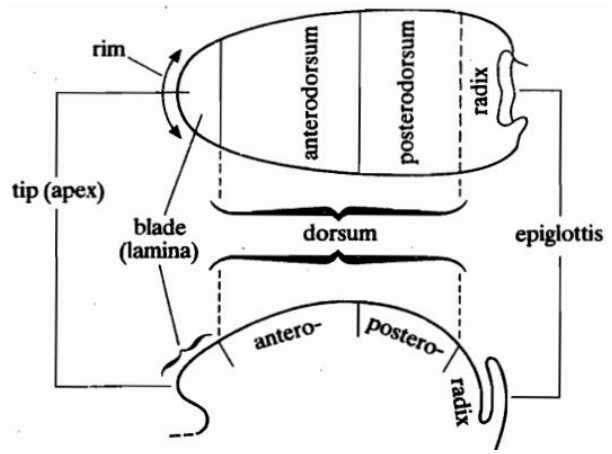

Figure 3. Catford Phonetic Map Based on *Subdivisions of the Tongue*.

Catford mentioned that the tongue zone is divided into two broad categories, front, and back. The front category is preceded by the labio (lips) divided into exolabio (outer lips) and endolabio (inner lips). Then there are the dental (teeth), sublamino (underside of the tip of the tongue), apico or apex (tip of the tongue), and lamino or blade (upper side of the tip of the tongue), anterodorsum (front of the tongue). Meanwhile, the back category is posterodorsum (back tongue) and radico or radix (the root of the

[29] J.C. Catford, *A Practical Introduction to Phonetics*, 2nd ed. (New York: Oxford University Press, 2001).

tongue).[30]

Implications in Arabic Learning for Non-Native Speakers

Linguistic Implications

Based on structural linguistics, the phonetic description of Arabic Surah al-Wāqi'ah not only justifies the differences in several phonetic characteristics of MSA which are different from colloquial Arabic phonetics, especially with Indonesian, where Arabic is studied as a foreign language. Popular phonetic findings also become an exploratory basis in developing learning. One of the studies of structural linguistics is contrastive linguistics which is fairly classical. Danesi[31] described that the idea of contrastive linguistics influenced by descriptive-synchronic studies was alluded to by Charles Fries in the 1940s.

However, Tarkpegher[32] called it a theory of contrastive analysis introduced by Robert Lado in the 1950s. The study focused more on distinguishing linguistic elements in the first language. The hypothesis was simple. Each language element that is the same or similar to the first language is considered easy, while those that are different are difficult. Arabic teachers with Indonesian first language background learners can rely on this simple technique. Especially between Arabic and Indonesian, contrastively there are the following premises. (1) Phonetic equations, namely [b], [m], [w], [f], [k], [r], [z], [s], [h], [l], [n] , [j]. (2) Phonetic similarities, namely [t], [dʒ], [θ], [ħ], [x], [ɣ], [d], [ð], [ʃ], [sˤ], [ɣ] , [q]. It is similar because they are not exactly the same in sound character in *makhraj* (place) and nature (manner). (3) Phonetic differences in two categories, namely Arabic phonetics that are not found in Indonesian phonetics [tˤ], [ðˤ], [dˤ], and Indonesian phonetics that are not found in Arabic phonetics, namely [e], [o], [tʃ], [p]. The discussion here does not delve into the problem of orthographic, syllabic, segmental and suprasegmental differences because it is included in the study of phonemics.

Contrastively, it is known that the MSA (the Qur'an) phonetics that are difficult for students are [t], [dʒ], [θ], [ħ], [x], [ɣ], [d], [ð] , [ʃ], [sˤ], [ɣ], [q] because they are

[30] Catford.

[31] Marcel Danesi, "Charles Fries and Contrastive Analysis," in *Toward an Understanding of Language: Charles Carpenter Fries in Perspective*, ed. Peter H. Fries and Nancy M. Fries (Amsterdam/Philadelphia: John Benjamins, 1985), 277–96.

[32] Henry Terngu Tarkpegher and Nwokeke Godspower Ikechukwu, "A Contrastive Analysis Of The Morphological Structure Of Nigerian Pidgin English And Nigerian English," *Journal of Languages, Linguistics and Literary Studies (JOLLS)* 10, no. 2 (2021): 1–9.

similar but not the same as Indonesian, and the most difficult ones are [tˤ], [ðˤ], [dˤ] because Indonesian doesn't have them. Thus, phonetic errors in Arabic can be predicted from the Indonesian phonetic description. Because the hypothesis of contrastive analysis is to predict difficulties in the second language due to the mechanism of first language transfer. Therefore, teacher are expected to master both languages, either the first language or the target language.

However, this hypothesis is considered as a weakness of contrastive analysis theory. As a response, the theory of error analysis proposed by Pit Corder emerged in the 1960s.[33]If the teachers use this theory, the emphasize is no longer focused on the first language. This is because linguistic errors do not always come from the first language, but from the second language itself which is intralingual from Arabic itself with various characteristics that are considered complex. Hence, teacher can analyze it starting from (1) data collection, (2) identification of errors, (3) classification into types of errors, (4) statements of the relative frequency of types of errors, (5) identification of difficulty areas in a second language, and (6) repair.[34]

If contrastive analysis focuses on the first language, error analysis focuses on cases of interference in the second (targeted) language. In the next development, a theory of interlanguage analysis appears (interlanguage). This theory introduced by Selinker[35] balance the focus of analysis and the processes that occur, both to and from the first or second language. In other words, intermediate is a linguistic competence between two languages, both those that have been mastered previously or with the language being studied.

Intermediate analysis of the error phenomenon is more comprehensive as a creative construct of language between two languages. Corder called it the idiosyncratic dialect[36] and it was called too as an approximative system.[37]Although the study of

[33] H. Merve Altıparmak Yılmaz and Necati Demir, "Error Analysis: Approaches to Written Texts of Turks Living in the Sydney," *International Education Studies* 13, no. 2 (2020): 104, https://doi.org/10.5539/ies.v13n2p104.

[34] Reza Amini and Javad Bayesteh, "Investigating Error Analysis in Interlinguistic English Language Teaching and the Consequences of Contradictory Analysis on Teaching Quality" 4, no. 1 (2020): 41–44, https://doi.org/10.22034/JHI.2020.109840.

[35] Larry Selinker, "Interlanguage" X, no. 3 (1972): 209–32.

[36] Sepehr Seddiqi-nejad and Seyed Farid Khalifehlou, "Introducing Some Idiosyncratic Phonological Features of Rūdbāri (Kerman) Dialect," *Journal of Prose Studies in Persian Literature* 20, no. 42 (2017): 183–204, https://doi.org/10.22103/JLL.2017.1717.

[37] Amir Reza Asiyaban et al., "A Cross-Sectional Investigation into the Implicit and Explicit Knowledge of the Article System in Iranian Learners' Approximative System," *International Journal of Instruction* 12, no. 4 (2019): 479–94, https://doi.org/10.29333/iji.2019.12431a.

contrastive analysis, error analysis, and intermediate language analysis is mostly on morphological elements, however, Clayards experiment[38] proved that the phonetic details in words that are received by the sense of hearing systematically reflect the morphological structure.

Therefore, the finding of phonetic description becomes important. The teacher of Arabic as a foreign language can use linguistic support in developing their learning, especially to master vocabulary through attention to the phonetic description of each language. Popular phonetic descriptions will help in simplifying sound performance practice. Thus, a hypothesis can be proposed that the ideal teacher does not always have to be a native speaker, especially for the person who does not have basic knowledge of Indonesian language background as the learner's first language.

Psychological Implications

In simple terms, the psychological implications here related to mental processes in the reception and production of a language, how it is received and mastered by someone. Mental processes are generally divided into three perspectives: behavioristic, cognitivism, and humanistic.[39] In perspective of behavioristic, learning Arabic by considering popular phonetics has implications for how teacher in their role as modifiers and reinforcers of learners' behavior, especially in pronouncing MSA phonetics correctly. This is because the behavioristic view relies on changing behavior on the relationship between stimulus and response. Popular phonetic description of Surah al-Wāqi'ah can be used as comparative information in analyzing competency maps and learners' initial performance.

From a cognitive perspective, popular phonetic descriptions are in line with Piaget's study on the level of the conceptual development of children, so teacher should be able to pay attention to what is taught and how to teach it. The phonetic choices taught can be considered from the most concrete and visible, for example, bilabial consonants. Popular Arabic phonetic descriptions of the frequency of repetition of vowels and consonants from large to small (Table 1, Table 2, and Figure 1) follow a pattern in parallel, from front phonetics first followed by back phonetics. Therefore, the retrieval aspect in students' memories will help them to retrieve knowledge easier from what is

[38] Meghan Clayards, M. Gareth Gaskell, and Sarah Hawkins. "Phonetic Detail is used to Predict a word's Morphological Composition." *Journal of Phonetics* 87 (2021): 101055.

[39] Syarifan Nurjan, *Psikologi Belajar Edisi Revisi* (Ponorogo: Wade Group, 2016), http://eprints.umpo.ac.id/4909/1/Buku Psikologi Belajar.pdf.

heard frequently and reorganize it based on a coding system.

From a humanistic perspective, learning is part of the process of upholding the value of human dignity. The diversity of student competencies and performance must be seen by teacher as something unique and self-actualizing. The teacher is more than facilitator. Learning popular phonetics does not mean that the teacher must force the pronunciation from the most phonetic repetitions to the fewest. Actually, students' personal differences in mastering Arabic are a source of collective input that teacher must concern to help the students to take lessons easier cooperatively.

The popular phonetic in Surah al-Wāqi'ah with the finding of its repetition sequence from front to back consonants has an integrative theoretical link between linguistics and psychology (psycholinguistics). For example, Stephen Krashen's theory with his big proposal regarding the natural order hypothesis in the acquisition of a language. This theory concluded that there was a pattern of linguistic rules that are controlled by a person in a predictable and universal order. An infant might pronounce the front, middle, and back consonants. The universal linguistic rule is natural and in the view of the nativist Avram Noam Chomsky is called innate since humans are born which is metaphorized as a black box with a function as a language acquisition device.[40]

However, the natural order hypothesis had been criticized by Johnson.[41] According to him, the hypothesis was less generalizable, especially in the context between first and second language acquisition, because the order is not always the same. Johnson's opinion was supported by Liu[42] and Lai.[43] They considered that the hypothesis failed to explain the major influence of the first language on second language acquisition. Second language learners do not always acquire grammatical structures in a predictable order. From this natural order polemic, this study assumed that the natural order in Arabic phonetic learning can happen.

Besides, the order was not absolute, because other variables can influence such as

[40] Isabella Buniyatova, "The Linguistic Philosophy of Noam Chomsky," *Studia Philologica* 14, no. 1 (2020): 7–10, https://doi.org/https://doi.org/10.28925/2311-2425.2020.141.

[41] Heather Johnson, "The Natural Order Hypothesis: Definition and Criticism," accessed November 27, 2021, https://parentingpatch.com/natural-order-hypothesis-definition-criticism/.

[42] Dayan Liu, "A Critical Review of Krashen's Input Hypothesis: Three Major Arguments," *Journal of Education and Human Development* 4, no. 4 (2015): 139–46, https://doi.org/10.15640/jehd.v4n4a16.

[43] Wen Lai and Lifang Wei, "A Critical Evaluation of Krashen's Monitor Model," *Theory and Practice in Language Studies* 9, no. 11 (2019): 1459–64, https://doi.org/http://dx.doi.org/10.17507/tpls.0911.13.

the popular variable or not of a sound with the level of repetition. Robert DeKeyser[44] said that repetition for language learning is part of the way to strengthen cognition in language acquisition. Thus, according to popular phonetics and modification of repetition in the classroom becomes a strategic point in helping to reduce phonetic errors when learning Arabic for non-native speakers.

Pedagogical Implication

Pedagogical Implications are more related to the description of learning practices. Hasan[45]said that the study of phonology in Arabic learning for non-native speakers, for (1) teaching tone of voice (*an-nabr*), (2) pronouncing the final letter sound correct when stopping, (3) speaking long and short vowels, (4) teaching long and short vowel speech, and (5) teaching intonation exercises both in words and sentences. The purpose of Arabic learning as a foreign language must be formulated through different considerations from its learning for native speakers.

For students who speaks Indonesian as their first language, the phonetic difficulties they face are different. Actually, this difficulty becomes the entry point in the formulation of learning objectives, so that Arabic can meet the goals according to the context of the learner. The design of the subject matter is also the same. In terms of language, teacher can map vocabulary choices which consists of popular and unpopular phonetics as the learning materials. In terms of systematics, teacher presented Arabic by prioritizing popular phonetic content before unpopular phonetics in every linguistic element or language skill being taught. In terms of graphics, orthography with certain sounds can be given different perspective, so that it would attract more attention and is quickly stored in the memory of students, especially for the beginners.

If the objectives and materials have taken into account the popular phonetic description, then the method must also be adjusted. If the teacher uses the audio-lingual method, then the drill pattern given in class must also reach the phonetic drill, not only on morpheme and syntax. Giving drill patterns can be started from the syntax drill, for example *ḍaḥika zaydun* <**ضحك زيد**> ‘Zaid laughs’, with phonetic structure {[dˁ], [a], [[ħ], [i],

[44] Robert DeKeyser, “Repetition for Language Learning: A Perspective from Skills Acquisition Theory,” in *Learning Language Through Task Repitition*, ed. Martin Baygate (Amsterdam/Philadelphia: John Benjamins Publishing Company, 2018), 27.

[45] Naifah Hasan, “‘Ilm al-’Aṣwāt al-‘Arabiyyah: Taṭawwurātuhā wa Naẓariyyatuhā wa Al-’Istifādat Minhā Li Ta’līm Al-Lugat Al-‘Arabiyyati,” *Al-Ta’rib : Jurnal Ilmiah Program Studi Pendidikan Bahasa Arab IAIN Palangka Raya* 6, no. 2 (2018): 144–55, https://doi.org/10.23971/altarib.v6i2.1070.

[k], [a]}, {[z], [a], [j], [d], [u], [n]}. Furthermore, morphemic drill is an emphasis on repetition of words that are not yet perfect in what students say, for example, *ḍaḥika* <**ضحك**> 'laugh', {[dˁ], [a], [[ħ], [i], [k], [a]}. When morphemic drills are carried out classically or individually, teacher can observe which of the students have not been able to pronounce sounds correctly as corrections in phonetic drills, such as in the practice of distinguishing sounds from<**ض**> [dˁ] with <**د**> [d] and <**ح**> [ħ] with <**ه**> [h]. Thus, unpopular phonetics can be added to the frequency of practice in class.

Teacher can also develop the phonetic competence for non-native Arabic learners in an elaborate manner using the phonetic method. The phonetic method is more specific in developing students' phonic competence through spoken language features instead of writing, or non-letter sounds. Learners must master the phonetic reception of listening and can be accompanied by looking at the part of the teacher's model that provides examples of pronunciation. After they have mastered it, students can be invited to see the equivalent in writing.

Conclusion

Popular phonetic research, in Surah al-Wāqi'ah as a representation of popular surahs in the Qur'an, found empirical facts that the repetition of vowels and consonants have repetition order that patterned from front to back phonetics. It marks its connection with Krashen's theory of the natural order hypothesis, although this hypothesis continued to invite scientific polemic among linguists. Discussion results on the implications of popular phonetic findings from Surah al-Wāqi'ah was converging on three propositions as hypothetical syllogisms, namely linguistic, psychological, and pedagogic. The linguistic implications lead to a re-attention to the urgency of structural linguistics in Arabic learning have positioned the teacher as a figure who must better understand the phonetic description between two languages, first and second. In psychological perspective, learning Arabic should not ignore the mental side of the learner. Popular language elements become an important factor in facilitating the process of reception and language production because the repetition was considered to increase memory capacity. Based on the pedagogical implications, Arabic learning must be systematically and authentically constructed under popular phonetic descriptions as a learning orientation.

The limitations of this study, (1) only using *Surah al-Wāqi'ah* as a sample, and (2) the analysis was still in the preliminary step, so that still conceptual based. Therefore, a follow-up study is needed with a sample of the verses text that covers more of the entire surah in the Quran and a study of its implications through field studies.

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Author Contributions Statement

MT and MD contributed to conceive of the presented idea. MT helped to develop the theory and verified the research methods. MD performed the data collections and computations. MT encouraged MD to investigate a specific aspect of research and MT supervised the findings. All authors discussed the results and contributed to the final manuscript.

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