Comparative Analysis of Phonetic Errors in Speech of Qolloquial in Arabic Song by Non Arabic Speakers

Andini Zahrotun Nisa1, Mohamad Zaka Al Farisi2, Hikmah Maulani3, Zahra Auliya4
1,2 Study Program of Arabic Education Universitas Pendidikan Indonesia, Indonesia.
3 Study Program of Islamic Sharia Al-Azhar University Cairo, Egypt.
Correspondence Address: andininis40@upi.edu

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Abstract

The Egyptian Qolloquial Arabic is widely used to articulate Arabic song lyrics, which have phonological differences that can alter the sounds of spoken words. These differences occur in specific phonemes, including the phonem [q] and [dʒ] changing to the phonemes [ʔ] and [ɣ]. This research employs a comparative qualitative method and document analysis through Praat analysis to obtain visualization results of speech sound errors when pronouncing the phonemes [ʔ] and [ɣ]. Their form of speech sound errors in this study is obtained through a comparative analysis of the phoneme sounds of Native Speaker and Non Arabic Speakers. The data on speech errors were collected from four stanzas of Egyptian Qolloquial Arabic song lyrics. The results of this study show substitution errors of the phoneme [ʔ], which changes into the phoneme [ʕ]. Meanwhile, the pronunciation of the phoneme [ɣ] is articulated like the phonem [g] in Indonesian. This study also shows errors related to the addition and deletion of speech sounds at the beginning of words. These errors refer to the phonetic structure components, including the nature and articulation area of the phoneme, as well as the acoustic components in the fundamental frequency and sound intensity. This research is a novelty in Arabic linguistics by comparatively analyzing phoneme speech errors of Non Arabic Speakers when articulating Arabic songs. Therefore, it is hoped that future research can develop studies that analyze vocal speech errors in using Egyptian Qolloquial Arabic when articulating other Arabic songs.

Keywords: Comparative Analysis, Egyptian Qolloquial Arabic, Phoneme Articulation, Phonetic Errors

ملخص


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Introduction

Arabic becomes the largest language in the world that has two linguistic varieties called Modern Standard Arabic and Qolloquial Arabic. As a form of explanation that the two varieties of Arabic have differences, it can be seen in the pronunciation of certain phonemes owned between the Modern Standard Arabic and the Qolloquial Arabic. These differences occur due to the factor of Arabic development. These phonemes consist of phoneme ﮐ ﻗ [q] changes to ٞ ﺘ [ʔ]; phoneme چ َ [dʒ] changes to َ ﻏ [y]; phoneme getVar [θ] changes to َ ﺖ [t]; phoneme َ ر [ð] changes to َ ض [f]; phoneme َ َ [ʔ] changes to َ ي [j]. These phonemes make changes in every word form of Arabic speech in the Qolloquial Arabic. One example of change in the pronunciation of these phonemes is found in the word Qalbiy, which is read as ’Albiy.

Another difference is that there is a language variety that concerns the use of the Egyptian Qolloquial Arabic in the aspect of word pronunciation. Based on the variety of phonology referring to Crowley’s theory, the different uses of speech have various forms of sound changes. As explained in the book entitled An Introduction to Historical Linguistics, there are nine forms of sound changes, including (1) lenition and fortition, (2) sound loss that is divided into five forms (apheresis, apocope, syncope, haplology, cluster reduction), (3) sound addition that is divided into three forms (anaptyxis or epenthesis, prosthesis, and excrescence), (4) metathesis, (5) fusion, fission, and breaking that is divided into three forms (fusion, unpacking, and vowel breaking), (6) assimilation, (7) dissimilation, (8) tone changes, and (9) unusual sound changes.3

Characteristics of the Arabic variety above can be found in popular Arabic songs, which use the Qolloquial Arabic. Related to this issue, Arabic songs have experienced rapid growth in

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popularity in countries outside of Arabia, one of which is Indonesia⁴ through the use of internet social media such as Youtube channel, Instagram, or Tiktok, so Arabic songs are popular rapidly, such as the songs of Ummu Kultsum, Nancy Ajram, and Sherine Abdll Wahab, which can be heard by non-Arabic speakers. Moreover, the Egyptian Qolloquial Arabic is a language-dominated Arabia seen from the background of Egypt, which is known as the central of Arab culture civilization in arts and entertainment.⁵ Moreover, Egyptian Qolloquial Arabic is a language variety closer to the Modern Standard Arabic than the aspect of word use,⁶ such as the word ‘Abibbak in the Modern Standard Arabic and Babibbak in the Egyptian Qolloquial Arabic. Thus, Arabic songs using the Egyptian Qolloquial Arabic are still can be accepted and considered easy to pronounce by Non Arabic Speakers who have expertise in the art of singing, even though there are several changes in the use of phonemes in speech. 

However, differences in dialect variety with Non Arabic Speakers cause the use of Arabic dialect variety to be able to determine how non-speakers use Arabic in communication or spoken language activities, including when someone pronounces Arabic song lyrics.⁷ Every Arabic song's lyrics are formed from arrangements of words that have meanings and messages. In this case, the use of Arabic dialect variety also influences how Non Arabic Speakers pronounce words, so every Non Arabic Speakers can have pronunciation errors, especially in the aspect of using phonemes, which cannot be avoided.⁸

The form of phoneme pronunciation errors caused by Non Arabic Speakers is based on language errors, as mentioned by Corder: (1) errors caused by non-speakers who do not have basic Arabic skills so that inaccuracy occurs in the speech (error) and (2) errors caused by non-speakers who have basic skills but cannot apply Arabic fluently and correctly (mistake).⁹ Furthermore, the forms of pronunciation errors caused by Non Arabic Speakers are also caused by different language families between the Arabic Modern Standard Arabic or Egyptian Qolloquial Arabic, in which the first language variety of Non Arabic Speakers is Indonesian language, so it makes Non Arabic Speakers to not able to adjust the pronunciation sound of certain phonemes, one of which is when pronouncing phonem ض [ḍ]. There are three classifications of phoneme pronunciation errors in speech, which consist of (1) phoneme substitution, (2) phoneme addition, and (3) phone omission.¹⁰

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⁶ Driflur Mitiyasand Kholisin, Perbandingan Bunyi Dua Ragam Bahasa; ‘Amniyyah dan Fiqhâ dalam lagu Karya Nancy Ajram”, An-Nabighoh: Jurnal Pendidikan dan Pembelajaran Bahasa Arab, 24, no.2 (December 2022): 233. DOI: https://doi.org/10.32332/an-nabighoh.v24i2.5300
As a source of reference in the study regarding the phonetic errors in the Egyptian Qolloquial Arabic in Arabic songs by Non Arabic Speakers, the researcher took five previous studies written in the following fish bone figure:

**Figure 1. Flowchart of Previous Studies Regarding Egyptian Qolloquial Arabic**

According to the five previous studies, Egyptian Qolloquial Arabic in state of the art shown in figure 1, found a new implication in the current study, which refers to a second relevant study regarding the analysis of the internal structure of language phonology in an Arabic song, which was studied in 2021. The difference lies in the selection and use of different Arabic songs. The previous study used a song entitled *Babebik Yä Belädy*, popularized by Ramy Jamal and Aziza Al-Shafi’i, while this study used a song entitled *‘Alä Bäly*, popularized by Sherine Abd Wahab. Moreover, the analysis of previous studies focused on the hermeneutics and internal aspects of language, including phonology, morphology, syntax, and semantics. Meanwhile, this study only focuses on the phonetic aspect of phonology in [q] and [ɣ] in the Egyptian Qolloquial Arabic and sound changes identified by the language errors in the form of inaccuracies in terms of substitution, addition, and omission in the use of speech in Non Arabic Speakers that have skills in singing Arabic song.11

Moreover, the researcher formulated two research problems as a focus of problem-solving in the analysis of this study: (1) What are the different forms of phoneme pronunciation found in the Egyptian Qolloquial Arabic speech in the Arabic song entitled *‘Alä Bäly* and (2) What are the forms of errors in pronunciation of phonemes [q] and [ɣ] and the form of substitution, addition, and omission in Non Arabic Speakers who have artistic abilities to sing in speaking Egyptian Qolloquial Arabic in Arabic song entitled *‘Alä Bäly*.

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From the two research problems above, the hypothesis in this study is that it can provide more specific and deeper knowledge regarding the use of Egyptian Qolloquial Arabic speech for Non Arabic Speakers who have the ability in the art of singing Arabic songs and are able to provide evaluation on the phonetic aspect of speech that must be owned by Non Arabic Speakers to more pay attention to the pronunciation of certain Arabic phonemes to reduce and avoid new errors in using Egyptian Qolloquial Arabic speech in other Arabic songs.

Method

The study regarding the analysis of phonetic errors in Egyptian Qolloquial Arabic speech in Arabic songs by Non Arabic Speakers used qualitative comparative study. The researcher wrote the results of the analysis in the form of explanatory sentences to make it easy for readers to understand the contents of this study. This study only used one Arabic Qolloquial Arabic song through a document analysis approach. The research sources consisted of three pronunciation audios of Non Arabic Speakers singing and one audio of a Native Speaker taken from the YouTube channel Nasr Mahrous. Moreover, the data collection technique was carried out by taking four lyrics of a song entitled ‘Alā Bāliy. In the analysis technique of research data, the researcher used the Praat application as analysis media to obtain spectrogram visualization results based on the acoustic components in the form of the fundamental frequency and speech intensity to be able to easily identify errors in the phoneme pronunciation spoken by Non Arabic Speakers. The characteristics of participants determined by the researcher are shown in the following table:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Woman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Non Arabic Speakers-1: 22 years old</td>
</tr>
<tr>
<td>Age</td>
<td>Non Arabic Speakers-2: 22 years old</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-3: 21 years old</td>
</tr>
<tr>
<td>Experiences of Learning Arabic</td>
<td>Non Arabic Speakers-1: Have</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-2: Have</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-3: None</td>
</tr>
<tr>
<td>Educational Level</td>
<td>Non Arabic Speakers-1: Islamic Boarding School</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-2: Vocational High School</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-3: Senior High School</td>
</tr>
<tr>
<td>Singing Skills</td>
<td>Non Arabic Speakers-1: Cover Singer</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-2: Cover Singer</td>
</tr>
<tr>
<td></td>
<td>Non Arabic Speakers-3: 1’st Runner up of BMF (Batang Musik Festival) West Java, 2021</td>
</tr>
</tbody>
</table>

According to table 1, the researchers took three participants of Non Arabic Speakers, consisting of the Non Arabic Speakers-1, Non Arabic Speakers-2, and Non Arabic Speakers-3, which categorized to have an average age of 21-25 years old, where this aims to adjust the comparative data source taken by the researcher from a Native Speaker. The researcher determined the educational level and whether they had experiences of learning Arabic or not from each respondent. This is to measure the ability of respondents to speak Arabic in the form of a collection...
of song lyrics, both in the aspect of phonemes and words. Moreover, it was also reviewed from the perspective of singing skills so that the results of analysis from phonetic errors in speech in using the Egyptian Qolloquial Arabic can be properly identified. Thus, the researcher expects that the results of the analysis can be a novelty of previous studies and as one of the ways for the researcher to contribute to Arabic linguistics to evaluate phonology (pronunciation sounds) in the use of speech phonemes in Egyptian Qolloquial Arabic based on the characteristic and location of articulations for Non Arabic Speakers who have the same ability in singing Arabic songs. Another objective is that Non Arabic Speakers are able to have speech output that is similar to a Native Speaker, which was measured using acoustic components in the form of fundamental frequency and speech intensity and to measure and form the ability to pronounce Arabic song lyrics to be better and more beautiful.

Results and Discussion

Egyptian Qolloquial Arabic is a category of Arabic that has deviant linguistic rules or violates language rules of the Modern Standard Arabic, one of which is in the aspect of sounds of pronunciation in Egyptian Qolloquial Arabic that has differences in using speech phonemes. The differences in the pronunciation of phonemes in Egyptian Qolloquial Arabic can be seen in the table below:

<table>
<thead>
<tr>
<th>Modern Standard Arabic</th>
<th>Phonetic Transcription</th>
<th>Egyptian Qolloquial Arabic</th>
<th>Phonetic Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>ق</td>
<td>[q]</td>
<td>ء</td>
<td>[ʔ]</td>
</tr>
<tr>
<td>ج</td>
<td>[ʤ]</td>
<td>غ</td>
<td>[ɣ]</td>
</tr>
<tr>
<td>ء</td>
<td>[ʔ]</td>
<td>ي</td>
<td>[j]</td>
</tr>
</tbody>
</table>

Based on the phoneme differences in table 2, which is from the analysis of the differences in language rules between Egyptian Qolloquial Arabic and Modern Standard Arabic, three phoneme pronunciations are high lighted in the use of Egyptian Qolloquial Arabic, which consists of phonemes [ʔ], [ɣ], dan [j]. Thus, in this study, the researcher only took two different forms of phoneme pronunciation in the Egyptian Qolloquial Arabic to analyze its errors, which are phoneme [q] and [ʔ], phoneme [ʤ] and [ɣ] by referring to the Arabic song lyrics entitled ‘Alā Bāliy.

From four song lyrics analyzed, the differences were found in the pronunciation of phoneme [q] in the words Mābaqīṣya, Qūltilūsy, ‘Aqūluhu, Quddāmun, Isytāqun, Qalbiy, and Qūltāhāliy. Meanwhile, the phoneme [ʤ] was found in the words Janbūhū and Jarāliy. The differences in the phoneme pronunciation of Native Speaker used in the speech of the Egyptian Qolloquial Arabic have a

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reason. All the differences occur due to the development of Arabic that influences the pronunciation system of the Egyptian Qolloquial Arabic. Another reason emerges from phoneme sounds that have articulatory positions close to each other, so pronunciation sounds represent phonemes with easier and lighter pronunciation sounds for Native Speaker to pronounce.15 Moreover, there are two forms of sound changes: (1) form of addition and (2) form of omission of phoneme pronunciation in Non Arabic Speaker speech. These two sound changes were found in the words Quddāmun and Yānsyigāliy.

Therefore, characteristics of Egyptian Qolloquial Arabic above can have influence on the pronunciation sound for Non Arabic Speakers, resulting errors in the sound of pronunciation, especially when pronouncing Arabic songs that use Egyptian Qolloquial Arabic dialect. To find out the pronunciation errors of speech, the researcher has analyzed pronunciation sound of phoneme [q] and [d̪ʒ] from three Non Arabic Speakers in singing four lyrics from the song ‘Alā Bāliy:

Identification of Phoneme Pronunciation Errors

Substitution Errors in Phoneme [Ɂ] 7

Substitution errors in Non Arabic Speakers are caused by a mismatch of context and pronunciation rules in Arabic speech and the conditions of certain phonemes with similar pronunciation. The substitution errors of the speech phonemes can be identified according to three concepts of phonetic structures: (1) location of articulation (consonant sound), (2) characteristic and method of pronouncing the phoneme, and (3) waveform of the speech sound.16

According to the results of the Native Speaker when pronouncing the word Mābaqitsya in the second verse of the Arabic song above, the pronunciation used is the pronunciation of the phoneme [Ɂ], while if reviewed from the use of Modern Standard Arabic, the word uses the pronunciation of phoneme [q] so that this review has an influence on the sound of speech pronunciation for Non Arabic Speakers and emerges the form of inaccurate pronunciation. However, the substitution of

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the phoneme is in accordance with the daily speech used by Native Speaker who substitute phoneme [q] with phoneme [ʔ].

According to the reviews of phonetic concepts referring to the linguistic form of Arabic in the classification of phoneme pronunciation, which consists of articulators, vocal cords, and how to articulate sounds, it is found that the location of articulation of the two phonemes [q] and [ʕ] have similar pronunciation sounds produced in the larynx and pharynx. Furthermore, for the aspect of phoneme characteristics based on phonetic theory, the two phonemes [q] and [ʕ] have differences. The sound of the phoneme [q] is voiceless, which is pronounced by producing a stop sound accompanied by a heavy and muffled sound in the larynx with the position of the entire tongue down and not stuck to the upper palate area. Meanwhile, the sound of the phoneme [ʕ] is voice, which is pronounced by producing a fricative sound accompanied by a heavy and not opposite sound in the pharynx, but with similarities in the position of the entire tongue down and not stuck to the upper palate area.

Thus, all aspects of the classification of pronunciation sound are an indication of the cause of the emergence of substitution errors in pronunciation made by Non Arabic Speakers when pronouncing the word Mābaqitsya in the phoneme [ʔ] in the use of Egyptian Qolloquial Arabic, which lies in the inaccurate of characteristic and method of pronouncing phonemes. The following is the visualization of the spectrogram of Non Arabic Speakers errors on substitution of the phoneme [ʔ] in the word Mābaqitsya:

![Spectrogram Window 2. Pronunciation of Phoneme [ʔ] from the Non Arabic Speakers-1](image)

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Figure 3. Spectrogram Window 3. Pronunciation of Phoneme [ʔ] from the Non Arabic Speakers-3

Based on Figure 2 and 3, it is found that in Spectrogram Windows 2 and 3 are essentially the blocked domain wave patterns which both produce the speech sound of the phoneme [ʔ]. Based on the review of speech acoustic analysis and measurement, the spectrogram provides the fundamental frequency of broadband filter spectrogram wave identified in the form of vertical lines, indicating that in the pronunciation sound, there are vibrations of vocal cords from phoneme spoken and from the specifications of spectrogram color contras that produce solid black color, it has proven that the pronunciation of phoneme [ʔ] is correct to be produced with great sound energy. After analyzing the results of Non Arabic Speakers and 3 speech from the spectrogram, it shows a vertical wave, but according to the vibrations of vocal cords, it produces unstable and irregular waves. Meanwhile, based on the classification of sound waves, it can be stated that phoneme [ʃ] is horizontal. However, what the researcher observes to differentiate the two phonemes between [ʔ] and [ʃ] lies in the aspect of color contrast, which tends to be gray versus white, indicating the small sound energy. This causes the pronunciation sound of the phoneme [ʔ] to be substituted for the phoneme [ʃ]. Another factor of phoneme sound to be substituted in the form of classification of pronunciation sound is that speech is not produced according to the characteristic and location of articulation in the larynx, so the closeness of the two phonemes makes speech easily interchangeable and makes the use of these phonemes to require skill and accuracy in pronunciation.

Furthermore, as a comparison of the substitution, a similar problem is also found related to the errors made by Non Arabic Speakers in pronouncing phoneme [ʔ] when reading Arabic texts, which occurs in the study by. This error is caused by inaccurate pronunciation of the phonemes


produced when reading words containing phoneme [ʔ] in the reading text and aspects of low and high sounds in the phoneme pronunciation. The following are the results of spectrogram visualization of pronunciation error in phoneme [ʔ] when reading Arabic texts in Non Arabic Speakers:

![Spectrogram Window 4](image)

**Figure 4.** Spectrogram Window 4. Visualization of Errors in Phoneme [ʔ] When Reading Arabic Text

Based on figure 4, it is found that in Spectrogram Window 4 the domain wave pattern inside the circle produces speech sound of the phoneme [ʔ], as the review of acoustic analysis and measurement of speech with a fundamental frequency of broadband filter spectrogram identified in the form of vertical lines, which indicates that in the pronunciation sound, there are vibrations of vocal cord from the spoken phoneme. From the spectrogram above, the sound energy of phoneme [ʔ] produces a color contrast of black, but black and gray versus white. This indicates that spoken speech has small sound energy when reading text with phoneme [ʔ], which is the same as in the spectrogram of Non Arabic Speakers 1 and 3. To strengthen the occurrence of errors in the Non Arabic Speakers 1 and 3 speech varieties obtained from Spectrogram Windows 2 and 3 above, the researcher provides a visualization of speech in phoneme [ʔ] as a comparison to the pronunciation sound spoken by Native Speaker. The following is the visualization of the spectrogram:
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Figure 5. Spectrogram Window 5. Pronunciation of Phoneme [ʔ] from the Native Speaker

Based on Figure 5, it is found that Spectrogram Window 5 in the blocked domain wave produces speech sound of the phoneme [ʔ], as the review of acoustic analysis and measurement of speech with a fundamental frequency of broadband filter spectrogram identified in the form of vertical lines, which indicates that in the pronunciation sound, there are vibrations of regular vocal cord from the spoken phoneme. However, what differentiates between Non Arabic Speakers 2 and 3 is that the spectrogram has contrast color gradation of solid black, indicating that phoneme [ʔ] in Native Speaker is produced with great sound energy according to the acoustic concept of fundamental frequency and intensity in analysis and measurement of speech acoustics.

Comparing the results of the spectrogram in Non Arabic Speakers 1 and 3 with the Native Speaker is seen from the intensity of pronunciation sound in the spoken phoneme. Based on the acoustic components of fundamental frequency and intensity shown by the spectrogram, the Native Speaker produces a lower decibel intensity than the intensity from Non Arabic Speakers 1 and 3, which is above the decibel of the Native Speaker. This is because the type of phoneme sound spoken is not voice sound characteristic of the phoneme [ʔ] but rather than phoneme [ʕ], which includes the voice sound.22

Spectrogram Window 5 also shows that the pronunciation sound spoken by a Native Speaker is pronounced according to the characteristic and method of pronunciation, which tends to be heavy and muffled and obstructs the larynx. Thus, the results of spectrogram visualization between Non Arabic Speakers 1 and 3 then a Native Speaker prove that pronunciation of the phoneme [ʔ] in the utterance of the word Mābaqitsya in the Egyptian Qolloqial Arabic has caused inaccuracies and errors in substitution of pronunciation sounds made by Non Arabic Speakers 1 and 3. So the sound produced is the pronunciation of phoneme [ʕ], which is clearly not pronounced according to the Native Speaker.

Substitution Error of Phoneme [$ɣ$]

The use of phoneme [$ɣ$] pronounced to speak phoneme [$ʤ$] in the Egyptian Qolloquial Arabic has a substitution error in pronouncing the phoneme [$ɣ$] from Non Arabic Speakers, which is caused by inaccurate characteristics and incorrect pronunciation methods. Moreover, another factor causing pronunciation errors in phoneme [$ɣ$] is a similarity in the equivalent phoneme sounds on one of the language dialect varieties in the Non Arabic Speakers first language, which is Indonesian language.

The classification of pronunciation sound, which consists of the characteristic and location of articulation, explains that phoneme [$ɣ$] in Arabic and phoneme [$g$] in Indonesian have similarities and differences. The similarity is in the location of articulation, which is in the velum. For the characteristic of the method of pronouncing, phoneme [$ɣ$] is a voiced phoneme, which is pronounced with a fricative sound accompanied by heavy and loose sound in the velum, and the condition of lingual radix is lifted and not stuck most of the tongue to the palate. Meanwhile, phoneme [$g$] is found to have air characteristics from the way it is pronounced in a plosive manner, producing an explosion.

As a comparative of substitution error between phoneme [$ɣ$] from Arabic and phoneme [$g$] from Indonesian language, another study found a substitution error of phoneme that is mixed with the pronunciation of [$g$] found in the Javanese speech [$ga$]. The phoneme [$ɣ$] has a pronunciation sound that should be pronounced with a no-thick sound, while the character [$ga$] is pronounced with a sound that tends to be thick and stronger, close to the sound [$gho/gha$] in every Javanese speech. Thus, Non Arabic Speakerstend to substitute the pronunciation sound of phoneme with the pronunciation sound similar to phoneme [$g$] in the use of Indonesian speech. To prove that the phoneme [$ɣ$] is pronounced incorrectly in Non Arabic Speakers, the researcher has conducted an analysis of substitution errors in the pronunciation sound of the phoneme [$ɣ$] from the word Janbuhu in the song lyrics. The following are the results of the spectrogram visualization of Non Arabic Speakers speech sound:

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Based on Figure 6 and 7, it is found that Spectrogram Window 6 and 7 in the blocked domain wave pattern, is based on the review of acoustic analysis and measurement of speech, which both produce fundamental frequency of speech Non Arabic Speakers 2 and 3, showing spectrogram in the form of broadband filter identified as having a pattern of vertical lines. This pattern indicates that the pronunciation sound of the phoneme \( \gamma \) produces vibration of the vocal cord from the phoneme spoken.

However, according to the color contrast resulting in the fundamental frequency, a spectrogram with black or gray versus white color indicates that the level of density is not high. This shows that the pronunciation sound of the phoneme \( \gamma \) from Non Arabic Speakers 2 and 3 does not have a great energy sound as the pronunciation should be in accordance with the characteristic and articulation of phoneme \( \gamma \). To compare the substitution error in Non Arabic Speakers 2 and 3,
the researcher shows the visualization of speech from a Native Speaker when pronouncing phoneme [ɣ]. The following are the results of the visualization:

**Figure 8.** Spectrogram Window 8. Speech of Phoneme [ɣ] from the Native Speaker

Based on Figure 8, it is found that Spectrogram Window 8 in the blocked domain wave pattern, according to the review of acoustic analysis and measurement of speech, shows the results of the fundamental frequency of the spectrogram from a Native Speaker in the form of a broadband filter wave with the identification of similar vertical lines, which indicates that in the pronunciation sound of phoneme [ɣ], there are vibrations of the vocal cord from the spoken phoneme.

A comparison between Non Arabic Speakers 2 and 3, then the Native Speaker above can be seen from the aspect of the fundamental frequency of the spectrogram, which has a solid black color. Spectrogram from a Native Speaker shows that the pronunciation sound of the phoneme [ɣ] is pronounced with great sound energy. Meanwhile, if the aspect of the fundamental frequency is perceived based on the intensity of loudness or softness of sound between Non Arabic Speakers 2 and 3, then Native Speaker in the differences can be seen. The two Non Arabic Speakers produce greater intensity, while the Native Speaker produces smaller intensity below the Non Arabic Speakers 2 and 3 decibels.

This occurs because the location of articulation of the phoneme [ɣ] in Indonesian language must be pronounced by loosening aspect of the lingual radix in the velum. Meanwhile, in the sound of the phoneme [ɣ] in the Egyptian Qolloqial Arabic, the Nantive Speaker pronounces phoneme [ɣ] in speech by narrowing the lingual radix in the velum, causing the fricative sound. The spectrogram wave results waves for Non Arabic Speakers 2 and 3 have a higher intensithose of the ty than a Native Speaker. Thus, bo made a substitution substitution error in the ecurate of characteristic and articulation location of phoneme sounds in speech.

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28 Awaad Alqarhi, “Arabic Phonology”, English Linguistics Research, 8, no,4 (October 2019): 17. DOI: https://doi.org/10.5430/elr.v8n4p9
Additional Error of Phoneme [ʔ]

The form of addition by adding phoneme [ʔ] in the use of the Egyptian Qolloquial Arabic can be called a prosthesis, which is a form of sound changes characterized by an additional phoneme sound at the beginning of the spoken word.

The addition in this study was found in the pronunciation sound of Quddāmūn. Error in adding phoneme [ʔ] pronounced before phoneme [q] violates the use of Egyptian Qolloquial Arabic because Non Arabic Speakers have changed actual pronunciation sound in the speech, while in the Native Speaker, there is no addition of phoneme [ʔ] pronounced before phoneme [q] so that the results of pronunciation in phoneme [q] from Non Arabic Speakers speech are paused. Another change is in the pronunciation sound of the phoneme [ʔ] in the word Quddāmūn, which is by adding a short vowel sound [u]. The visualization of addition error in phoneme [ʔ] from Non Arabic Speakers is as follows:

Based on Figure 9, it is found that Spectrogram Window 9 in blocked domain wave pattern provides two forms in one spectrogram consisting of the results of pronunciation form in the phoneme [ʔ] and [q] in the word Quddāmūn from Non Arabic Speakers-3. From the results of the review through acoustic analysis and measurement, it can be seen that the first pronunciation sound wave is produced from phoneme [ʔ] in accordance with the characteristic and method of pronunciation, which makes spectrogram to form broadband filter wave with identification of vertical line patterns because there are vibrations of vocal cords from spoken phoneme. Meanwhile, the pronunciation sound of the phoneme [q] has similar vertical line patterns, but in the spectrogram, there is a transient sound wave of click characterized by a very short duration resulting from a single vibrational excitation in the pronunciation sound of the phoneme [q].

The shape of the spectrogram is the result of the speech phoneme [q] and can be seen from the intensity of the decibel produced, which is lower than the decibel of the phoneme [ʔ]. Moreover, the color contrast in the spectrogram shows that phoneme [ʔ] is dominant gray versus white and phoneme [q] is black versus grey, but it is not too solid. Based on the acoustic components of contrast colors, the results show that the two phonemes are not pronounced with great sound
energy. To prove that Non Arabic Speakers-3 has made a mistake regarding the additional pronunciation sound in the Egyptian Qolloquial Arabic, the following is the spectrogram visualization of speech in the word *Quddāmun* from the Native Speaker:

![Figure 10. Spectrogram Window 10. Speech of Word *Quddāmun* from the Native Speaker](image)

Based on Figure 10., it is found that Spectrogram Window 9 in blocked domain wave pattern provides two results in one spectrogram in the form of pronunciation sound in the phoneme [ʔ] and [d]. According to the review of acoustic analysis and measurement of speech, the acoustic component of the spectrogram window shows the fundamental frequency from the Native Speaker in the form of broadband filter wave with the identification of similar vertical line patterns, which indicates that in the pronunciation sound of phoneme [ʔ], there are vibrations of vocal cord from the spoken phoneme. Meanwhile, the fundamental frequency of the spectrogram is produced from the pronunciation sound of phone [d] with a similar wave. What differentiates between the two phonemes is the aspect of color contrast in the spectrogram. The phoneme [ʔ] has a black and gray versus white color, indicating the small sound energy of speech, and phoneme [d] has a solid black color, indicating greater sound energy.

Based on the aspect of pronunciation sound classification from characteristic and articulation location of the phoneme [d], the characteristic is in the form of articulation area of the soft palate (velum), and the pharynx is lifted, then the position of the tongue that tightly presses in the hard palate so that when the sound is produced, it produces an explosion outside the mouth. However, the change is that there are double phoneme sounds, so the intensity produced is higher than the decibel for the phoneme [ʔ]. Thus, addition error can be concluded as a process of Arabic phonological interference because Non Arabic Speakers lacks understanding of Arabic in the sound pronunciation, and a similar error also occurs in the phoneme addition at the end of the word *Lāṯo Lā(k)* in the speech sound.

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30 Muhammad Nur Kholis, “Proses Interferensi Fonologi pada Percakapan Bahasa Arab Santri”, *Tsaqofiya: Jurnal Pendidikan Bahasa dan Sastra Arab*, 1, no.2 (December 2019): 16. DOI: [https://doi.org/10.21154/tsaqofiya.v2i1.12](https://doi.org/10.21154/tsaqofiya.v2i1.12)
Omission Error of Phoneme [j]

The form of omission of pronunciation sound in the phoneme occurs at the beginning of a word, which often occurs in the use of Egyptian Qolloquial Arabic in the aspect of a long vowel sound. The omission of pronunciation sounds in this study can be found in the word Yānsyigāliy spoken by Non Arabic Speakers. Omission of phoneme occurs in the speech sound of the phoneme [j] and in the long vowel sound [ā] located after the first syllable, so the pronunciation sound is pronounced as Insyigāliy using phoneme [ʔ] gatha’. Omitting the sound of the phoneme [j] included in semivowel makes the word Yānsyigāliy turn on the sound of the phoneme [ʔ] by adding the short vowel sound [i]31 So that it becomes a type of hamzahgatha’. The following are the results of spectrogram visualization for the speech of Non Arabic Speakers-2:

![Figure 11. Spectrogram Window 11. Speech of the Word Yānsyigāliy from the Non Arabic Speakers-2](image)

Based on Figure 11, it is found that Spectrogram Window 11 in the blocked domain wave pattern from the review of acoustic analysis and measurement of speech in the acoustic components, produces a spectrogram showing the pronunciation sound of the phoneme [ʔ], which is heavy and stuck in the larynx area. This can be seen from the shape of the fundamental frequency of the non-speakers in the form of a broadband filter wave with the identification of similar vertical line patterns, indicating that Non Arabic Speakers-2 produces the pronunciation sound of the phoneme [ʔ].

By showing the color contrast in the spectrogram, it shows results that the speech phoneme in the word Yānsyigāliy is not pronounced with great sound energy. This is because of the aspects of characteristics and articulation area, which makes phoneme [ʔ] pronounced heavily, obstructed, and stuck in the larynx area.32 In research that analyzes the elision and replacement of Arabic sounds it is mentioned that between the phoneme [j] and [ʔ] there is a difference in sound characteristics: the

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phoneme [j] does not experience any obstruction in the throat area, whereas the phoneme [ʔ] experiences complete obstruction in the throat area resulting in a plosive sound. To prove that Non Arabic Speakers-2 has caused the form of error in the omission of pronunciation sounds in the Egyptian Qolloquial Arabic, the following are the results of speech visualization produced:

**Figure 12.** Spectrogram Window 12. Speech of the Word Yānsiyālīy from the Native Speaker

Based on Figure 12, it is found that in Spectrogram Window 12 shows the blocked domain wave pattern in the form of a spectrogram identified by the vertical line patterns, indicating that there is a semi vowel sound of the phoneme [j] at the beginning of a spoken word that has the articulation area in the palate position, then according to the characteristic of the phoneme [j], the position of the tongue is down and not stick to the palate. The way the phoneme [j] is pronounced is by releasing and weighing when the speech is pronounced.

Error in phoneme omission in Non Arabic Speakers-2 is carried out by changing the pronunciation sound of the phoneme [j] with hamzah qatha’ and [ʔ], the type of hamzah washal is removed. Moreover, hamzah qatha’ is turned into a pronunciation sound, which is added by the short vowel sound [i] in the speech. As a form of comparative, errors in the phoneme omission in Arabic speech are also found in the pronunciation of the word Fašhun, which changes to Fas, where there is an omission of the phoneme [l] or [l] by stopping the speech at phoneme [s]. Thus, the error in the form of phoneme omission results in the formation of another phoneme speech, which is not in accordance with the rules in the Egyptian Qolloquial Arabic. The results of the spectrogram wave

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35 Batmang, “Kesalahan Fonologis dalam Berbicara Bahasa Arab pada Mahasiswa Matrikulasi STAIN Kendari”, Al-Izzah: Jurnal Hasil-Hasil Penelitian, 8, no.1 (June 2013): 34. DOI: https://dx.doi.org/10.31332/aji.v8i1.85

between Non Arabic Speaker-2 and the Native Speaker above have proven that there is an error in phoneme omission when pronouncing the word Yānsyigāly.

The results of error identification in phoneme speech found forms of errors in Egyptian Qolloquial Arabic pronounced by Non Arabic Speakers. Comparing using the Praat application has obtained results that errors made by Non Arabic Speakers when pronouncing Arabic song lyrics of Egyptian Qolloquial Arabic are caused by phoneme sounds that have similarities with aspects of characteristic and adjacent articulation area. Furthermore, errors are caused by inaccuracy of pronunciation, which causes the addition and omission of sound in the wrong phoneme and violates the rules of phonology variation as derived from Crowley’s theory in the use of word speech in the Egyptian Qolloquial Arabic. The errors have been proven based on the acoustic components consisting of fundamental frequency and intensity in the Praat application. They are identified through the results of color contrast in the fundamental frequency of the spectrogram wave, the high and low intensity of speech sound, and the spectrogram wave in the spectrogram window produced. Such as error in phoneme \([Ɂ]\), which is pronounced as \([ʕ]\). Error in the phoneme \([ɣ]\), which sounds the same as phoneme \([g]\) in Indonesian. Error in phoneme addition at the beginning of a word, which should not change the sound condition of phoneme pronunciation in the second syllable, such as in the word Quddāmun in the pronunciation of Egyptian Qolloquial Arabic. An error in the phoneme omission at the beginning of a word changes the pronunciation sound, starting with hamzah gatha’, which should begin with the semi vowel phoneme (ya) in the word Yānsyigāly.

**Conclusion**

The difference in pronunciation sound of phonemes in the use of the Egyptian Qolloquial Arabic can influence and emerge phonetic errors from Non Arabic Speakers, especially when pronouncing Arabic song lyrics, which in each word there were several phonemes \([Ɂ]\) and phonemes \([ɣ]\) so that the pronunciation sound shows a change to the phoneme \([ʕ]\) and phoneme sound similar to phoneme \([g]\) in the speaker’s language, which is Indonesian. Furthermore, the form of speech error in Egyptian Qolloquial Arabic is caused by variations in the phonology of the Egyptian Qolloquial Arabic in the form of substitution, addition, and omission in speech, making Non Arabic Speakers are not inaccurate in pronouncing phonemes, such as in words Quddāmun and Yānsyigāly. Therefore, the analysis of phonetic errors of speech can provide new insight and an evaluation of phonetic pronunciation sound in the Egyptian Qolloquial Arabic so Non Arabic Speakers can be more pay attention to the aspect of suitability and accuracy, have the pronunciation of Egyptian Qolloquial Arabic in accordance with a Native Speaker, and can produce beautiful speech in every Arabic song lyrics spoken.
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