


The Effect of Regional Dialects on Arabic Vowels in Saudi Arabia

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الملخص

استخدمت الدراسة منهجية وصفية تحليلية متعددة الأوجه لاستكشاف الاختلافات في نطق حرف العلة (أ) من خلال خمس لهجات عربية إقليمية مميزة داخل المملكة العربية السعودية. ويقوم الاختبار بفحص مجموعة ثابتة من البيانات الصوتية المسجلة مسبقاً، والتي يتم تنسيقها بشكل انتقائي من متحدثين مختلفين، ويتم استخراجها بشكل منهجي من مصدر يوتيوب المعترف به. ويهدف البحث في الأساس إلى تحديد الفروق الدقيقة ودرجات التغيرات في جودة نطق حروف العلة السائدة بين هذه اللهجات السعودية المحددة. تم توجيه الاهتمام نحو المتحرك حرف العلة (أ) وتقييم سلوكه الصوتي في أول الكلمة ووسطها وآخرها ضمن إطار سياقي. وكشفت الاستنتاجات عن تباينات واضحة في نطق حرف العلة (أ) بين اللهجات الإقليمية، وترسم اختلافات ملحوظة في النطق من ناحية قصر الحرف وطوله في بعض اللهجات، وغياب هذا الاختلافات في لغات أخرى. ولا تثير هذه النتائج المجموعة المعرفية الموجودة فيما يتعلق بالتصوير الصوتي لأحرف العلة العربية فحسب، بل تبرز أيضاً التعقيد المتأصل في نطق حروف العلة داخل البيئة الناطقة بالعربية متعددة الأوجه. وبالتالي، تعمل هذه الدراسة على توسيع الفهم الأكاديمي لعلم الصوتيات العربية، ولها تأثيرات لاحقة على جوانب مثل أصول التدريس، وصياغة السياسات اللغوية، وسبل الاستكشاف العلمي المستمر.



Abstract

The study employed a multifaceted, descriptive-analytic methodology to explore the variations in the articulation of the vowel /a/ across five unique regional Arabic dialects within Saudi Arabia. The examination scrutinizes an established corpus of pre-recorded audio data, selectively curated from various speakers and systematically extracted from a recognized YouTube repository. The core inquiry probes the nuances and degrees of alterations in vowel quality pervasive among these specific Saudi dialects. Attention was directed towards the vowel /a/, evaluating its phonetic behavior in initial, medial, and final positions within the contextual framework. The conclusions drawn uncover pronounced disparities in the manifestation of the vowel /a/ among the regional dialects, delineating marked contrasts between short and long variations in some dialects, and an absence of such demarcation in others. These findings not only enrich the existing body of knowledge concerning the phonological portrayal of Arabic vowels but also accentuate the inherent complexity of vowel articulation within the multifaceted Arabic-speaking milieu. Consequently, this study broadens the academic comprehension of Arabic phonetics and holds consequential bearings on facets such as pedagogy, linguistic policy formulation, and avenues for continued scholarly exploration.

Keywords: Arabic, central vowel, open-mid vowel, phonological representation, regional dialects

Introduction

Arabic, a prominent Semitic language, boasts millions of speakers across the globe, encompassing a variety of communities and cultures (Al-Jallad, 2021). The language is characterized by its complex phonological system, featuring an extensive array of consonants alongside a comparatively limited assortment of vowels (Watson, 2002). As Bassiouney (2012) posits, the Arabic language comprises six distinct vowels. This intricate vowel system significantly contributes to the fascinating and multifaceted linguistic landscape that defines Arabic.

The versatility of Arabic's vowel system engenders variations in vowel quality, which are shaped by the particular regional dialect in use (Rosenhouse, 2011). In Saudi Arabia, variations in the pronunciation of specific sounds like /d^s/ and /ð^s/ have been observed (Sheta, 2020), reflecting distinctive attributes and characteristics (Al-Rojaie, 2021). This complex network of regional dialects exemplifies the inherent cultural richness that pervades the linguistic terrain of Saudi Arabia. The assortment of dialectal variations mirrors the country's historical, geographical, and social intricacies.

The primary objective of this study is to investigate the distinctions in phonological representation of the Arabic vowel /a/ among regional dialects in Saudi Arabia. Through this inquiry, the research aims to illuminate the intricacy of Arabic and underscore the importance of a comprehensive understanding of regional dialects in contributing to a more profound grasp of the Arabic language, as emphasized by Bouamor et al., (2018). This exploration holds vast potential for broadening our existing knowledge and offering valuable insights into linguistic diversity, as well as the interrelationship between phonological variation and regional identity within the context of Arabic in Saudi Arabia (Holes, 2004).

Significance of the Study

This research holds significance for two primary reasons. Firstly, it contributes to our comprehension of the diversities present in the Arabic language. Secondly, it illuminates the impact of regional dialects on the phonological representation of the vowel /a/ in Saudi Arabia. By scrutinizing the divergences in vowel quality across various regional dialects, the study provides valuable insights into the intricate nature of Arabic phonology and the ramifications of dialectal disparities on language usage. Primarily, the study expands the existing knowledge on Arabic dialectology by focusing explicitly on the phonological depiction of the vowel /a/ within the Saudi Arabian context. This inquiry addresses a research lacuna and enriches our understanding of the linguistic diversity within the country, thereby presenting a more holistic overview of Arabic dialectal variation.

Secondly, the findings of the study can hold practical implications for the Arabic phonology. A comprehensive grasp of the variations in vowel quality among regional dialects facilitates the development of effective language instructional materials and curricula that account for the linguistic realities of diverse dialect speakers. Educators and learners can benefit from insights into the divergent pronunciation of vowels across dialects, thus enhancing communication and comprehension among Arabic speakers hailing from different regions. The research of the complex relationships between phonological variation and regional identity

within the particular context of Arabic in Saudi Arabia also contributes significantly to the larger area of sociolinguistics. By investigating how specific dialectal features mirror cultural and regional associations, the study illuminates the intricate relationship between language and identity. Such an understanding informs discussions on language planning, language policy, and language preservation endeavors within multilingual and multicultural contexts.

Question of the Study

The objective of this study is to investigate the variations in vowel quality across different dialects in Saudi Arabia. Specifically, the study seeks to answer the following research question:

How does vowel quality change across different dialects in Saudi Arabia?

This research focuses on the exploration of vowel pronunciation, particularly the vowel /a/, across various dialects within Saudi Arabia. By addressing the research question, the study aims to analyze and understand the phonetic differences in the pronunciation of the vowel /a/ across different regional dialects. Consequently, it aims to provide a comprehensive understanding of the distinct linguistic characteristics found within the diverse population of Saudi Arabia, thereby offering valuable insights into the evolution and usage of language within different regions over time.

Literature Review

Arabic is a very intricate language known for having a complex phonological system that has been well researched in linguistics. The language is distinguished by an extensive range of consonants and a very small set of vowels, with differences in vowel quality noted across distinct dialects (Alhazmi, 2018). Previous studies, concentrating on the vowel /a/, have shown some variations in how Arabic vowels are pronounced across different dialects. According to Alhazmi (2018) and Al-Numair (2021), it has been noticed that in the Hijazi dialect, people tend to switch up the vowel /a/ and use /ʊ/ instead, as in /muxadh/ (i.e. pillow) as opposed to /maxadh/ (p.29). Similarly, research by Barkat-Defradas et al. (2003) and Alhazmi (2018) found that the vowel /a/ is pronounced as /æ/ in the Najdi dialect used in Central Saudi Arabia, as in the last part of the word /kætrb/ (writer).

Researchers have discovered that the vowel /a/ is frequently pronounced as /a^w/ in the Gulf dialects spoken in Eastern Saudi Arabia (Alhazmi, 2018; Barkat-Defradas et al. 2003). Arabic's additional vowels are pronounced differently depending on the dialect. Alhazmi (2018) highlighted a notable shift in the pronunciation of the vowel /i/ within the Hijazi dialect, where it is articulated as /e/, while in the Najdi dialect, it retains its original pronunciation as /i/. For example, /tilmr:ð/ (student) could be pronounced as /Telmr:ð/ in the Hijazi dialect. Examples of these could include. There are a few reasons for these differences in vowel quality between dialects. One aspect is the impact of other languages, especially English and French, which has affected how Arabic vowels are spoken in some areas (Alhazmi, 2018). The historical evolution of the dialects is another influence; some dialects still use older pronunciation elements while others have lost them (Barkat-Defradas et al. 2003).

Additionally, social and cultural factors significantly influence how Arabic vowels are represented phonologically in various places. Spoken and written forms of Arabic can be

influenced by dialectal variation (Abd-El-Jawad, 1987). Overall, the research shows that many Saudi Arabia's many dialects demonstrate considerable differences in the phonological representation of Arabic vowels. The importance of taking into account these dialectal disparities when developing language curricula and language laws is made evident by these findings, which have substantial implications for language education and policy in the country. By encouraging a deeper knowledge of the numerous Arabic dialects prevalent in Saudi Arabia, language policies can better reflect the linguistic and cultural diversity of the country and language education can become more inclusive and effective.

The notable findings from Alghamdi's study (1998) titled "A spectrographic analysis of Arabic vowels: A cross-dialect study" published in the *Journal of King Saud University* (Vol. 10, No. 1, pp. 3-24), demonstrated significant formant frequency variations in Arabic vowels across diverse dialects. The study shed light on how vowel pronunciation disparities encompass not only quality but also acoustic attributes, influenced by regional linguistic nuances. This comprehensive analysis across dialects emphasized the significance of contextualizing these variations within wider linguistic and sociolinguistic frameworks, thereby offering valuable insights into the phonetic diversity characterizing Arabic vowels in distinct dialects.

Another investigation by Almbark and Hellmuth (2015) delves into the vowel system of Syrian Arabic (SA), concentrating on acoustic traits and mid vowel aspects. Extending Cowell's auditory analysis, the study scrutinized SA short/long vowel contrasts, mid vowel characteristics, and phonemic categorization. Fifteen SA speakers rendered the full spectrum of vowel categories in a neutral /hVd/ context. Quantitative scrutiny of vowel duration and formant metrics confirmed primary short/long vowel disparities (/i(:)/, /a(:)/, and /u(:)/) and affirmed the phonemic presence of mid-long vowels /e:/ and /o:/. Nevertheless, mid short vowels [e] and [o], along with schwa, emerged as allophonic variants of their high counterparts /i/ and /u/, rather than distinct phonemes. This inquiry enhances the auditory portrayal of the SA vowel system, shedding light on the phonemic constitution of its mid and high vowels.

In Guba's (2016) study, titled "Phonological Adaptation of English Loanwords in Ammani Arabic," the primary objective was to explore the phonological changes that English loanwords undergo within the phonological structure of Ammani Arabic. Employing a robust research design, the investigation analyzed phonological adaptations in a sample drawn from spoken Arabic in Amman, Jordan. The study's findings unveiled distinct patterns of phonological modification in loanwords, shedding light on the intricate interplay between vocabulary integration and phonological adjustments. The study's implications contribute to a nuanced understanding of how borrowed vocabulary interacts with vowel phonemes, offering insights into the complexities of linguistic adaptation and language contact's impact on phonological aspects.

The literature review synthesizes a series of studies that illuminate the variations and complexities in the phonological representation of Arabic vowels within different dialects. The dialectal differences in vowel pronunciation are evident in Eastern Saudi Arabia, where Alhazmi (2018) and Barkat-Defradas et al. (2003) highlight shifts in the articulation of vowels, particularly in the Hijazi and Najdi dialects. These shifts, such as the transformation of /i/ to /e/ in Hijazi and its preservation as /i/ in Najdi, exemplify the diversity in vowel pronunciation.

The impact of languages like English and French, historical evolution, and social-cultural factors contribute to these differences, illustrating the intricate influences on Arabic vowel phonology.

In a preliminary study conducted by Al-Tamimi and Barkat-Defradas (2003), aiming to explore inter-dialectal and inter-individual variability in production and perception, Jordanian and Moroccan Arabic were investigated. The study's design incorporated an analysis of vowel /a/ pronunciation across dialects, reflecting themes consistent with earlier phonological research. The sample encompassed participants from Jordan and Morocco, and their vowel /a/ articulations were examined in various positions. The findings highlighted nuanced differences in vowel quality across dialects, paralleling Alhazmi's (2018) work on dialectal vowel shifts. The implications of this research resonated with Alghamdi's (1998) insights on regional phonological disparities, emphasizing the need for broader linguistic contextualization. The study contributes to the discourse on Arabic phonological variation, particularly in relation to vocabulary and pronunciation, adding refined insights to the ongoing investigation into the complex phonetic intricacies of the vowel /a/ within diverse dialects.

A subsequent study conducted by Amir et al., (2012) aimed to quantify vowel characteristics in Hebrew and Arabic, focusing on their speech processing. The study's design involved an analysis of vowel properties within these languages. The sample likely consisted of speakers proficient in Hebrew and Arabic. The findings likely revealed quantitative distinctions in vowel features between the two languages. This study holds potential implications for the domain of speech processing and may provide insights into cross-linguistic vowel variation. It contributes to our understanding of how the phonetic characteristics of vowels are quantitatively differentiated in distinct languages like Hebrew and Arabic, enriching the research landscape in speech processing and phonetics.

The examination of Arabic vowel phonology across dialects reveals the intricate nature of language variation and adaptation. Research by Alhazmi (2018), Barkat-Defradas et al. (2003), Al-Numair (2021), and Alghamdi (1998) highlights significant phonological differences in Arabic vowels among regions. Factors such as linguistic contact, historical evolution, and social-cultural influences contribute to this diversity. These findings have implications for language education and policy, emphasizing the value of embracing linguistic richness in Arabic dialects. Additionally, studies by Almbark and Hellmuth (2015) and Guba (2016) emphasize the broader importance of vowel phonology in understanding phonemic variations, acoustic features, and adaptation processes within distinct linguistic contexts. Together, these studies deepen our comprehension of language diversity and phonological nuances, offering a nuanced perspective on Arabic vowel phonology across dialects.

Methodology

Study Design

The main goal of this research was to examine the differences in vowel quality among Saudi Arabia's dialects. The goal was to specifically look into the quality of the cardinal vowel /a/ in various Saudi Arabic dialects. A comparative cross-sectional analysis design was used to compare the vowel quality across various dialects in order to accomplish this. The descriptive-

analytic methodology combines observation with interpretation. Within the descriptive facet, the research concentrates on the precise delineation and classification of specific attributes, exemplified by the nuanced pronunciation of Arabic vowels across varying dialects. The analytic segment, however, delves into the exploration of concealed patterns and interconnectedness, elucidating phenomena like disparate vowel variations. Collectively, these approaches furnish a multifaceted comprehension, synthesizing surface-level manifestations with profound comprehension of latent structural intricacies.

Sample

The Eastern, Western, Central, Northern, and Southern regions of Saudi Arabia were carefully chosen as representative locations for this study's sample. The sample included male and female speakers from a range of age groups, educational levels, and urban and rural environments. This meticulous selection procedure made sure to include a variety of regional dialects, thereby increasing the sample's diversity and representativeness. To further improve the sample composition, specific inclusion and exclusion criteria were created.

Table 1

Distribution of Material Used

Region	Male	Female	Total
Eastern	2	3	5
Western	3	3	6
Central	5	2	7
Northern	3	2	5
Southern	4	6	10
Total	17	16	33

Data Collection

Speaking data were extracted from an existing audio corpus during the data collection phase. The pre-recorded speech samples from the chosen participants included typical speech patterns that included various linguistic features. The cardinal vowel /a/ was the main topic of the data collection. The need for additional recordings was eliminated by using an existing audio corpus, guaranteeing uniformity in data collection across all participants.

Data Analysis

The researchers carefully observed the sound waves present in the audio corpus in order to gather the required data. The analysis used the International Phonetic Alphabet (IPA), specifically focusing on words that contain the cardinal vowel /a/. Notably, the IPA system's diacritics were used to clearly indicate any variations from the expected vowel quality. Multiple analysis techniques were used in order to thoroughly evaluate the characteristics of the cardinal vowel /a/ in each geographic area. To find distinct patterns of variation in the vowel quality across various dialects, the resulting data underwent extensive analysis. Vowel quality was

represented and contrasted visually with special attention paid to the front open cardinal /a/, which served as the primary reference point.

Results interpretation

In the phase of results interpretation, the principal aim centered upon the detection of nuanced disparities in the manifestation of the cardinal vowel /a/ amidst diverse Saudi dialects. This pursuit was enabled through an intricate dissection employing auditory exemplars coupled with the methodical application of the International Phonetic Alphabet (IPA), accentuating phonetic dimensions encompassing pronunciation, temporal span, and accentual inflection. Subsequent to this analytical endeavor, the gleaned findings were systematically woven within the multifaceted sociolinguistic and cultural tapestry of Saudi Arabia, a process which entailed a scrupulous examination of phenomena such as dialectal confluence and the collective societal cognizance regarding these vocalic variations. These insights were consequently synthesized into a holistic, encompassing narrative, thereby augmenting the interpretative depth pertaining to the labyrinthine interplay between linguistic productions, cultural substratum, and sociological paradigms within the localized ambit.

Discussion of Limitations

This study recognized some restrictions in order to ensure transparency and acknowledge potential limitations. As potential sources of sampling bias, the corpus used in this study consisted of 33 clips, carefully selected to represent the sample size and ensure its representativeness across various dialects. Rigid inclusion and exclusion criteria were used during the sample selection process to help mitigate this. The study's inclusion criteria aimed to capture a comprehensive sample of Saudi dialects, focusing specifically on regional origin and linguistic consistency within Saudi Arabia. The exclusion criteria, conversely, were designed to eliminate potential distortions, such as non-native speakers, unclear audio, or dialects outside the targeted regions. Together, these criteria helped maintain the study's focus and ensure an accurate examination of the subject matter. It is important to remember that the study's focus was Saudi Arabia, limiting its applicability to other Arabic-speaking countries. Furthermore, because the cardinal vowel /a/ received most of the attention, the comprehensive understanding of vowel quality as a whole may be somewhat constrained because other vowels were not thoroughly studied.

Results

The results of the study showed that there were some differences in the way that the vowel /a/ was pronounced across the different dialects in Saudi Arabia. Vowel /a/ variation was studied in initial position, as shown in Table 2, /a/ in the median position, in Table 3, and /a/ in the final position, as presented in Table 3.

Table 2*/a/ in Initial Position*

Region	Words	Broad	Narrow	Remarks on the vowel /a/
		Transcription [Standard]	Transcription [Dialectal]	
Central	أعطاني Gave me	aʔ ^ʕ 'tʕɑ:nɪ	ʔ ^ʕ ə'tʕɑ:n	Deletion of initial /a/
Eastern	أعطني Give me	'aʔ ^ʕ tʕəni	ʔ ^ʕ ə'tʕənjəh	Deletion of initial /a/
Western	أعطاه Gave him	aʔ ^ʕ 'tʕɑ:h	[ə'dæh]	Initial /a/ becomes central-mid
Northern	أعطاني Gave me	aʔ ^ʕ 'tʕɑ:nɪ	ʔ ^ʕ ə'tʕɑ:n	Deletion of initial /a/
Southern	أعطني Give me	'aʔ ^ʕ tʕəni	'eʔ ^ʕ tʕəni	Initial /a/ becomes mid- close

Table 2 presents the analysis of the /a/ sound in initial position across various regions, encompassing both Standard Arabic and dialectal variations. The analysis includes the words, their broad transcription, narrow transcription (for dialectal variants), and remarks on the vowel. In the Central region, the word "أعطاني" (Gave me) demonstrates a deletion of the initial /a/ sound, with a broad transcription of "aʔ^ʕ'tʕɑ:nɪ," indicating the absence of the initial /a/ sound. The narrow transcription "[ʔ^ʕə'tɑ:n]" confirms this deletion. Recordings from the Eastern region reveal a similar pattern in the word "أعطني" (Give me), which exhibits the deletion of the initial /a/ sound, with a broad transcription of "'aʔ^ʕtəni." We can see that the narrow transcription "[ʔ^ʕə'tənjəh]" provides additional details about the dialectal variation. Conversely, in the Western region, the word "أعطاه" (Gave him) follows a different pattern. It retains the initial /a/ sound, as indicated by the broad transcription "aʔ^ʕ'tɑ:h." However, the narrow transcription "[ə'dæh]" suggests a shift in the quality of the initial /a/ sound to central-mid.

Moving to the North, the word "أعطاني" (Gave me) once again exhibits the deletion of the initial /a/ sound. The broad transcription "aʔ^ʕ'tɑ:nɪ," emphasizes the absence of the initial /a/ sound. The narrow transcription "[ʔ^ʕə'tɑ:n]" reaffirms this observation. In the Southern region, the word "أعطني" (Give me) showcases a different pattern. It retains the initial /a/ sound, as indicated by the broad transcription "'aʔ^ʕtəni." However, the narrow transcription "'eʔ^ʕtəni" suggests a change in the quality of the initial /a/ sound to mid-close. We can see some regional variations in the pronunciation of the /a/ sound in initial position. While some regions exhibit the deletion of the initial /a/ sound, others demonstrate shifts in vowel quality. The aforementioned results demonstrate the varying phonetic patterns that exist within diverse Arabic dialects, thereby enhancing comprehension of the regional disparities in Arabic phonology.

Table 3*/a/ in Pedial Position*

Region	Words	Broad Transcription [Standard]	Narrow Transcription	Remarks on the vowel /a/
Central	بارد cold	/'barɪd/	['ba, rəd]	No change in medial /a/
Eastern	بارد cold	/'barɪd/	['ba ^w , rəd]	Rounding of medial /a/
Western	بارد cold	/'barɪd/	['bæ, rəd]	Changes from open to near-open
Northern	بارد cold	/'barɪd/	['ba, rəd]	No change in medial /a/
Southern	بارد cold	/'barɪd/	['bæ, rəd]	Changes from open to near-open

Table 3 presents the analysis of the /a/ sound in medial position across different regions, including Standard Arabic and various dialectal variations. The table includes the words, their broad transcription, narrow transcription (for dialectal variants), and remarks on the vowel. In the Central region, the word "بارد" (cold) shows no change in the medial /a/ sound. The broad transcription is "/barɪd/," indicating the presence of the /a/ sound. The narrow transcription "[ba, rəd]" confirms the absence of any the variation in the vowel. In the Eastern region, the word "بارد" (cold) demonstrates a rounding of the medial /a/ sound. The broad transcription is "/barɪd/," indicating the presence of the /a/ sound. The narrow transcription "[ba^w, rəd]" suggests that the vowel undergoes rounding, becoming a rounded variant of /a/.

It appears that this rounding feature, a specific phonetic characteristic related to vowel sound production, extends over the whole eastern part of Saudi Arabia and includes Bahrain, too. In the Western region, the word "بارد" (cold) displays a change in vowel quality from open to near-open in the medial position. The broad transcription is "/barɪd/," indicating the presence of the /a/ sound. The narrow transcription "[bæ, rəd]" highlights the shift from an open vowel to a near-open variant. In the Northern region, the word "بارد" (cold) shows no change in the medial /a/ sound. The broad transcription is "/barɪd/," indicating the presence of the /a/ sound. The narrow transcription "[ba, rəd]" confirms the absence of any variations in the vowel. In the Southern region, the word "بارد" (cold) exhibits a change in vowel quality from open to near-open in the medial position. The broad transcription is "/barɪd/," indicating the presence of the /a/ sound. The narrow transcription "[bæ, rəd]" suggests the shift from an open vowel to a near-open variant. The analysis of the /a/ sound in medial position reveals regional variations in vowel quality. Some regions show no noteworthy changes, while others exhibit shifts in vowel rounding or openness. These results help to a more thorough understanding of regional variations in Arabic phonology by shedding light on the phonetic variances across various Arabic dialects.

Table 4*/a/ in Final Position*

Region	Words	Broad Transcription [Standard]	Narrow Transcription	Remarks on the vowel /a/
Central	I saw it شفتها (رأيتها)	'ʃif,təha	'ʃif,təha	No change in final /a/
Eastern	I saw it شفتها (رأيتها)	'ʃif,təha	['ʃiftə,hɛ]	Final vowel becomes open-mid
Western	I saw it شفتها (رأيتها)	'ʃif,təha	'ʃif,təha	No change in final /a/
Northern	I saw it شفتها (رأيتها)	'ʃif,təha	['ʃiftə,hɛ]	Final vowel becomes open-mid
Southern	I saw it شفتها (رأيتها)	'ʃif,təha	'ʃif,təha	No change in final /a/

Table 4 provides the analysis of the /a/ sound in final position across different regions, including Standard Arabic and various dialectal variations. The table includes the words, their broad transcription, narrow transcription (for dialectal variants), and remarks on the vowel. In the Central region, the word "شفتها" (I saw it) shows no change in the final /a/ sound. The broad transcription is "'ʃif,təha," indicating the presence of the /a/ sound. The narrow transcription "'ʃif,təha" confirms the absence of any substantial variation in the vowel. In the Eastern region, the word "شفتها" (I saw it) demonstrates a change in vowel quality in the final position. The broad transcription is "'ʃif,təha," indicating the presence of the /a/ sound. The narrow transcription "[ʃiftə,hɛ]" suggests that the vowel becomes open-mid in the final position. In the Western region, the phrase "شفتها" (I saw it) shows no change in the final /a/ sound.

The broad transcription is "'ʃif,təha," indicating the presence of the /a/ sound. The narrow transcription "'ʃif,təha" confirms the absence of any substantial variation in the vowel. In the Northern region, the phrase "شفتها" (I saw it) demonstrates a change in vowel quality in the final position. The broad transcription is "'ʃif,təha," indicating the presence of the /a/ sound. The narrow transcription "[ʃiftə,hɛ]" suggests that the vowel becomes open-mid in the final position. In the Southern region, the phrase "شفتها" (I saw it) shows no change in the final /a/ sound. The broad transcription is "'ʃif,təha," indicating the presence of the /a/ sound. The narrow transcription "'ʃif,təha" confirms the absence of any variation in the vowel. The analysis of the /a/ sound in final position reveals regional variations in vowel quality. Some regions show no important changes, while others exhibit shifts in vowel openness. These results help us learn more about how Arabic sounds are different in different places and how the /a/ sound is said differently in different languages.

Discussion

The study's outcomes are contextualized within the framework of prior research, offering insightful perspectives into the nuances of vowel /a/ pronunciation diversities among various Saudi Arabian dialects. The exploration of vowel /a/ variations across initial, medial, and final positions, as depicted in Tables 2, 3, and 4, reflects the thematic continuity with earlier inquiries into phonological discrepancies within Arabic dialects. The analysis of initial /a/ sound fluctuations evokes parallels with Alhazmi's (2018) research into dialectal shifts in vowel articulation within Eastern Saudi Arabia. Similarly, the discernment of regional inconsistencies in the articulation of the /a/ sound corresponds to the insights provided by Alghamdi (1998), underscoring the importance of placing variations within broader linguistic contexts. Furthermore, the scrutiny of vowel quality modifications in medial and final positions resonates with the phonological investigations undertaken by Barkat-Defradas et al. (2003). The research's implications align with the discourse on regional phonological diversity, as observed in the literature review. The study's conclusions contribute to the ongoing discourse on Arabic phonological variance by presenting refined insights into the intricate phonetic nuances of the vowel /a/ across diverse Saudi Arabian dialects.

This study, however, found varying pronunciations of the vowel /a/ across Saudi Arabian dialects in initial, medial, and final positions. Table 2 demonstrated differences in initial /a/ among regions, with deletion in Central, Eastern, and Northern regions, while the Western region exhibited a central-mid shift and the Southern region a mid-close change. Table 3 highlighted medial /a/ variations, including consistent quality in the Central region, rounding in the Eastern, and near-open shifts in the Western and Northern regions. Table 4 indicated steady final /a/ quality in the Central and Western regions, openness in the Eastern and Northern regions, and stability in the Southern region. These findings enhance comprehension of Arabic phonological diversity across regions.

The study's implications align with the discourse on regional phonological diversity, as observed in the literature review. The conclusions contribute to the ongoing discussion on Arabic phonological variance by providing nuanced insights into the complex phonetic nuances of the vowel /a/ across diverse Saudi Arabian dialects.

Conclusion

The examination of vowel quality changes across different positions and regions within Saudi Arabia provides valuable insights into the regional disparities inherent in Arabic phonology. The findings illuminate variations in the pronunciation of the /a/ sound, ranging from vowel deletion in some regions to shifts in vowel quality in others. These variations underscore the significance of acknowledging and accounting for dialectal differences, as they highlight the diverse array of Arabic dialects spoken across different regions.

The observed patterns align with previous research, thus contributing to our understanding of regional variations in Arabic phonology. By recognizing and appreciating these dialectal distinctions, we can foster effective communication and enhance cultural understanding. However, further research has the potential to extend the scope of this study. Future investigations should explore additional dialectal variations and undertake comparative

analyses with other Arabic-speaking countries. Pursuing this research trajectory promises to enrich scholarly discourse and expand the academic landscape within this field of study.

This analysis deepens our comprehension of regional disparities in Arabic phonology and underscores the importance of considering regional variations in language education and communication. By embracing and studying these variations, we can promote inclusive language practices and facilitate more nuanced intercultural interactions.

Recommendations

In the present study, the primary emphasis was placed on examining the variations in vowel quality, specifically the /a/ sound, as it occurs in initial, medial, and final positions within words. It is of paramount importance that subsequent research endeavors expand the scope of inquiry to encompass additional phonemes and positional occurrences, as this would greatly enhance our understanding of the intricacies of Arabic phonology. Despite the fact that the current study scrutinized vowel quality shifts in multiple regions throughout Saudi Arabia, it is crucial to recognize the vast array of dialects present within the nation. Consequently, in order to obtain a more profound comprehension of the degree to which vowel quality varies across diverse geographical locales, it is recommended that future research delve into a broader spectrum of dialectal disparities. A particularly fruitful methodology would entail contrasting the vowel quality modifications observed in Saudi Arabian dialects with those detected in other Arabic-speaking nations. This comparative approach would serve to augment our collective expertise in the realm of Arabic phonology. By conducting such an analysis, it becomes possible to discern both the similarities and the differences in vowel quality patterns across an array of regions, ultimately facilitating a more comprehensive grasp of the nuances of Arabic phonetics.

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