



## Arabic Phoneme Learning Challenges for Madurese Students and the Solutions

Achmad Fudhaili<sup>1\*</sup>, Toto Edidarmo<sup>2</sup>, Siti Maisaroh<sup>3</sup>

<sup>12</sup> Arabic Education Study Program Universitas Islam Negeri Syarif Hidayatullah Jakarta, Indonesia

<sup>3</sup> Arabic Education Study Program Institut Agama Islam Negeri Madura, Indonesia

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### \*Correspondence Address:

fudhaili@uinjkt.ac.id

**Abstract:** This article discussed the challenges in pronouncing Arabic phonemes by students at INSTIKA Madura. Phoneme pronunciation is the most important principle in Arabic. Without the correct phoneme pronunciation, a language cannot be understood. The problem of phoneme pronunciation was investigated and a solution was found based on factor analysis. Qualitative descriptive research design was used with a case study approach. Data collection methods include interviews with lecturers and students, direct observation of in-class learning and documentation of the results of lecturer notes. The data analysis model adhered the interactive model of Miles, Huberman, and Saldana. Validity was ensured through passion, observation, triangulation, and expert views. The finding of the research showed problems with Arabic phonemes, which were categorized as *Akhtha' al-Harakat*, *Akhtha' al-Ibdal*, *Akhtha' al-Hadzf*, and *Akhtha' al-Tahrif*. Factors include language problems (characteristics of the first and second languages) and non-language problems (student characteristics, lecturer competence, learning strategies, lesson materials, and learning facilities). The proposed solutions included error and comparative analysis for language problems, motivation, diagnosis, cooperative learning, detailed examples, pronunciation exercises, and adequate facilities for non-language problems. This research provided a comprehensive study of the challenges of pronouncing Arabic phonemes at INSTIKA Madura. Certain types of errors and the underlying factors that affect pronunciation were identified. Practical solutions were proposed, addressing both language and non-language aspects to improve students' pronunciation skills. These findings offered valuable insights for educators, curriculum developers and language instructors, facilitating targeted interventions and effective teaching strategies to students struggling with Arabic phonetics.

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## Introduction

Language learning encompasses various challenges, including linguistic and non-linguistic factor. Linguistic problems pertain directly to the language, while non-

linguistic problems are external factors affecting learning success. In Arabic learning, particularly *Aswat* Arabic, non-native students often encounter difficulties in accurately pronouncing specific letters.<sup>1</sup> These difficulties have been observed not only among Indonesian students but also among Malaysian, Turkish, and American students,<sup>2</sup> suggesting the influence of the first language characteristics and lack of attention.

Learning Arabic involves three key elements: *Aswat* (sounds), *mufradat* (vocabulary), and *qawa'id* (grammar).<sup>3</sup> Proficiency in Arabic phonemes plays a crucial role in effective communication.<sup>4</sup> One's ability to accurately produce Arabic sounds serves as an assessment of communication skills. The correct pronunciation is measured against the rules of articulating Arabic sounds,<sup>5</sup> as it directly impacts the conveyance of meaning and intent.<sup>6</sup> Inaccurate pronunciation hinders the proper delivery of sentences and ideas.<sup>7</sup>

However, in Arabic phonemes learning, Madurese students faced many challenges.<sup>8</sup> Most of students often mispronounce Arabic phonemes, for example, mispronounce الحمد (all praise) with الهمد (all death) or confuse words like “الحارس” with “الحارص”, which can lead to misinterpretation. Overcoming these challenges and increasing proficiency in Arabic phonemes is essential for effective communication and mastery of the language among Madurese students.

Several previous studies had explored various aspects of Arabic language learning and pronunciation. Aligning with Lubis's study on Arabic loanwords in Indonesian,

<sup>1</sup> Bukman Lian, "Tanggung Jawab Tridharma Perguruan Tinggi Menjawab Kebutuhan Masyarakat," *Prosiding Seminar Nasional Program Pascasarjana Universitas PGRI Palembang*, 2019.

<sup>2</sup> Sharynne McLeod and Kathryn Crowe, "Children's Consonant Acquisition in 27 Languages: A Cross-Linguistic Review," *American Journal of Speech-Language Pathology* 27, no. 4 (2018), 1546–1571.

<sup>3</sup> Husni Mubarak, "Asal Usul Bahasa Arab," *Jurnal Ilmiah Iqra'* 5, no. 1 (2018).

<sup>4</sup> Andi Sahputra Harahap, "Bahasa Arab, Asal Usulnya, Faktor yang Mempengaruhi Perkembangannya dan Karakteristiknya," *Hukumah: Jurnal Hukum Islam* 4, no. 2 (2021).

<sup>5</sup> Nick C Ellis, "Essentials of a Theory of Language Cognition," *The Modern Language Journal* 103, (2019): 39–60.

<sup>6</sup> Jad Jaber, "Arab Queer Language: What are the Characteristics of the Language Used Upon, and Within Queer Arab Culture, and How Does That Affect the Identity-Formation and Subjectivity of Queer Arab Individuals?," *Institute for Women's Studies in the Arab World*. Retrieved from <https://aiw.lau.edu.lb/files/Arab-Queer-Language.Pdf>, 2018.

<sup>7</sup> Agussalim Beddu Malla, "التفكير الصوتي عند العرب بين القديم والحديث," *Nady Al-Adab: Jurnal Bahasa Arab* 17, no. 2 (2020): 26–30.

<sup>8</sup> Achmad Fudhaili, "Strategيات تعليم الأصوات العربية في جامعة النجاة للعلوم الإسلامية وجامعة الأمين للدراسات الإسلامية مادورا" (Doctoral Dissertation, Universitas Islam Negeri Maulana Malik Ibrahim), 2020.

Masiri focused on the *Aswat* learning technique by using contrastive analysis, which corresponded to Jami investigation of first-language interference in second-language acquisition, specific areas of interference discussed included the pairs (ض، د), (س، ص), (ع، غ), (ه، ح), (ط، ت), (ق، ك), (ز، ظ), (ح، خ).<sup>9</sup>

Moreover, Syalbi focused on identifying different types of pronunciation errors in Arabic phonemes among Madurese speakers in the area of Tapal Kuda.<sup>10</sup> Meanwhile, Nasaruddin also examined the mistakes made by Indonesian students in pronouncing specific Arabic phonemes, including ق، ت، ح، خ، ذ، ش، ص، ض، ط، ظ، ع.<sup>11</sup>

The aforementioned research sheds light on the challenges non-native students encounter when pronouncing certain Arabic sounds, particularly about *Aswat* and its learning. Meanwhile, the most studies had examined the difficulties and influencing factors in pronouncing phonemes among non-Arabic speaking students, Fatoni provided a more specific analysis with a limited sample size from the Tapal Kuda area, predominantly using the Sumenep dialect and Pamekasan. In contrast, this article aimed to gather data from Madurese students at INSTIKA, comprising individuals from various regions such as Sumenep, Pamekasan, Sampang, Bangkalan, Jember, Probolinggo, Situbondo, Bondowoso, Banyuwangi, and Pasuruan.<sup>12</sup> Due to the diverse Madurese dialects across these regions, it is expected that the obtained data will differ. Therefore, the present study seeks to identify problematic Arabic phonemes for Madurese students, explore the factors influencing pronunciation difficulties, and propose effective strategies to overcome these challenges. By addressing this research gap, it is aimed to enhance the understanding of Arabic phoneme acquisition among Madurese students and contribute to the development of targeted instructional approaches in this specific context.

<sup>9</sup> Rachel Schiff and Elinor Saiegh-Haddad, "Development and Relationships between Phonological Awareness, Morphological Awareness and Word Reading in Spoken and Standard Arabic," *Frontiers in Psychology* 9, (2018): 356.

<sup>10</sup> Fathoni Arifandi, "Dialek Madura pada Tindak Tutar Mahasiswa Bahasa Arab di Jember," *International Conference of Students on Arabic Language* 5, (2021): 228-238.

<sup>11</sup> Nasaruddin Nasaruddin, "Al-Ashwat Al-Árabiyyah Al-Sha'bah wa Ta'limuha Li Al-Nathiqin bi Al-Lughah Al-Indunisiyyah," *Arabiyyatuna: Jurnal Bahasa Arab* 6, no. 1 (2022): 1–24.

## Methods

In this study, a case study research design was carried out to answer the research questions. A case study research design is very relevant to the problem of Arabic phonemes learning in Madura. By using a case study approach, this research was able to explore in depth the problems faced by Madurese students in Arabic phonemes learning. Case studies allow researchers to gain a comprehensive insight into the factors that influence difficulties in pronouncing Arabic phonemes. Through the use of a case study approach, researchers can collect data directly from lecturers and students as research participants. This allows researchers to understand in depth their perspectives on problems in Arabic phonemes learning in Madura. In this study, lecturers and students from various regions in Madura became cases that represented a variety of backgrounds and learning experiences.<sup>13</sup>

The participants in this study were 1 lecturer of *Aswat* subject at the Arabic Language Education Study Program at the Institute of Islamic Sciences Annuqayah Madura and 10 students each from 4 districts in Madura and 6 districts in the Tapal Kuda area. This research method also supports holistic and comprehensive data collection. Through observation, interview, and documentation techniques, the information about the problems of Arabic phonemes learning in Madura could be obtained. Observations provided a direct description of the interaction between lecturers and students in the learning process. Interviews allowed researchers to gain in-depth insight into the perceptions, experiences, and learning strategies used by students. Meanwhile, documentation can provide concrete evidence about learning materials, test results, and other relevant records.

By using a case study approach, this research was about to provide a comprehensive understanding of the problems of Arabic phonemes learning in Madura. The results of this study were expected to contribute to the development of more effective and relevant learning strategies for Madurese students in overcoming difficulties in pronouncing Arabic phonemes. With a deep understanding of the factors that influence the learning of Arabic phonemes, both linguistic and non-linguistic in

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<sup>12</sup> Fathoni Arifandi, "Dialek Madura pada Tindak Tutar Mahasiswa Bahasa Arab di Jember," *International Conference of Students on Arabic Language 5*, (2021): 228-238.

<sup>13</sup> John W. Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Sage Publications, 2017).

nature, appropriate solutions can be implemented and can improve the overall quality of Arabic learning in Madura.

In analyzing the research data by using the theories of Mile, Huberman, and Saldana, regarding the problems of Arabic phonemes learning in Madura and their solutions, the steps are as follow: The data were collected related to the problems of Arabic phonemes learning for Madurese students through observation, interviews, and documentation. Observations were made to understand the interactions between lecturers and students in Arabic phonemes learning in Madura. Interviews were conducted to get a deeper perspective from Madurese students about their difficulties in pronouncing Arabic phonemes. The documentation included learning materials, test results and other important records. The data were collected from 1 lecturer and 10 students from Sumenep, Pamekasan, Sampang, Bangkalan, and Tapal Kuda Regencies.

Data collected from observation, interviews and documentation were then condensed. This involves organizing and sorting data based on factors that influence the difficulty of pronouncing Arabic phonemes in Madura. The data were identified based on the type of difficulty. The next step, the condensed data was presented in detail. This involves an in-depth description of the problems of Arabic phonemes learning in Madura and their solutions. The data presented were in the form of narratives, direct quotes, or tables to provide a clear picture of the difficulties faced by Madurese students in pronouncing Arabic phonemes.

Based on the data analysis, conclusions can be drawn regarding the problems of Arabic phonemes learning in Madura and the solutions such as difficulties in pronouncing Arabic phonemes, the factors that influence them and the solutions proposed to overcome these problems by taking into account the factors or causes of these problems. By applying the perspectives of Mile, Huberman, and Saldana in data analysis, this research was expected to provide a deeper understanding of the problems of Arabic phonemes learning in Madura and their solutions. Data analysis carried out through these steps allowed more accurate and detailed identification and conclusions to be drawn.

## **Results and Discussion**

Madurese students often experienced difficulties in Arabic phonemes learning, particularly in pronouncing and distinguishing certain alphabets and letters. Iman Thahir

identified four types of pronunciation errors: *Akhtha' al-Ibdal* (substituting sounds), *Akhtha' al-Idhafah* (combining sounds incorrectly), *Akhtha' at-Hadzf* (omitting sounds), and *Akhtha' at-Tahrif* (adding sounds). Moreover, a new error type, *Akhtha' al-Harakat*, was discovered, which referred to mispronouncing diacritical marks. These errors highlight the challenges Madurese students encounter in mastering Arabic phonemes. Hence, it is crucial to enhance their pronunciation accuracy and understanding of the language.

**Table 1.** Students Pronunciation Problem in Institute of Islamic Sciences Annuqayah Madura

No.	Error Type	Error Form	Spoken Words	Right Words
		Replacing (ض) with (د)	بعد/درب	بعض/ضرب
		Replacing (ح) with (-ه)	الهمد	الجمد
		Replacing (خ) with (-ه)	إهوان	إخوان
		Replacing (ع) with (ء)	الأمين/يألم	العالمين/يعلم
<b>Eliminating Consonant Sounds</b>				
		Throwing out noise (و)	الذي	والذي
		Throwing out noise (ت)	من زكي	من تزكي
2	<i>Akhtha' al-Hadzf</i>	Throwing out noise (ي)	نسرك	نيسرك
		Throwing out noise (ح)	أروا آبائنا	أرواح آبائنا
		Throwing out noise (ة)	الأخر	الأخرة
<b>Reading ə on dignity فتحة</b>				
		Reading ب (فتحة) with sound (ə)	Bəiti/Bə'də	بيتي/يعد
		Reading ي (فتحة) with sound (ə)	Iyyəka	إياك
		Reading و (فتحة) with sound (ə)	Wə'ala	وعلى
		Reading ج (فتحة) with sound (ə)	Ahrojə	أخرج
3	<i>Akhtha' al-Harakat</i>	Reading د (فتحة) with sound (ə)	Fahədə	فهيدي
<b>Reading € on dignity كسرة</b>				
		Reading ت (كسرة) with (€)	Al-Fat€hah	الفايحة
		Reading ح (كسرة) with (€)	Roh€m	رحيم
		Reading خ (كسرة) with (€)	Al-Ah€roh	الأخرة
		Reading م (كسرة) with (€)	Al-Am€n	الأمين

		Adding Vocal Sounds		
4	<i>Akhtha' at-Tahrif</i>	Add long sounds with (الف)	رجلاه/كابير/خالص	رجلّه/كبير/خِلاص
		Add long sounds with (ي)	جائيع/تاعيب	جائيع/تاعب

In the first type of error, an error due to changing letters (*Akhtha' Ibdal*) is found in the example of the word **بَعْضُ** means "some" and changes to **بَعْدُ** mean "after", and the word **ضَرَبَ** means "to hit" changes to **دَرَبَ** means "practice", This change in meaning is due to the replacement of the letter **ض** with **د**. The pronunciation of **الْحَمْدُ** (all praise) changed to **الْهَمْدُ** (all death) because of replacing the letters **ح** with **ه**. The word **إِخْوَانٍ** (brothers) is changed to **إِهْوَانٍ** (disappoints) by replacing the letter **خ** with **ه**. The word **العَالَمِينَ** (worlds) changed to **الآلَمِينَ** (those who hurt), and **يَعْلَمُ** (knowing) changed to **يَأْلَمُ** (hurt) by replacing the letter **ع** with **هَمْزَة**.

In the second type of error (*Akhtha' al-Hadzf*), there is an example of **والذي** (and for the sake of Dzat) changing to **الذي** (Dzat) removing the letter **و(القسم)**, and pronouncing **مَنْ تَزَكَّى** (one who cleanses himself) changes to **مَنْ زَكَّى** (people purifying) by removing the letter **ت**. The word **نُيَسِّرُكَ** (We make it easy for you) changes to **نُسِرُّكَ** (We make it easy for you) by removing the letter **ي**. The word **أَرْوَاحَ آبَائِنَا** (the souls of our predecessors) changed to **أَرْوَى آبَائِنَا** (the predecessors who are most frequently narrated), and the word **الآخِرَة** (hereafter) changed to **الآخِر** (the last).

In the third type of error there is a change in the **فتحة** vowel with the sound (ə) in the letters **د، و، ي، ب** with the letter **و، ي، ب**. Errors in the sound of the word do not change the meaning and are called minor errors (**اللحن الخفي**). Likewise, the error has changed the pronunciation of the sound of the sound of the dignity **كسرة** in the letter **ت** ، **كسرة** in the word **الفاتحة** at the time of the blessing **ج ح خ خ ، ر، ص ص ع ، م ، ل** changes to the sound (€). This does not change the meaning of the words. Therefore, this error is called **اللحن الخفي**.

The fourth type of error is called *Akhtha' Tahrif*, namely errors caused by adding one or two letters in one word, such as the word **رِجْلُهُ** (one leg) changed to **رِجْلَاهُ** (two legs), and the word **كَبِيرٌ** (large) changed to **كَايِرٌ** (without meaning), and the word **خَالِصٌ** (sincerity), this change in meaning occurs because of the addition of **ألف** to the vowel sound (a). Likewise, adding the letter **ي** to the vowel sound (i) such as the word **جَائِعٌ** (hungry) changes to **جَائِيَعٌ** (without meaning).

The teaching and learning process faces challenges encompassing both linguistic and non-linguistic issues. Linguistic problems involve phonetics, writing, vocabulary, syntax, morphology, and semantics, while non-linguistic problems pertain to educators, students, teaching materials, media, infrastructure, and sociocultural factors. Culture, friends, and family also influence non-linguistic challenges. Distorting Arabic phoneme pronunciation contradicts the correct teaching rules. Several previous researches had examined phonemic problems in Arabic sounds learning to non-native speakers, categorizing them as linguistic and non-linguistic problems.

(1) Language intervention. The problem of Arabic sounds learning linguistically arises from language intervention, as Douglas points out. Some Arabic language or vocabulary is assimilated into the mother tongue and integrated into everyday language

with different speech styles. For instance, the word “رزقي” in Arabic becomes “رزكي” in Indonesian, a change known as lispings. Similarly, differences in the pronunciation of short and long vowels occur. This is not due to the absence of certain letter sounds in the Indonesian language, but rather the influence of Arabic on the Indonesian language or students' lack of exposure to Arabic. To address this, Jaradat suggested providing detailed explanations of articulation methods, precise spelling, and continuous practice.

(2) The absence of Arabic phonemes in the mother tongue of students. The second linguistic challenge arises from the absence of specific Arabic sounds in students' mother tongues. This results in difficulties in comprehending and producing unfamiliar sounds, as well as in adapting their speech organs to articulate these sounds correctly. Learning new speech patterns becomes more complex for non-native speakers, particularly as they grow older. Consequently, students often substitute similar sounds from their native language when attempting to pronounce Arabic phonemes. For instance, Yemeni students may replace the sound (ر) with (ل) due to its absence in the Yemeni language.<sup>14</sup> To address this issue, it is crucial to explicitly convey the distinct characteristics of phonemic units through spelling and consistent practice while providing clear explanations of the differences between these units.

(3) Differences in characteristics (nature) of sound. Differences in the characteristics of consonant sounds between two languages are often observed among the majority of students. For example, the Arabic letter (ج) pronunciation differs between Egyptian and Syrian dialects. These variations in sound characteristics align with the speech patterns in the respective linguistic environments. Consequently, students find it challenging to pronounce sounds based on their proper articulation and characteristics, as they are accustomed to pronouncing them with the characteristics of their native language. For instance, sounds like (ك) and (ت) are pronounced as hiss (hams). To address this issue, providing examples of sounds with similar articulation but different characteristics can be an effective solution.

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<sup>14</sup> Mohsen Maraoui, Naim Terbeh, and Mounir Zrigui, "Arabic Discourse Analysis Based on Acoustic, Prosodic and Phonetic Modeling: Elocution Evaluation, Speech Classification and Pathological Speech Correction," *International Journal of Speech Technology* 21, no. 4 (2018): 1071–1090.

(4) Sound similarity. The similarity of Arabic sounds with their mother tongue affects the difficulty of students to pronounce articulations that are not in their mother tongue, they think that the sound of is the same as the sound of their mother tongue, such as (ص) which is replaced by (س) because both have similarities. This problem can be solved by comparing the articulation and characteristics of sounds that are similar, with detailed examples and how to improve them. In addition, students are required to follow the teacher's speech pattern in intensive practice.

Some of the problem factors for learning non-linguistic Arabic phonemes are caused by: the characteristics of students, teachers, teaching strategies, subjects, and educational institutions. Below is the explanation:

Characteristics of Learners; (1) Lack of motivation and interest. One non-linguistic problem that arises is the lack of student interest and motivation in learning Arabic sounds. This issue stems from a lack of awareness regarding the importance of mastering Arabic phonemes, resulting in a lack of motivation to learn. Additionally, some educators neglect the use of effective learning methods and models for teaching Arabic phonemes, such as verbal exercises or cooperative learning. According to Bennett, students' interest in the learning process is driven by their willingness to listen to advice, complete assignments, pay attention to visuals and tools, engage with others' opinions, respond to teacher questions, and actively participate in lessons. The availability of appropriate learning materials relies on the strength of students' interest, including their pronunciation of Arabic sounds. To address this, teachers must emphasize the significance of learning Arabic sounds, provide motivation, and offer relevant examples that highlight the function of sounds in word construction.<sup>15</sup>

(2) Differences in background. The differences in the background of each student in the axis of linguistics, culture, and education also slow down the process of students' Arabic phoneme pronunciation fluency as stated by Maryam. The existence of students' different backgrounds has an impact on the difficulty of implementing strategies that are 'according to their level of language ability and it is related to the factors of their sensory system, environment-culture, and their academic studies. The solution to this problem is

to analyze their language skills with diagnostic strategies and form groups for cooperative learning.<sup>16</sup>

(3) Lack of self-confidence. Students often lack self-confidence when it comes to practicing the correct pronunciation of Arabic sounds as directed by the teacher. They believe they are incapable, despite language mastery being attainable through practice and habituation. According to Syahira Dadu', self-confidence plays a significant role in achieving success, as it is a crucial psychological factor in reaching goals. Therefore, teachers must instill self-confidence in students by offering words of encouragement and motivation. By nurturing students' self-confidence, they can overcome their fear and excel in mastering Arabic pronunciation.

(4) Wrong habits. The habit of students incorrectly pronouncing the alphabet is one of the other non-linguistic problems that make it difficult for teachers to deliver subject matter easily and quickly. Habits are one of the most difficult to change, especially habits of improper pronunciation.<sup>17</sup> This speech error is not due to their inability, but because of their habit of pronouncing sounds with wrong articulation. Al-Zureikat said that this speech error can also be caused by the habit of speaking quickly or imitating other people. The solution to this problem, according to Mubarak is to provide a correct understanding of phoneme rules accompanied by a lot of verbal practice so that they are accustomed to pronouncing sounds fluently.

(5) Hearing error. Non-linguistic challenges may also arise from students' errors in perceiving sounds, either due to functional factors or their lack of knowledge about the forms of words they hear independently, without the guidance of a teacher. This can occur because of inaccurate pronunciation or a misunderstanding of the word. Dimashqieh identified this as either a subjective hearing impairment or an objective deficiency related to the weakness of the voice itself. To address this, teachers should provide examples of words with detailed spelling and articulate them slowly to ensure that students can accurately perceive each sound unit and develop familiarity with listening to them.

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<sup>15</sup> Laith H. Baniata, Seyoung Park, and Seong-Bae Park, "A Neural Machine Translation Model for Arabic Dialects That Utilizes Multitask Learning (MTL)," *Computational Intelligence and Neuroscience*, 2018 (2018).

<sup>16</sup> Leena Lulu and Ashraf Elnagar, "Automatic Arabic Dialect Classification Using Deep Learning Models," *Procedia Computer Science* 142, (2018): 262–269.

<sup>17</sup> Ghata Rina and Mila Karmila, "Pendidikan Keterampilan Hidup (Life Skill) Anak Usia Dini Selama Masa Pandemi Covid-19 di Lingkungan Keluarga," *Tematik* 6, no. 2 (2020): 53–61.

(6) Organ defects. Kashash identified another issue related to organic defects in students' speech organs, including nervous factors that impede proper letter pronunciation. Healthy vocal organs are crucial for accurate and fluent sound production. Mansour stated that pronunciation errors stem from health, organic, and emotional factors.<sup>18</sup> To address this, teachers should educate students about the impact of disabilities on pronunciation and guide them to seek medical consultation for assistance.

Characteristics of Educators and Learning Strategies. W. A. Bennett and Bishr pointed out the challenges faced by pre-university Qur'anic teachers due to inappropriate teaching strategies and the absence of specific approaches for Arabic phonemes. Teachers' varying perspectives and their own pronunciation mistakes contribute to students' misunderstanding of correct articulation patterns. Consequently, teachers must avoid using the mother tongue while teaching Arabic and instead seek appropriate strategies to student's specific difficulties.

Characteristics of Educational Institutions. The lack of facilities and infrastructure in question is the lack of attention from educational institutions to bring in Arabic speakers due to logistical limitations. This problem is a common thing that occurs in education, so the teaching and learning process cannot be carried out effectively because the facilities and management are inadequate. Therefore, teachers need to invite native speakers to present examples of pronunciation more clearly through the spelling of native speakers.<sup>19</sup>

Previous researches made important contribution to the understanding of challenges and solutions in Arabic phonemes learning. Lubis's study about Arabic loanwords in Indonesian, Dukuri Masiri's research on Aswat learning techniques using contrastive analysis, and Husain Jamil's investigation of first-language interference in second-language acquisition, have all provided valuable insights regarding phonetic problems in learning Arabic. In addition, Syllabi and Nasaruddin in their research provided specific insights into the mispronunciation of Arabic phonemes among Madurese speakers in the Tapal Kuda Region and Indonesian students. The novelty of this research lies in its focus on the challenges faced by Madurese students in

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<sup>18</sup> Mohammed Algabri and others, "Towards Deep Object Detection Techniques for Phoneme Recognition," *IEEE Access* 8, (2020): 54663–54680.

<sup>19</sup> Haitham Seelawi and others, "Alue: Arabic Language Understanding Evaluation," *Proceedings of the Sixth Arabic Natural Language Processing Workshop*, (2021): 173–184.

pronouncing Arabic phonemes. This study highlights the variations in pronunciation errors and offers solutions based on factor analysis to improve Arabic phoneme proficiency.

Although this research has significant implications, it is important to know its limitations, especially because it is based on a specific student population and self-report data. To gain a more comprehensive understanding of the implications of learning Arabic, further research with a larger sample and consideration of additional factors is needed. Thus, the research results can make a greater contribution to overcoming challenges in Arabic phonemes learning, especially for Madurese students and other students with similar difficulties.

### **Conclusion**

In this study, the theory of comparative analysis could be used to compare pronunciation difficulties and then analyze the factors to obtain solutions in learning that are appropriate and in accordance with the problem of difficulty pronouncing Arabic phonemes properly and correctly for Madurese students in particular and other non-Arabic students. With the compass theory, it is easier for lecturers to convey phoneme material to students by comparing Arabic phonemes with Madurese phonemes. Before that, the lecturer had to know the types of difficulties students experienced when pronouncing Arabic phonemes, then after the problems with the phoneme pronunciation were identified, the teacher delivered material using a comparative approach. Using a comparative-analysis approach in Arabic phonemes learning is more efficiently applied by lecturers to avoid pronunciation mistakes and facilitate Arabic phonemes learning properly.

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## Author Contributions Statement

The first researcher (AF) was in charge of compiling research concepts, collecting data, and analyzing data. The second author (TE) helped with logistical needs from the data collection process to data analysis. Then the third author (SM) compiled articles according to the Journal of Al Bayan template. The role of them is significant in completing this research properly and on time.

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