

Phonetic Proficiency in /r/ Pronunciation: A Case Study of Chinese Students Learning Indonesian

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ABSTRACT

In the realm of BIPA (*Bahasa Indonesia untuk Penutur Asing*) learning, learners grapple with a myriad of challenges, chief among them being the linguistic disparities between their native language (L1) and the target language (L2) they are striving to acquire. Mandarin Chinese, in particular, presents a unique challenge due to its partial incorporation of the /r/ sound, albeit to a lesser extent compared to Indonesian, and its distinct articulation, which varies markedly from other languages. Moreover, the pronunciation of this sound can differ among various Chinese dialects, adding an additional layer of complexity for Chinese learners of Indonesian. This study pursues three primary objectives: (1) the identification of sound changes in the /r/ sound; (2) the classification of the various types of sound changes affecting the /r/ sound; and (3) the identification of common sound changes associated with the /r/ sound within this specific learner group. To achieve these aims, a quantitative descriptive analysis methodology was employed. The research data were collected through voice recordings of 16 students enrolled in the fifth semester of the undergraduate program in Indonesian Studies at Zhejiang Yuexiu University of Foreign Languages, China. The results of the study unveiled a spectrum of phonetic proficiency levels and challenges among the participants. Notably, 75% of respondents demonstrated accurate pronunciation of the /r/ sound, showcasing a high level of proficiency in this aspect of their language acquisition. However, 15% exhibited a tendency to replace the sound with /l/, highlighting a specific area that requires targeted pedagogical interventions. Additionally, 5% grappled with zeroization, completely omitting this sound, underscoring the necessity for focused language instruction. In only 1% of instances, respondents produced words that were unidentifiable due to potential omissions, necessitating further investigation. Further research is strongly encouraged to explore the effectiveness of customized phonetic training programs and their correlation with learners' linguistic backgrounds in shaping pronunciation proficiency among Chinese students studying Indonesian.

I. Introduction

The Indonesian language has experienced a remarkable surge in popularity among foreign learners, evidenced by the proliferation of Indonesian language teaching institutions globally. Muliastuti (2016) [1] reports that Indonesian language courses are now offered in 45 countries, and it has even emerged as the fourth most sought-after language in Australia. Furthermore, the official kemdikbud.go.id website (2016) [2] documented the existence of over 200 institutions worldwide dedicated to teaching *Bahasa Indonesia bagi Penutur Asing* (BIPA), catering to the needs of non-native speakers eager to explore Indonesian language and culture. In their study, Jannah and Yanti (2020) [3] aptly describe BIPA programs as tailor-made for foreigners seeking to acquaint themselves with the rich tapestry of Indonesian language and culture.

Within China, alongside these dedicated BIPA institutions, numerous universities have actively embraced BIPA learning programs, further underscoring the global appeal of Indonesian language

and culture. Notably, Zhejiang Yuexiu University of Foreign Languages is among the institutions at the forefront of providing comprehensive BIPA education.

The objectives behind teaching Indonesian to foreign learners are manifold. Primarily, it seeks to acquaint foreign speakers with the Indonesian language, fostering effective communication and enabling them to engage more proficiently with native Indonesian speakers. This aligns seamlessly with the assertion by Wojowasito (1997) [4], as cited in [5], that the core of BIPA learning lies in endowing learners with both oral and written language proficiency. This proficiency empowers them to fluently use Indonesian in real-life interactions and comprehend the nuances of the language as it is naturally spoken by native speakers.

In the realm of BIPA learning, a spectrum of challenges emerges, prominently among them being the linguistic disparities between the learners' native language (L1) and the target language (L2) they are endeavoring to acquire. These differences extend to various linguistic facets, including the intricate realm of phonology, which can significantly affect the language acquisition process.

The phonological landscape of two distinct languages can pose formidable obstacles, particularly when the target language boasts phonemes divergent from those in the learner's native tongue. Take, for instance, the distinctive case of Chinese learners navigating the intricate realm of Indonesian phonology. Mandarin Chinese, the official language of China and the most widely spoken Chinese dialect, introduces a distinctive challenge with its approach to the /r/ sound.

In Mandarin Chinese, the /r/ sound exists but is not as pervasive as it is in some other languages, such as Indonesian. This phoneme is symbolized in Pinyin by the letter "r" and is articulated as a retroflex sound, requiring the curling or retroflexion of the tongue during pronunciation. Retroflex consonants are typically described as sounds made with the tongue tip bent backward and a postalveolar point of articulation, as explained by [6] and [7]. It's worth noting that the Mandarin /r/ sound deviates significantly from the English counterpart, bearing a closer resemblance to the /ʒ/ sound in the Russian word "жар" (meaning "heat"). However, it's imperative to recognize that not all Chinese dialects incorporate the /r/ sound into their phonological repertoire. Cantonese, spoken in select regions of southern China and Hong Kong, is a prime example, devoid of the /r/ sound and featuring an entirely different array of consonant phonemes.

Conversely, in the Indonesian soundscape, the /r/ sound occupies a more prominent role and is typically pronounced as a voiced alveolar tap or flap, akin to the Spanish "r" in "pero" (meaning "but"). Several sources have documented this, including [8]–[17]. The terms "tap" and "flap" are commonly employed interchangeably, warranting clarity and distinction. According to Ladefoged and Maddieson (1996) [18] as cited in [19], they proposed a distinction wherein a tap makes direct contact briefly, like a quick stop, while a flap strikes the contact point tangentially. Consequently, while Mandarin Chinese does incorporate the /r/ sound, it does so to a lesser degree compared to Indonesian, and its articulation may markedly diverge from that found in other languages. Furthermore, the pronunciation of this sound can also vary among different Chinese dialects, adding a layer of complexity to the challenge faced by Chinese learners of Indonesian.

Several previous relevant studies in this research are as follows. In the first study, conducted by Diani and Azwandi in 2021, an examination of phonological processes in Indonesian and English revealed five distinct types of phonological changes, including assimilation, metathesis, epenthesis, and deletion [20]. The second study, carried out by Firdhani, Indrayani, and Mahdi in 2018, sought to analyze the frequency of consonant elision in the speech of Sri Mulyani. The findings indicated that among 26 elisions, the phoneme /t/ occurred 19 times, /d/ appeared five times, and /s/ occurred once [21]. The third study, conducted by Nafisah in 2017, concluded that generative phonology can unveil various phonological processes, such as sound addition, sound deletion, coalescence, and assimilation [22]. However, there is a noticeable gap in the literature concerning the specific challenges and patterns related to the pronunciation of the /r/ phoneme in Indonesian by Chinese learners. The present study aims to address this gap by conducting a focused investigation into the phonetic proficiency of Chinese students with regard to /r/ pronunciation in the Indonesian language.

These studies have served as a source of inspiration for the current researcher, highlighting the importance of clearly defining research objectives. Scholars such as Kumar (2019) [23] have underscored that a well-defined objective is essential for maintaining focus and ensuring the study's direction. Similarly, Sekaran and Bougie (2020) [24] emphasize that stating clear objectives is crucial for guiding the research process and measuring the attainment of desired outcomes.

Drawing from the preceding discussion, this study aims to accomplish the following objectives: (1) To identify sound changes in the /r/ sound; (2) To classify the various types of sound changes affecting the /r/ sound; and (3) To identify common sound changes associated with the /r/ sound.

II. Method

This research employed a quantitative descriptive analysis technique with percentages to analyze the data, following the approach outlined by [25]. Descriptive statistics is a method used to analyze data by describing or portraying it as it is, without attempting to draw general conclusions or make broad generalizations.

Data sources are the bedrock of any research endeavor. They are instrumental in helping researchers determine the nature of the data that will be utilized to glean in-depth insights [26]. Data sources can be categorized into two main types: primary data and secondary data.

Primary data in this study refers to data collected directly by the researcher from the subjects of investigation [26]. In this instance, primary data was obtained from voice recordings of individual students, comprising 16 respondents in the undergraduate program of Indonesian Studies at Zhejiang Yuexiu University of Foreign Languages, China. The individuals who participated in this study were students in their fifth semester during the 2022/2023 academic year, and they completed a reading task. This task involved reading aloud a 71-word text, of which 27 words contained the /r/ sound. The text was titled "*Jokowi Imbau Stok BMM Dijaga Jelang Libur Natal dan Tahun Baru.*" The source of this text was the Liputan6 SCTV news broadcast on Saturday, December 14, 2019 [27].

In contrast, secondary data refers to information extracted from pre-existing documents [26]. For this research, secondary data sources were drawn from the book "*Fonologi bahasa Indonesia*" by Muslich (2014), which played a pivotal role in informing the interpretive process.

The method or technique of data collection plays a pivotal role in determining the success of a research study [28]. To collect the data, the researcher followed these steps: (1) collection of voice recordings: the initial step involved the collection of voice recordings, (2) active listening: each voice recording was meticulously listened to with utmost attention to detail, (3) identification of sound variations: during the listening process, sound variations were keenly identified, (4) thorough analysis and categorization: the identified sound variations were subjected to thorough analysis and effectively categorized using the framework proposed by [29], which includes Assimilation, Dissimilation, Vowel Modification, Neutralization, Zeroization, Metathesis, Diphthongization, Monophthongization, Epenthesis, or Intrusive Sound. (5) in-depth examination of sound variations: this stage involved a comprehensive examination of the types of sound variations, including the calculation of their respective percentages based on their frequency of occurrence.

Qualitative descriptive analysis entails the systematic and structured management of data. The primary objective of organizing data in a systematic and structured manner is to ensure that it carries significance and can be further scrutinized. According to Moleong (2010) [30], data analysis is the process of arranging and organizing data into suitable patterns, categories, and fundamental units.

Once the data had been collected, it underwent analysis to address the research question. The researcher employed the methods proposed by [31] and [32] for data analysis. The qualitative findings were then quantified and presented in a percentage table using the formula below:

$$P = F/N \times 100\%$$

Where:

P = Percentage

F = Frequency of errors observed

N = Total number of errors

The process of data presentation involves the organization of information and the provision of comprehensive narrative descriptions that facilitate the interpretation of research findings. As articulated by Rasyad (2002) [33], data presentation serves the purpose of analyzing issues and assisting in the identification of solutions. In this study, the collected and analyzed data were represented through a combination of textual descriptions and tables. The results of this study will be presented in percentages and categorized using a 7-point Likert scale and a pie chart.

III. Results and Discussion

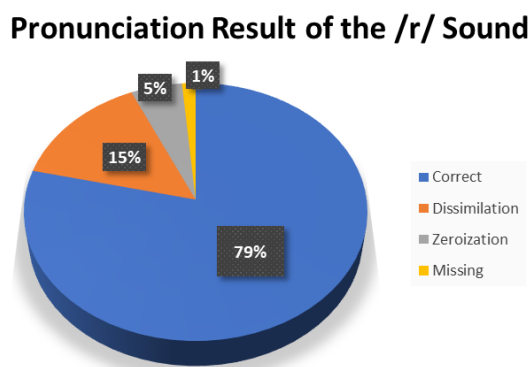
A. Result

Figure 1 presents the outcomes of an investigation into the production of the /r/ sound by 16 respondents as part of this study. This table consists of four columns, each representing a specific group of speakers, and it visually portrays the percentage of correctly articulated words in each category.

| Wordlist | Meaning | Phonetic Transcription | Correct (%) | Dissimilation (%) | Zeroization (%) | Missing (%) |
|------------------|----------------------------|------------------------|-------------|-------------------|-----------------|-------------|
| hari | day | /ˈhari/ | 68.8 | 25 | 0 | 6.3 |
| raya | big, grand | /ˈraja/ | 75 | 25 | 0 | 0 |
| baru | new | /ˈbaru/ | 68.8 | 31.3 | 0 | 0 |
| presiden | president | /preˈsiden/ | 68.8 | 18.8 | 12.5 | 0 |
| menggelar | to hold (an event) | /məŋˈgɛlar/ | 87.5 | 6.3 | 6.3 | 0 |
| rapat | meeting | /ˈrapat/ | 93.8 | 6.3 | 0 | 0 |
| terbatas | limited | /tɛrˈbatas/ | 81.3 | 6.3 | 6.3 | 0 |
| bersama | together | /ˈbersama/ | 81.3 | 12.5 | 12.5 | 0 |
| menteri | minister | /mɛnˈteri/ | 81.3 | 18.8 | 0 | 0 |
| terkait | related | /tɛrˈkait/ | 68.8 | 31.3 | 0 | 0 |
| arahannya | his direction | /araˈhanːja/ | 75 | 25 | 0 | 0 |
| memerintah | to command | /məmɛˈrintahkan/ | 75 | 25 | 0 | 0 |
| para | prefix (a group of people) | /ˈpara/ | 68.8 | 25 | 0 | 6.3 |
| ketersediaan | availability | /kɛtɛrsɛˈdiaan/ | 75 | 12.5 | 6.3 | 6.3 |
| harga | price | /ˈharga/ | 75 | 12.5 | 6.3 | 6.3 |
| termasuk | including | /tɛrmaˈsuk/ | 75 | 12.5 | 12.5 | 0 |
| memperhatikan | to pay attention to | /mɛmpɛrˈhɛːtikan/ | 81.3 | 12.5 | 6.3 | 0 |
| transportasi | transportation | /trɛnsˈpɔrtasi/ | 87.5 | 6.3 | 6.3 | 0 |
| libur | holiday, day off | /ˈlibur/ | 68.8 | 0 | 31.3 | 0 |
| 2020 | the year 2020 | /dua ˈribu dua ˈpuluh | 81.3 | 18.8 | 0 | 0 |
| berjalan | to operate | /bɛrˈjalan/ | 81.3 | 12.5 | 6.3 | 0 |
| agar | so that, in order to | /ˈagar/ | 75 | 12.5 | 12.5 | 0 |
| masyarakat | society, community | /masˈjarakat/ | 81.3 | 18.8 | 0 | 0 |
| toleransi | tolerance | /tɔlɛˈransi/ | 87.5 | 6.3 | 0 | 6.3 |
| kerukunan | harmony, peace | /kɛruˈkunan/ | 87.5 | 12.5 | 0 | 0 |
| antar | among | /ˈantar/ | 81.3 | 0 | 12.5 | 6.3 |
| warga | citizen, resident | /ˈwarga/ | 93.8 | 0 | 6.3 | 0 |
| Total (%) | | | 78.7 | 14.6 | 5.3 | 1.4 |

Fig. 1. Pronunciation Result of the /r/ Sound

Based on the insights drawn from Figure 1, the distribution can be succinctly summarized using a pie chart as follows:



Pie Chart 1. Pronunciation Result of the /r/ Sound

B. Discussion

The study's results shed light on the respondents' proficiency in mastering the challenging /r/ sound. A substantial majority (75%) exhibited accurate pronunciation, reflecting a commendable level of phonetic proficiency in this aspect of their language acquisition.

Of particular interest was the 15% of respondents who displayed dissimilation, substituting the /r/ sound with /l/. This intriguing phonetic phenomenon warrants further investigation to uncover potential contributing factors. These may encompass interference from their native language's phonetic system, inadequacies in instructional methods, or even idiosyncratic speech patterns.

Equally noteworthy was the 5% of respondents demonstrating zeroization, either omitting the /r/ sound entirely or struggling to articulate it. This finding raises pertinent questions regarding the challenges faced by this subgroup in mastering this specific phoneme. Plausible explanations encompass difficulties in articulation, limited exposure to the target language, or shortcomings in pedagogical approaches.

In a small percentage (1%) of instances, some words produced by respondents proved unidentifiable to the researcher, suggesting possible omissions in pronunciation. Further examination may be required to determine the causes behind these instances of word omission.

IV. Conclusion

This study conducted a comprehensive analysis of the pronunciation of the /r/ sound among Chinese students learning Indonesian. The findings revealed a range of phonetic proficiency levels and challenges: (1) a commendable 75% of respondents displayed accurate pronunciation of the /r/ sound, showcasing a high level of proficiency, (2) however, a notable 15% exhibited a tendency to dissimilate the /r/ sound to /l/, indicating a specific area that demands targeted pedagogical interventions to rectify, (3) a smaller, yet significant, 5% struggled with zeroization or the complete omission of the /r/ sound, emphasizing the necessity for focused language instruction, (4) in a mere 1% of instances, respondents produced words that were unidentifiable due to potential omissions, which warrants further investigation.

These findings underscore the intricate nature of acquiring phonetic skills in a second language, underscoring their significance in the realm of language pedagogy. Tailoring instructional strategies to address these specific challenges and individual differences becomes imperative to enhance cross-linguistic communication and elevate the overall language learning experience for Chinese students studying Indonesian. Further research is encouraged to explore the efficacy of targeted phonetic training programs and their correlation with linguistic backgrounds in shaping pronunciation proficiency.

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