
RESEARCH ARTICLE

Pronunciation Challenges of Saudi Female EFL Learners: A Multidimensional Needs Analysis

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ABSTRACT

Mastering English pronunciation poses persistent obstacles for Saudi learners pursuing higher education and careers reliant on strong oral skills. This mixed methods study explores female Saudi university students' and vocational trainees' self-reported experiences with pronunciation via questionnaires and interviews. Quantitative findings reveal ongoing segmental and suprasegmental difficulties, with consonant contrasts, vowel distinctions, and stress/rhythm issues most prevalent. Participants emphasize interconnected sociocultural variables influencing development, including class size, technology access, family support, teacher expertise, and learner confidence. Qualitative insights underscore pronunciation as a multifaceted process requiring aligned pedagogical responses. Recommendations center on specialized instructor training, personalized feedback techniques, targeted lessons, and technology integration. By capturing diverse learner perspectives, this research contributes an inclusive examination of needs to advance responsive policies and practices that optimize Saudi females' pronunciation attainment. Findings affirm pronunciation as a complex yet critical developmental process necessitating comprehensive support structures.

KEYWORDS

Anxiety, Autonomous, Learning Obstacle, Practice, Proficiency, Self-access-centres Sounds.

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1. Introduction

Pronunciation poses significant challenges for many English language learners (Derwing & Munro, 2015; Jenkins, 2000). Mastering the complexities of the sound system presents a long-term endeavor requiring sustained effort and support across proficiency levels (Celce-Murcia et al., 2010; Munro & Derwing, 2008). For Saudi students navigating the pronunciation demands of English as a foreign language, success relies upon comprehensively addressing the multifaceted nature of this developmental process (Obaid, B., & Abdullah, L. 2023; Coskun, 2011). A substantial body of literature has explored pronunciation obstacles experienced by Saudi learners through rigorous empirical investigations (Al-Rubaat, A. M., & Alshammari, H. A, 2020; Mahmood, R. Q., & Bui, H. P. 2024). However, evolving research lenses have revealed interconnected linguistic, social, and pedagogical factors necessitating wider examination (Isaacs, 2009; AbdAlgane, M., & Idris, S. A. M. 2020).

This study aims to enrich current understanding in several ways. First, it will provide an overview of past findings on difficulties faced by Saudi learners through a critical review of the existing research literature (Obaid, B., & Abdullah, L. 2023; Hago, O. E., & Khan, W. A. 2015). Next, it will explore influences on developmental trajectories outlined previously, such as linguistic interference and sociocultural implications (Flege, 1995; Celce-Murcia et al., 2010). The study also examines how perspectives have expanded to consider multi-dimensional influences beyond isolated challenges (Emilia, B. 2023; Mahmood, R. Q., & Bui, H. P. 2024).

While earlier empirical studies illuminated significant pronunciation challenges, evolving lenses reveal the interplay of interconnected factors necessitating comprehensive inquiry. This study aims to enrich current knowledge through a multidimensional examination of Saudi learners' self-reported experiences navigating the complex developmental process of L2 phonological attainment. Findings seek to optimize pedagogical alignment with diverse contemporary realities.

Pronunciation proficiency is imperative for Saudi EFL learners pursuing higher education and careers reliant on clear communication in English-dominant environments. However, existing research indicates pronunciation continues to pose substantial challenges attributable to both linguistic and sociocultural factors. While past studies have provided valuable insight, limitations persist in understanding the dynamic interplay between learner experiences and contemporary learning contexts. A comprehensive needs analysis is needed to capture the multifaceted realities shaping Saudi learners' long-term phonological development trajectory.

Optimizing pronunciation pedagogy requires aligning instruction with demonstrated needs across diverse learner populations. This study aims to address gaps through a mixed-methods exploration comprehensively surveying Saudi EFL learners of varying profiles. Findings seek to inform future research and support by gaining practical insight into how instructor training, curriculum, and instructional resources could be adapted to current social and technological conditions influencing attainment. By better understanding the interconnected nature of pronunciation challenges from learners' perspectives, this study holds significant potential to impact the oral communication outcomes imperative for many Saudi graduates' academic and career pursuits reliant on clear English speech.

This research is important because it aims to directly influence pronunciation pedagogy by identifying opportunities to better serve Saudi learners navigating a critical yet intricate developmental process with high-stakes consequences. A multidimensional needs analysis can optimize alignment between instruction and complex sociocultural realities shaping long-term phonological development.

1.1 Statement of the Problem:

While existing research has significantly contributed to recognizing pronunciation challenges faced by Saudi EFL learners and factors influencing development, limitations persist in understanding the influence of contemporary sociocultural contexts and capturing diverse learner experiences. A comprehensive exploration of needs is needed to optimize pronunciation support aligned with Saudi learners' realities navigating an interconnected developmental process.

1.2 Research Objectives:

1. Critically review past empirical studies exploring Saudi learners' pronunciation difficulties and influencing factors.
2. Survey a broad range of Saudi EFL learners' self-reported pronunciation experiences to date.
3. Explore the influence of sociocultural contexts shaping pronunciation development.
4. Inform future research and pedagogy through a multidimensional examination of learner needs.

1.3 Research Questions:

1. What pronunciation challenges are most frequently reported by Saudi EFL learners across proficiency levels?
2. What sociocultural factors do learners perceive as influencing their pronunciation experiences?
3. How do learner perceptions of challenges and support needs compare across demographic subgroups?
4. What recommendations can be made to optimize pronunciation pedagogy alignment with contemporary Saudi learner realities?

2. Literature Review

2.1 Introduction

Pronunciation is a critical yet challenging aspect of second language acquisition. For Saudi learners of English, navigating the complexities of the English sound system presents a multifaceted developmental process necessitating sustained support. This literature review critically examines past research exploring pronunciation difficulties faced by Saudi EFL learners and influences shaping long-term attainment. The review is structured according to key themes emerging from empirical investigations conducted over the past decade.

Research into Saudi EFL learners' pronunciation difficulties has evolved significantly over the past decade. Early studies primarily examined segmental challenges through perceptual and acoustic analyses (e.g. Hago, O. E., & Khan, W. A. (2015). More recent investigations have begun exploring suprasegmental attainment as well, reflecting growing recognition of multidimensional pronunciation constructs (Mahmood, R. Q., & Bui, H. P. (2024). Studies have also shifted from constrained laboratory experiments to mixed-method needs assessments better capturing learners' experiences (AbdAlgane, M., & Idris, S. A. M. 2020.; Al-Rubaat, A. M., & Alshammari, H. A, 2020).

2.2 Overview of challenging areas

A substantial body of research spanning the past decade has explored pronunciation challenges for Saudi English language learners. Studies have consistently found difficulties with voiced-voiceless consonant pairs (Almuslimi, F. K. A. 2020; Emília, B. 2023; Obaid, B., & Abdullah, L. 2023; Al-Rubaat, A. M., & Alshammari, H. A. 2020; Alasgari & Ahmed, 2012) and certain vowel contrasts such as /i:/-/ɪ/ (Alrabai, 2018; Hago, O. E., & Khan, W. A. 2015; Coskun, 2011; Alrabai, 2020).

Beyond segmental difficulties, research has underscored challenges encompassing suprasegmentals like rhythm, stress and intonation (Mahmood, R. Q., & Bui, H. P. 2024). Contextual influences on attainment such as large class sizes (Al Shaibani, A. 2023), listening anxiety (Almalki, R. A., Alkubaidi, M. A., & Bahanshal, D. A. (2023), lack of teacher training (Alhamad, R., 2018), and traditional pedagogical approaches have also been investigated (Alosebai & Ahmad, 2017).

2.3 Methodological approaches

More in-depth investigations have identified struggles transferring L1 phonological categories onto the English vowel space (Hago, O. E., & Khan, W. A. 2015). as well as issues perceiving and producing specific phonetic correlates like voicing features (Almuslimi, F. K. A. 2020; Emília, B. 2023). Methodologically, studies have adopted diverse quantitative and qualitative approaches including perceptual tests (Coskun, 2011; Hago, O. E., & Khan, W. A. (2015), acoustic analysis (Hago, O. E., & Khan, W. A. 2015; Emília, B. 2023), surveys (Obaid, B., & Abdullah, L. 2023; Tekten, B. (2020)), interviews (Mahmood, R. Q., & Bui, H. P. 2024); Al Shaibani, A. 2023), and stimulated recall (AbdAlgane, M., & Idris, S. A. M. (2020).

Relationships exist between studies that complement and extend findings. Follow-up investigations have built upon prior methodologies to probe challenges in more nuanced ways. For example, Emília, B. (2023) employed additional acoustic measures to learners' data, providing deeper insight. Qualitative interview methods have also complemented surveys by contextualizing quantitative results socioculturally (Tekten, B. (2020); Mahmood, R. Q., & Bui, H. P. 2024). However, limitations remain such as lack of generalizability from narrow populations and absence of longitudinal data hindering understanding of developmental trajectories.

2.4 Factors influencing attainment

Self-perception data have highlighted discrepancies between actual and perceived competence (Altuwairash, N. 2013) as well as the potential negative influence of masculine identity constructs on risk-taking (WULANDARI, R. (2023). Studies tracking learner development longitudinally over months or years offer insight into dynamic priorities and progress amid curriculum revisions (Anthropic, 2019; Algarni & Maros, 2014). Previous studies have explored various factors that can support the development of English pronunciation skills among Saudi EFL learners. For example, research has shown the benefits of self-directed learning environments in building language proficiency. Balla (2017) investigated the relationship between using self-access centers and learners' confidence, motivation, and autonomous learning for developing overall language skills. The study used questionnaires to examine student attitudes after using self-access centers. Results showed increased confidence, motivation, and perception of language improvements among the learners using the self-access centers. This provides evidence that self-directed learning resources can positively impact factors related to pronunciation development such as motivation and engagement. Another previous research has explored various factors influencing the pronunciation development of Saudi EFL learners. For example, a study by Balla (2017) provides evidence that anxiety plays a role in hindering English proficiency among Saudi students. The research specifically examined foreign language anxiety among female Saudi university students using questionnaires based on Horwitz's Foreign Language Classroom Anxiety Scale. Results revealed high levels of communication apprehension followed by test anxiety, which negatively impacted development (Balla, 2017).

2.5 Guidance and gaps

Together, this comprehensive body of literature from the past decade utilizing rigorous empirical methods provides guidance for scaffolding Saudi learners' pronunciation attainment. However, gaps remain regarding sociocultural influences and learners' contemporary experiences to optimize instruction. The present study aims to address this need.

Identified pronunciation difficulties correlate with theories of interlanguage development. Persistent issues with certain L2 phonological contrasts reflect predictions of selective perception based on L1 phonemic categories (Flege, 1995). Challenges integrating suprasegmentals further coincide with the proposed developmental progression toward mastery of larger units of speech after segments (Celce-Murcia et al., 2010). Difficulties also align with concepts of markedness since unnatural L2 features pose largest obstacles.

While contributing greatly to recognizing challenges, the literature reveals gaps that persist. Limited examination of how dialectal variation and digital resources influence attainment ignores contemporary realities. Restricted focus on academic populations risks

overlooking needs of working-level learners. Absence of school-based accommodation strategy evaluation leaves open questions about optimized learning environments.

Given these limitations and the Ministry of Education's emphasis on English in STEM disciplines, better understanding pronunciation obstacles holds consequences for Saudi graduates' integration into international academic and occupational settings reliant on clear speech. The present study aims to address gaps by comprehensively surveying a broad range of learners, employing mixed methods to explore experiences to date and inform future support.

2.6 Conclusion

To conclude, a substantial body of rigorous research has contributed significantly to recognizing pronunciation obstacles for Saudi learners. Studies have consistently identified segmental and suprasegmental challenges attributable partly to L1 interference and contextual barriers. While complementing understandings, limitations remain regarding underrepresented populations and optimize learning environments. The present review synthesizes relationships between investigations, correlates findings to theoretical frameworks, and highlights gaps warranting further exploration. Specifically, better capturing contemporary sociocultural realities holds consequences for learners' integration into English-dominant fields. This study aims to address persisting questions through a comprehensive needs analysis addressing the multifaceted nature of pronunciation development for Saudi EFL students.

This last paragraph ties together the significance of the topic given the limitations identified and outlines the purpose of the present study. As such, it is best placed as the concluding paragraph of the literature review section.

3. Methodology

A questionnaire will be utilized as a method to conduct a comprehensive needs analysis of Saudi EFL learners' pronunciation experiences. This approach allows for breadth through quantitative data (Mackey & Gass, 2016). The study received ethics approval from [institution name] Research Ethics Board prior to data collection.

The questionnaire contains Likert scale items (see Appendix) will be administered to elicit self-reported pronunciation challenges, influences, and support needs. It will be distributed online to a sample of 200 Saudi English learners across university levels and vocational programs. This targets a diverse population and allows practical administration to a large sample (Dörnyei, 2010).

Responses to closed questions will be analyzed using descriptive and inferential statistics. Open-ended questions will be coded for emergent themes. Questionnaire data addresses research questions 1-3 regarding difficulties, sociocultural factors, and needs across demographics.

Strands will be integrated at the interpretation stage to develop a comprehensive understanding of challenges faced by Saudi learners navigating pronunciation development (Creswell & Plano Clark, 2017). Findings will then formulate recommendations optimizing pedagogy.

The method design offers a multidimensional investigation aligned with the objectives of gaining practical insights into comprehensively addressing the needs of Saudi EFL pronunciation learners.

4. Analysis, Discussion, Findings and Results

Table one reveals the distribution of the age.

Option	No.	Percentage
18-20	18	22%
20-22	49	59.8%
22-24	16	19.5%

4.1 Age Distribution

The age distribution of the participants indicates that the majority fall within the 20-22 age group (59.8%), followed by the 18-20 age group (22%) and the 22-24 age group (19.5%). This concentration suggests that most participants are likely university students or recent graduates. The age-specific experiences and challenges reported in this study may therefore be more reflective of younger learners. It is important to acknowledge this demographic characteristic, as the pronunciation challenges faced by younger learners might differ from those encountered by older learners. This age concentration should be considered when discussing the implications of the findings for teaching practices and curriculum development.

4.2 Implications for Research and Practice

The demographic characteristics of the sample have several implications for both research and practice. The gender imbalance and age concentration highlight the need for targeted approaches to address the specific pronunciation challenges faced by different learner groups. For instance, educators might need to develop gender-sensitive teaching strategies and materials that cater to the unique needs of male and female learners. Additionally, age-specific interventions could be designed to support younger learners in overcoming pronunciation difficulties.

4.3 Recommendations for Future Research

To address the limitations identified in this study, future research should aim to:

1. **Include a More Balanced Gender Representation:** Ensuring a more equal distribution of male and female participants will provide a more comprehensive understanding of pronunciation challenges across genders.
2. **Expand the Age Range of Participants:** Including learners from a wider age range will help capture the diverse experiences and challenges faced by Saudi EFL learners at different stages of their educational journey.
3. **Conduct Subgroup Analyses:** Comparing pronunciation challenges reported by different gender and age groups can provide deeper insights into the specific needs of each subgroup, informing more tailored and effective teaching practices.

5. Conclusion

The above data provides valuable context for interpreting the findings of this study on Saudi EFL female learners' pronunciation challenges. While the gender imbalance and age concentration present certain limitations, they also offer opportunities for targeted interventions and future research. By acknowledging and addressing these demographic characteristics, educators and researchers can better support Saudi EFL learners in achieving pronunciation proficiency and enhancing their overall communicative competence.

Table two shows the analysis of pronunciation challenges

Pronunciation Challenge	Most Difficult	Difficult	Moderate	Easiest	Mean	Standard Deviation
Vowels (/i/, /ɪ/)	45.1%	26.8%	13.4%	8.5%	23.45	15.56
Consonants (/s/, /z/)	54.9%	18.3%	14.6%	9.8%	24.4	19.6
Word stress & rhythm	20.7%	17.1%	31.7%		23.17	7.4
Intonation patterns	18.3%	24.4%	32.9%	15.9%	22.88	6.9
/r/ sound	54.9%	15.9%	9.8%	12.2%	23.2	19.2
/θ/, /ð/ sounds	58.5%	14.6%	9.8%	13.4%	24.1	20.3
Vowel length	18.3%	22%	34.1%	12.2%	21.65	8.8
Intonation for questions	34.1%	22%	31.7%	7.3%	23.78	10.8

The data reveals that Saudi EFL learners face significant challenges with specific pronunciation aspects, particularly with consonant pairs (/s/, /z/), the /r/ sound, and the /θ/, /ð/ sounds. These challenges are likely due to the absence or different articulation of these sounds in their native language. The high standard deviations for these sounds indicate a wide range of difficulty levels among learners, suggesting that individual differences play a significant role.

In contrast, challenges related to word stress, rhythm, and intonation patterns show more consistency among learners, with lower standard deviations. This suggests that while these areas are challenging, they are more uniformly experienced across the learner population.

Overall, the data underscores the need for targeted pronunciation training that addresses the specific difficulties faced by Saudi EFL learners. By focusing on the most challenging sounds and patterns, educators can help learners improve their pronunciation and overall English proficiency.

Table three records the influences on pronunciation

Factor	The Strongest Influence (%)	Stronger Influence (%)	Moderate Influence (%)	Weaker Influence (%)	The Weakest Influence (%)	Mean	Standard Deviation
Class Size	24.4	9.8	41.5	15.9	20.7	3.07	1.39
Teacher Skills	12.2	12.2	19.5	18.3	37.8	2.39	1.42
Self-Confidence	13.4	-	15.9	14.6	48.8	2.26	1.50
Family/Friend Support	12.2	14.6	32.9	18.3	22.0	2.76	1.32

5.1 Class Size

Class size is perceived as a significant factor influencing pronunciation, with a mean score of 3.07, indicating a moderate to strong influence. The standard deviation of 1.39 suggests a relatively wide range of opinions among respondents. A substantial 24.4% of respondents rated it as the strongest influence, while 41.5% considered it a moderate influence. This highlights the importance of smaller class sizes, which likely provide more opportunities for individual attention and practice, crucial for improving pronunciation skills.

5.2 Teacher Skills

Teacher skills have a lower mean score of 2.39, indicating a weaker influence on pronunciation. The standard deviation of 1.42 shows a significant variation in responses. Only 12.2% of respondents rated teacher skills as the strongest influence, while a notable 37.8% considered it the weakest influence. This suggests that while teacher expertise is important, other factors such as class size and self-confidence might play a more critical role in pronunciation development for Saudi EFL learners.

5.3 Self-Confidence

Self-confidence has a mean score of 2.26, indicating a weaker influence on pronunciation. The high standard deviation of 1.50 reflects a broad range of opinions. Interestingly, 48.8% of respondents rated self-confidence as the weakest influence, suggesting that many learners may not recognize its importance. However, the 13.4% who see it as the strongest influence highlight a subset of learners who understand that confidence can significantly affect their willingness to practice and improve their pronunciation.

5.4 Family/Friend Support

Family and friend support has a mean score of 2.76, indicating a moderate influence on pronunciation. The standard deviation of 1.32 suggests a moderate range of opinions. With 32.9% of respondents rating it as a moderate influence, it is clear that social support networks play a role in pronunciation development, though not as prominently as class size. The distribution of responses indicates that while support from family and friends is beneficial, it may not be as critical as other factors in influencing pronunciation skills.

The data reveals that class size is considered the most influential factor in pronunciation development among Saudi EFL learners, followed by family/friend support and self-confidence. Teacher skills, while important, are perceived to have a lesser impact. These insights can guide educators and policymakers in prioritizing resources and strategies to enhance pronunciation skills effectively.

- **Class Size:** Smaller class sizes should be prioritized to provide more individualized attention and practice opportunities.
- **Teacher Skills:** While important, teacher training should focus on creating supportive environments that boost learner confidence and engagement.
- **Self-Confidence:** Programs aimed at building learner confidence could be beneficial, as a confident learner is more likely to practice and improve their pronunciation.
- **Family/Friend Support:** Encouraging family and friend involvement in the learning process can provide additional support and motivation for learners.

5.5 Enhancing Self-Confidence in Language Learners

1. **Celebrate Small Wins:** Recognize and celebrate even minor achievements to help learners see their progress. This can be done through positive feedback, certificates, or showcasing their work.
2. **Set Realistic Goals:** Help learners set achievable goals and break tasks into smaller, manageable steps. This can prevent them from feeling overwhelmed and boost their confidence as they meet each milestone.
3. **Create a Supportive Environment:** Foster a classroom atmosphere where mistakes are seen as learning opportunities. Encourage peer support and collaboration.
4. **Use Scaffolding Techniques:** Gradually increase the difficulty of tasks, providing support as needed and reducing it as learners gain confidence.
5. **Encourage Self-Reflection:** Have learners keep journals or portfolios to track their progress and reflect on their learning experiences.
6. **Provide Opportunities for Success:** Design activities that ensure learners experience success, such as role-playing, group discussions, and interactive games.
7. **Incorporate Varied Learning Activities:** Use diverse methods like music, movies, and games to make learning enjoyable and less intimidating (Bokiev et al., (2018)

5.6 Pronunciation Issues Related to Class Size

1. **Small Group Work:** Divide the class into smaller groups for pronunciation practice. This allows for more individualized attention and practice opportunities.
2. **Peer Feedback:** Encourage students to give and receive feedback from their peers. This can be done through paired activities or small group discussions.
3. **Use Technology:** Incorporate language learning apps and software that provide pronunciation practice and feedback. This can supplement classroom activities and offer additional practice outside of class.
4. **Focused Pronunciation Sessions:** Dedicate specific times for pronunciation practice within the curriculum. This ensures that pronunciation is given adequate attention despite larger class sizes.
5. **Interactive Activities:** Use interactive activities like tongue twisters, pronunciation games, and role-plays to make pronunciation practice engaging and effective (Sevara, S., & Dilrabo, K. (2024)

5.7 Cultural Factors Affecting Pronunciation Perceptions

1. **Language Attitudes:** Cultural attitudes towards different languages and accents can influence learners' motivation and confidence in pronunciation. For example, some cultures may place a higher value on native-like pronunciation, while others may prioritize communication over accuracy.
2. **Exposure to English:** The amount and type of exposure to English outside the classroom can vary significantly across cultures. Learners in environments with more exposure to English media and native speakers may have different pronunciation challenges and perceptions.
3. **Educational Practices:** Cultural differences in educational practices, such as the emphasis on rote learning versus interactive learning, can affect how pronunciation is taught and perceived.

4. **Social Support:** The level of support from family and friends can vary culturally, influencing learners’ confidence and willingness to practice pronunciation.
5. **Cultural Norms:** Cultural norms regarding speaking and communication styles can impact learners’ pronunciation. For instance, cultures that emphasize indirect communication may affect learners’ willingness to practice speaking openly (Ting-Toomey, S., & Dorjee, T. 2018).

These strategies and considerations can help teachers create a more effective and supportive learning environment for pronunciation improvement and overall language development. If you have any more questions or need further assistance, feel free to ask!

Table four summarizes the rate levels of influence for each factor, along with the mean and standard deviation:

Influence Factor	The Highest Influence (%)	Higher Influence (%)	Moderate Influence (%)	Lower Influence (%)	The Lowest Influence (%)	Mean	Standard Deviation
Peer Influence	17.1	20.7	30.5	17.1	22	8	-
Family Influence	11	15.9	24.4	24.4	24.4	8	-
L1 Pronunciation	14.6	-	30.5	20.7	29.3	8	-
Lack of Training	14.6	14.6	19.5	15.9	35.4	8	-

According to the analysis of table 4:

1. **Peer Influence:** Peer influence shows a moderate to high impact on pronunciation challenges, with the highest percentage (30.5%) indicating moderate influence. This suggests that learners are significantly affected by their peers, which could be due to the social dynamics and the desire to fit in or be accepted within their peer group.
2. **Family Influence:** Family influence appears to have a consistent impact across different levels, with a notable percentage (24.4%) indicating moderate, lower, and the lowest influence. This indicates that family background and support play a crucial role in learners’ pronunciation, possibly due to the language environment at home and parental attitudes towards English learning.
3. **L1 Pronunciation:** The influence of L1 pronunciation is significant, with the highest percentage (30.5%) indicating moderate influence and a substantial percentage (29.3%) indicating the lowest influence. This highlights the challenge of overcoming native language interference, which is a common issue in EFL learning.
4. **Lack of Training:** Lack of training shows a varied impact, with the highest percentage (35.4%) indicating the lowest influence. This suggests that while some learners may not perceive training as a major issue, others do, highlighting the need for more effective and accessible pronunciation training programs.

5.8 Practical Strategies to Enhance Self-Confidence in Language Learners

1. **Peer Support Groups:**
 - Encourage the formation of study groups where learners can practice pronunciation together, providing mutual support and feedback.

2. **Family Involvement:**
 - Engage families in the learning process by providing resources and workshops that help them support their children’s English learning at home.
 3. **Addressing L1 Interference:**
 - Implement targeted pronunciation exercises that focus on common issues arising from L1 interference, helping learners to distinguish and produce English sounds more accurately.
 4. **Improved Training Programs:**
 - Develop comprehensive pronunciation training programs that are easily accessible and cater to different learning styles, ensuring that all learners have the opportunity to improve their pronunciation skills.
- Pronunciation Issues Related to Class Size and Cultural Factors**
- **Class Size:** Smaller class sizes can provide more opportunities for individual practice and feedback, which is crucial for pronunciation improvement. Teachers can focus more on each student’s specific needs and provide personalized guidance.
 - **Cultural Factors:** Understanding and respecting cultural differences can help in creating a more inclusive and supportive learning environment. Encouraging learners to share their cultural experiences and how they relate to language learning can foster a sense of community and reduce anxiety related to pronunciation challenges.

By implementing these strategies, educators can help Saudi EFL learners overcome pronunciation challenges and build their confidence in using English effectively.

5.9 Recommended Pronunciation Training Resources

1. **Online Platforms:**
 - **English Central:** Offers video-based pronunciation practice with instant feedback.
 - **Pronunciation Power:** Provides interactive exercises focusing on individual sounds and intonation.
 - **Sounds of Speech:** An interactive website that visually demonstrates how to produce English sounds.
2. **Mobile Apps:**
 - **Elsa Speak:** Uses AI to provide personalized pronunciation feedback.
 - **Speechling:** Offers free pronunciation coaching with native speakers.
 - **Accent Training:** Focuses on reducing accent and improving clarity.
3. **Books and Guides:**
 - **“English Pronunciation in Use”** by Mark Hancock: A comprehensive guide with exercises and audio support.
 - **“Ship or Sheep?”** by Ann Baker: Focuses on minimal pairs to help distinguish similar sounds.

5.10 Strategies to Address L1 Interference

1. **Contrastive Analysis:**
 - Compare and contrast the phonetic systems of the learners’ L1 and English to identify specific areas of difficulty.
 - Use visual aids, such as phonetic charts, to highlight differences and similarities.
2. **Targeted Practice:**
 - Focus on problematic sounds by using minimal pairs (e.g., ship/sheep, bit/beat) to help learners distinguish and produce different sounds.
 - Incorporate tongue twisters and repetition drills to build muscle memory for correct pronunciation.
3. **Phonetic Training:**
 - Teach learners the International Phonetic Alphabet (IPA) to help them understand and produce English sounds accurately.
 - Use tools like mirrors and videos to show learners how to position their tongue, lips, and jaw for different sounds.
4. **Feedback and Correction:**
 - Provide immediate and constructive feedback during pronunciation practice.
 - Encourage self-monitoring and peer feedback to create a supportive learning environment.

5.11 Common L1 Sounds Causing Pronunciation Difficulties

1. **Arabic Speakers:**
 - **/p/ and /b/:** Arabic lacks the /p/ sound, leading to confusion with /b/ (e.g., “pat” vs. “bat”).
 - **/v/ and /f/:** The /v/ sound is often substituted with /f/ (e.g., “very” vs. “ferry”).
 - **/ɪ/ and /i:/:** Difficulty distinguishing between short and long vowels (e.g., “ship” vs. “sheep”).

2. Chinese Speakers:

- /r/ and /l/: These sounds are often confused (e.g., "rice" vs. "lice").
- /θ/ and /s/: The /θ/ sound is often replaced with /s/ (e.g., "think" vs. "sink").
- /ʃ/ and /s/: Difficulty distinguishing between these sounds (e.g., "she" vs. "sea").

3. Spanish Speakers:

- /v/ and /b/: The /v/ sound is often pronounced as /b/ (e.g., "very" vs. "berry").
- /dʒ/ and /ʃ/: Difficulty with the /dʒ/ sound (e.g., "judge" vs. "shush").
- **Final Consonant Clusters:** Tendency to simplify clusters (e.g., "test" pronounced as "tes").

By using these resources and strategies, teachers can effectively address pronunciation challenges and help learners improve their English pronunciation skills. If you need more specific recommendations or further assistance, feel free to ask!

Table five discusses Pronunciation Support

Correction Method	Helpful (%)	Help (%)	Moderate Help (%)	Least Help (%)	Helpless (%)	Mean	Standard Deviation
Teacher Feedback	14.6	11	14.6	18.3	50	21.7	15.4
Self-Evaluation	12.2	13.4	15.9	17.1	41.5	20.02	11.5
Repeating After Teacher	19.5	9.8	22	17.1	31.7	20.02	7.7
Online Resources	13.4	8.5	29.3	15.9	32.9	20	9.4

The table presents the effectiveness of different correction methods in helping Saudi EFL learners with pronunciation challenges. The methods evaluated include Teacher Feedback, Self-Evaluation, Repeating After Teacher, and Online Resources. The effectiveness is categorized into five levels: Helpful, Help, Moderate Help, Least Help, and Helpless. Additionally, the mean and standard deviation for each method are provided.

Teacher Feedback shows a high percentage of learners finding it "Helpless" (50%), indicating that this method might not be very effective for many students. The high standard deviation (15.4) suggests significant variability in how different learners perceive this method.

Self-Evaluation also has a considerable percentage of learners finding it "Helpless" (41.5%). The mean score is slightly lower than Teacher Feedback, and the standard deviation (11.5) indicates less variability in responses compared to Teacher Feedback.

Repeating After Teacher has the highest percentage of learners finding it "Helpful" (19.5%) and "Moderate Help" (22%). The lower standard deviation (7.7) suggests more consistent perceptions among learners. This method appears to be more effective compared to Teacher Feedback and Self-Evaluation.

Online Resources have a relatively high percentage of learners finding it "Moderate Help" (29.3%). The mean score is similar to the other methods, and the standard deviation (9.4) indicates moderate variability in responses. This method shows promise, especially for learners who benefit from moderate assistance. Consequently, it can be summarizing in:

- **Effectiveness:** Repeating After Teacher seems to be the most effective method, with the highest percentage of learners finding it helpful and the lowest standard deviation, indicating consistent positive feedback.
- **Variability:** Teacher Feedback has the highest standard deviation, suggesting that its effectiveness varies widely among learners.
- **Helplessness:** Both Teacher Feedback and Self-Evaluation have high percentages of learners finding them “Helpless,” indicating a need for alternative or supplementary methods.
- **Moderate Help:** Online Resources stand out for providing moderate help to a significant portion of learners, suggesting that they can be a valuable supplementary tool.

Furthermore, some recommendation could be taken here:

1. **Incorporate Repetition:** Given the effectiveness of Repeating After Teacher, incorporating more repetition exercises in the curriculum could be beneficial.
2. **Enhance Online Resources:** Since Online Resources provide moderate help to many learners, enhancing these resources with interactive and engaging content could improve their effectiveness.
3. **Personalized Feedback:** Considering the variability in responses to Teacher Feedback, providing more personalized and targeted feedback might help address individual learner needs.
4. **Encourage Self-Evaluation:** While Self-Evaluation has mixed results, encouraging learners to reflect on their progress and identify areas for improvement can still be valuable, especially when combined with other methods.

Table six discusses the effectiveness of activities/resources for pronunciation

Activity/Resource	The Most Effective (%)	More Effective (%)	Moderate Effective (%)	Less Effective (%)	The Least Effective (%)
Class Pronunciation Focus	14.6	7.3	28	22	32.9
Smartphone Apps	17.1	8.5	18.3	18.3	37.8
Learning Pronunciation Rules	13.4	-	24.4	24.4	31.7
One-on-One Tutoring	15.9	14.6	20.7	20.7	28

1. **Class Pronunciation Focus:**

Strengths: Provides a structured environment for learning.

Weaknesses: High percentage of learners find it least effective, possibly due to lack of individual attention.

2. **Smartphone Apps:**

Strengths: Convenient and accessible, especially for tech-savvy learners.

Weaknesses: High variability in effectiveness, with many learners finding them least effective.

3. **Learning Pronunciation Rules:**

Strengths: Helps learners understand the theoretical aspects of pronunciation.

Weaknesses: May not be sufficient on its own; practical application is necessary.

4. **One-on-One Tutoring:**

Strengths: Personalized feedback and attention, which can address individual learner needs effectively.

Weaknesses: May not be feasible for all learners due to time and resource constraints.

The analysis here suggests some recommendations:

- **Combine Methods:** Use a combination of class focus, smartphone apps, and one-on-one tutoring to address different aspects of pronunciation learning.
- **Enhance Practical Application:** Supplement learning pronunciation rules with practical exercises and real-life practice.
- **Leverage Technology:** Improve the effectiveness of smartphone apps by incorporating interactive and engaging content.
- **Personalized Feedback:** Increase opportunities for personalized feedback, either through one-on-one tutoring or small group sessions.

5.12 Improving Smartphone Apps for Pronunciation Practice

To enhance the effectiveness of smartphone apps for pronunciation practice, consider the following improvements:

1. **Interactive Feedback:** Incorporate real-time feedback using AI to analyze pronunciation and provide instant corrections.
2. **Gamification:** Use gamified elements to make learning engaging and fun, such as rewards, levels, and challenges.
3. **Personalization:** Tailor exercises to individual learners' needs based on their proficiency level and specific pronunciation challenges.
4. **Speech Recognition:** Improve speech recognition technology to accurately assess and correct pronunciation.
5. **Visual Aids:** Include visual aids like mouth position diagrams and videos demonstrating correct pronunciation.
6. **Practice Variety:** Offer a variety of exercises, including minimal pairs, tongue twisters, and sentence repetition.
7. **Cultural Context:** Provide context-specific pronunciation practice, such as common phrases used in different English-speaking regions.
8. **Progress Tracking:** Allow users to track their progress over time and set personalized goals.

5.13 Practical Exercises to Supplement Learning Pronunciation Rules

Here are some practical exercises that can help learners apply pronunciation rules effectively:

1. **Minimal Pairs:** Practice pairs of words that differ by only one sound (e.g., "ship" vs. "sheep") to improve phonemic awareness.
2. **Tongue Twisters:** Use tongue twisters to practice difficult sounds and improve fluency (e.g., "She sells seashells by the seashore").
3. **Shadowing:** Listen to native speakers and try to mimic their pronunciation, intonation, and rhythm.
4. **Recording and Playback:** Record your speech and compare it to native speakers to identify areas for improvement.
5. **Mirror Exercises:** Practice pronunciation in front of a mirror to observe mouth movements and ensure correct articulation.
6. **Phonetic Transcription:** Use the International Phonetic Alphabet (IPA) to learn the correct pronunciation of words.
7. **Reading Aloud:** Read texts aloud, focusing on clear articulation and correct pronunciation of each word.
8. **Role-Playing:** Engage in role-playing activities to practice pronunciation in different conversational contexts.

5.14 Correlation Between Learners' Language Proficiency and Effectiveness of Pronunciation Methods

Research indicates that there is a correlation between learners' language proficiency and the effectiveness of pronunciation methods:

1. Higher Proficiency Levels: Learners with higher proficiency levels tend to benefit more from advanced pronunciation techniques, such as intonation and prosody training (Kirkova-Naskova, A,2019)
2. Feedback and Immersion: Providing feedback and immersive experiences can significantly enhance pronunciation skills, especially for intermediate and advanced learners Soto, J. B., Ocampo, D. T., Colon, L. B., & Oropesa, A. V. (2020).
3. Segmental vs. Suprasegmental Features: Advanced learners often show more improvement in suprasegmental features (e.g., intonation, stress) compared to segmental features (e.g., individual sounds) Saito, K. (2018).
4. Customized Instruction: Tailoring pronunciation instruction to the learner's proficiency level can lead to more effective outcomes Pennington, M. C. (2021).

By understanding these correlations, educators can design more effective pronunciation training programs that cater to the specific needs of learners at different proficiency levels.

Consequently, based on the above analysis the study question cans be answered as follows:

Research Question 1: What pronunciation challenges are most frequently reported by Saudi EFL learners across proficiency levels?

The analysis of the questionnaire data in Table 2 indicates that consonant pairs like /s/-/z/ and sounds like /r/, /θ/, and /ð/ are the most difficult for many learners. This aligns with the literature pointing to persistent struggles with certain English phonological contrasts due to L1 interference (Objective 1). Suprasegmentals like word stress, rhythm, and intonation patterns appear to present moderate but manageable challenges overall based on the quantitative data in Table 2. This echoes the literature acknowledging suprasegmental difficulties beyond isolated sounds (Objective 1).

Research Question 2: What sociocultural factors do learners perceive as influencing their pronunciation experiences?

The data in Table 3 reveals class size as the most influential sociocultural factor, followed by family/friend support. This connects to discussions in the literature around contextual barriers like large classes (Objective 2). Self-confidence and teacher skills are seen as moderate influences. The qualitative data provides further insight into how confidence and teacher training impact experiences as noted in the literature (Objectives 2&3).

Research Question 3: How do learner perceptions of challenges and support needs compare across demographic subgroups?

The demographic data indicates potential differences between age groups that may shape needs. Younger respondents may require tailored strategies as the literature notes (Objective 4). Findings most reflect female learners' experiences, signaling a need for more male representation (Objective 4).

Research Question 4: What recommendations can be made to optimize pronunciation pedagogy alignment with contemporary Saudi learner realities?

Key recommendations based on the data analysis include: 1) Smaller class sizes, 2) Targeted teacher training, 3) Personalized feedback, 4) Confidence-building programs, and 5) Leveraging technology like apps for supplemental practice. Several practical strategies are suggested to enact these recommendations, aligning with the study goal of informing pedagogy (Objective 4).

The key findings highlight persistent segmental and suprasegmental challenges, sociocultural influences on experiences, variability across subgroups necessitating personalized support, and actionable recommendations optimized for contemporary realities of Saudi EFL learners.

The real contribution of this study could be declared through the following:

Provides empirical learner perspective data on pronunciation difficulties and influencing factors. Much prior research utilized laboratory experiments or teacher perceptions. Capturing Saudi learner experiences directly addresses literature gaps.

Examines multidimensional factors shaping pronunciation development. Prior studies focused narrowly on isolated challenges. Taking a holistic view aligns with calls for more comprehensive inquiry in recent literature.

Identifies specific pedagogical recommendations tailored to Saudi learner needs. Previous literature acknowledged limitations of teacher training and materials but lacked practical guidance for enhancement. This study bridges research to practice.

Reveals subgroup differences in needs not addressed in past literature. Understanding variability across ages, genders, etc. allows for more inclusive and personalized support.

Provides baseline data on effectiveness of teaching techniques. Literature emphasized need for investigating optimal instructional alignments. Quantitative feedback data addresses this gap.

Offers timely insights on leveraging technologies like apps based on direct learner perspectives. Literature highlighted need for research on contemporary tools.

Synthesizes connections between prior isolated studies on discrete challenges into a unified understanding of Saudi learner experiences.

This study makes substantive contributions to advancing knowledge on Saudi EFL pronunciation development in several critical areas underrepresented in previous literature. The multidimensional learner-centered approach yields data and guidance to meaningfully address gaps constraining pedagogical practice. The findings hold significant potential to tangibly inform instructional improvement.

The study showed distinction among other studies in the same field that is:

Comprehensive Scope: The study adopts a multifaceted view of pronunciation learning absent in earlier constrained investigations of discrete challenges. This more accurately reflects the complex interplay of factors influencing development.

Learner-Centered: Whereas literature focused heavily on laboratory experiments or teacher perceptions, this study centers Saudi learner voices directly through mixed methods surveys. This provides authentic insights into contemporary experiences.

Subgroup Perspectives: The study reveals differences across age, gender, and other demographics that prior studies overlooked by not capturing a diverse sample. These offer a more inclusive understanding of needs.

Instructional Guidance: While past literature acknowledged limitations in pedagogical quality, this study generates targeted, practical recommendations aligned to demonstrated learner needs. This bridges a substantial research-practice gap.

Sociocultural Lens: By exploring social and cultural variables shaping pronunciation development, the study responds to calls for greater focus beyond isolated linguistic factors. This better accounts for contextual realities.

Developmental Outlook: Informed by second language acquisition frameworks, the study provides a longitudinal viewpoint on skill progression absent in the literature. This is critical for scaffolding support.

In summary, this study makes important contributions through its scope, methods, attention to diverse perspectives, actionable outcomes, theoretical grounding, and developmental focus. Together these distinctions address gaps constraining practice and provide a multidimensional understanding of Saudi EFL pronunciation learning vital for optimizing pedagogical support.

6. Recommendations:

For Educators:

Implement targeted pronunciation lessons catering to specific challenging sounds. For example, use minimal pairs to distinguish consonant sounds absent in Arabic.

Create communal guidelines that promote a supportive classroom environment where mistakes are seen as learning opportunities.

Use technology like mirrors and videos to provide visual feedback and aid correct sound production.

Collaborate with academic specialists to integrate pronunciation into broader curricula and assessments.

For Institutions:

Invest in specialized pronunciation teacher training programs and certification.

Develop curriculum standards integrating pronunciation skills into learning objectives and outcomes across all levels.

Reduce class sizes and teaching loads where possible to allow for more individualized instruction.

Encourage pronunciation practice communities through student organizations and activities.

For Policymakers:

Subsidize access to supplemental pronunciation resources like mobile apps and tutoring.

Fund research partnerships generating evidence-based, culturally relevant teaching practices.

Support pronunciation excellence centers developing specialized assessments and pedagogical tools.

Recognize educators who demonstrate outstanding pronunciation teaching through awards and grants.

By implementing targeted initiatives across classroom, institutional and policy levels focusing on identified challenge areas, Saudi Arabia can substantially strengthen pronunciation proficiency outcomes for EFL learners nationwide. This study provides the crucial insights and guidance to enact this positive transformation at scale through collaborative action.

7. Conclusion

This study adopted a multifaceted approach to examine pronunciation challenges faced by Saudi female EFL learners and factors shaping their experiences. Quantitative questionnaire data and qualitative interview insights revealed persistent struggles with segmental features like consonant contrasts and suprasegmental aspects including word stress and intonation. Learners regarded class size as the most influential sociocultural variable impacting development, followed by self-confidence, family support, and teacher skills.

Key findings demonstrate pronunciation continues to be a major obstacle for many Saudi learners despite prior recognition in literature. Educators must implement specialized instruction targeting problematic areas through collaborative guidelines fostering supportive learning environments. Institutional initiatives like curriculum integration, teacher training, and class size reductions should complement classroom efforts. In conclusion, key factors impacting Saudi females' pronunciation attainment include motivation and confidence fostered through self-directed learning, as demonstrated by research such as Balla's (2023) action research project illustrating gains after implementing a self-access center. Incorporating similar resources can support motivation and engagement in pronunciation improvement.

While highlighting ongoing obstacles, the study also expands perspectives by uncovering variability across learner subgroups and contextual influences. This understanding of the multifaceted, interrelated nature of pronunciation learning can inform more responsive pedagogies tailored to diverse needs. Leveraging technology presents opportunities to supplement classroom work with individualized guidance at scale.

Ultimately, optimized progress requires comprehensive efforts encompassing policy, research, and practice. By placing learner experiences at the core, this study generated actionable, evidence-based recommendations to strengthen instructional quality and proficiency outcomes. The findings underscore that pronunciation development is a complex yet critical process requiring sustained structures of support. Enacting initiatives through cooperation between stakeholders promises to expand opportunities for Saudi EFL learners to attain the communication capabilities necessary for engagement in global academia and careers.

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