AN INVESTIGATION OF ERROR IN POST ALVEOLAR CONSONANT PRONUNCIATION PERFORMED BY UNIVERSITY STUDENTS

Andrian Nuriza Johan[1)], Sri Wuli Fitriati[2)], Januarius Mujiyanto[3)], Widhiyanto[4)], Evita Cahyani[5)]
1,5English Education Department: Muhammadiyah University of Purworejo
2,3,4English Education Department: Unnes
andriannuriza@umpwr.ac.id

Abstract

Pronunciation refers to the ways that people use to articulate the phonemes of a particular language. Fluency in a language is crucial for properly communicating with others. Inadequate pronunciation may lead to difficulties in being understood, regardless of the accuracy of our grammar and vocabulary. The main objective of this study is to determine errors in the pronunciation of postalveolar consonants among second-semester students enrolled in the English education program at Muhammadiyah University Purworejo for the academic year 2023/2024. This study employs a qualitative descriptive research methodology. The investigation focused on students who were in their second semester of English language education. The researcher chose a sample of twenty students for the investigation. The researcher acquired the data by employing a pronunciation test. The investigation revealed a significant occurrence of incorrect pronunciations near the end of the /g/ sound. Students often displayed a proclivity for replacing the /s/ phoneme with the /ʃ/ phoneme, as demonstrated by terms like "shoe" and "ship." Additionally, Indonesian students encounter difficulty while pronouncing the consonant /ʒ/ in its last position, as exemplified in words like "pleasure". As a result, the sound was often replaced with the /s/ sound. Furthermore, students faced difficulties in appropriately articulating the final location of the /ʤ/ sound, as exemplified in the word "age." As a result, they often replace the sound with either the /t/ or /s/ sound.

Keywords: mispronunciation, consonants, post alveolar

Introduction

Effective communication is the fundamental element in our everyday existence. Communication is the driving force behind our society. In order to enhance communication, it is important to have correct pronunciation, as it significantly influences the comprehension of word meanings. In order to communicate effectively, it is essential for individuals to possess a strong vocabulary and a thorough understanding of grammar principles. Undoubtedly, a profound understanding of language structure and content is crucial for effective communication. However, it is important to note that these principles may not be universally applicable. Proficiency in articulating accurate vocabulary and comprehending it is crucial for effective communication. Having proficient pronunciation can greatly enhance the impact of making a positive initial impression. Accurate pronunciation is fundamental for effective communication in the English language. English is a widely spoken language that has evolved numerous regional dialects. However, these dialects should not be of great concern to non-native speakers.

For students, English is a second language that they learn after their mother tongue rather than their first. However, they have certain difficulties when learning a second or foreign language, particularly with pronunciation. Therefore, to produce and learn a new language again, they will face some difficulties to accept something different for them (Marianne et al., 2010) The meaning will be changed if the pronunciation is changed. Pronunciation is

the process of generating sounds that are then used to convey meaning. It covers the examination of the specific sounds of a language (segments), including intonation, syllable, rhythm, stress, timing, rhythm, and voice quality, as well as the investigation of gestures and expressions that are closely associated with the manner in which we speak a language. A comprehensive definition of pronunciation encompasses both suprasegmental and segmental characteristics. Consequently, pronunciation is typically considered an essential component of spoken language, as these features operate in conjunction when we speak.

Having an extensive understanding of accurate pronunciation is crucial for achieving fluency in the English language since it directly impacts communication, comprehension, and overall language proficiency. To effectively communicate in various contexts, such as academic, professional, and social situations, English language learners must attain accurate and articulate pronunciation. Mispronunciation is a prevalent issue encountered by non-native English speakers who are acquiring English as a second language. Students must acknowledge the importance of appropriate pronunciation since they mistakenly prioritise other aspects of the English language, such as vocabulary, grammar, and lexicology. Many persons who are learning and speaking the English language sometimes overlook the importance of pronunciation. Some individuals ignore and underestimate it. They hold the belief that pronunciation is of lesser importance compared to speaking, while considering grammar and vocabulary to be more crucial than pronunciation. Nevertheless, pronunciation is of utmost significance. Instances of communication breakdowns were frequent due to mispronunciation of words or incorrect intonation. In addition, Kobilova (2022) states having incorrect pronunciation causes learners not to be understood, even if their grammar is perfect. Also, Andini and Zaitun (2022)states pronunciation can be very important when someone says a word that has different meaning than what it actually means.

There are some reasons why students' make a lot of errors in pronouncing a sound (Na'ama, 2011, Alimenaj, 2014, Hassan, 2014). According to Na'ama (2011), the effect of mother tongue is one of the most problems, because, in learning a foreign language, the first language of the learner will influence their foreign language pronunciation, therefore, learners sometimes feel confused to pronounce the English word especially producing English consonants sound. (Alimenaj, 2014) said that learners rarely practice in pronouncing the English sound because there is limited time to do in the class, and then they do not practice it at home. Thirdly, learners find that English is difficult to pronounce, because there are different sound system between English and Indonesian language. At school, there is less time section in teaching pronunciation to the students. The learners have low motivation in learning English, because they think that English is a difficult subject. Last, Hassan (2014) states that Sudanese Students of English whose language background is Sudanese Spoken Arabic, had problems with the pronunciation of English vowels that have more than one way of pronunciation in addition to the consonant sound contrasts e.g./z/ and /ð/, /s/ and /θ/, /b/ and /p/, /ʃ/ and /tʃ. There are some factors that may happen in a process of learning pronunciation. Dalton and Seidlhofer (1994) point out that first, students usually pronounce a sound which is new and unfamiliar with the close sounds they have already known; second, Indonesian students used to pronounce word in the way it is written; third problem is that students rarely check the correct pronunciation in their dictionary. These

errors cannot be separated from the language students accustomed to. Dalton and Seidlhofer (1994) explain that, "the capacity of the ordinary person to perceive auditory phenomena of the language to be learnt is widely, but quite wrongly, taken granted." The problems of students actually are started when they try to speak as natural as native speakers do because they do not know exactly how to pronounce a particular word accurately.

Building upon the previously indicated information, it is essential to highlight errors in the production of Post Alveolar Consonants by university students throughout the academic year of 2022/2023. Hence, this study aims to examine the presence of errors in the production of Post Alveolar Consonants by university students throughout the academic year 2022/2023.

Methodology

This The researchers used descriptive qualitative methodology in conducting this research. The current situation and true condition are synthesised using a descriptive approach. During the research process, this methodology outlines the specific attributes of the present situation and explores the underlying causes of particular phenomena. Qualitative research relies on the natural environment as the primary source of data, with the research itself serving as the main tool. It aims to provide a descriptive understanding of the subject matter. The participants consisted of eleven students enrolled in the first semester of the English Education Department at Universitas Muhammadiyah Purworejo during the academic year 2022/2023. In this research, researchers gathered the data from the participants. The primary source of data is the recorded tape performance, which is subsequently transcribed by the researcher to facilitate data analysis. Once the researcher has collected the data, it will be analysed using two software applications: Auris AI and ToPhonetics Application. These tools will assist the researcher in analysing the data and producing accurate research results. The steps are as follows.

1) Recognising students who exhibit tongue position errors
   The researcher analyses the students' audio in the Auris AI and ToPhonetics Application to identify the errors made by students. The researcher assesses the students' pronunciation results by comparing them to the correct transcription from the Oxford Advances Learner's Dictionary to determine whether they are correct or incorrect.
2) Categorising tongue position errors
   The researcher assessed the student's pronunciation and quantified the errors using the procedure for calculating the percentage of descriptive analysis.
3) Providing an explanation of tongue position errors to the students.
   During this step, the researchers drew accurate conclusions by providing a concise summary of errors that were identified and analysed. Subsequently, the gathered data will be subjected to a descriptive analysis in textual format. The objective is to identify student errors in tongue position when pronouncing different types of consonants based on their place of articulation.

Finding and Discussion

After conducting data collection and analysis, it was revealed that certain students had errors in the production of Post Alveolar consonants. The data distribution is presented in Table 1, Table 2, Table 3, and Table 4.

Table 1. Articulation of /tʃ/ sound

Post Alveolar Consonant	Consonant Position	List of Words	Correct		Incorrect	
			Number	Percentage	Number	Percentage
/tʃ/	Initial	*Check*	19	95%	1	5%
		Chapter	17	85%	3	15%
		Child	18	90%	2	10%
	Medial	*Nature*	12	60%	8	40%
		Literature	6	30%	14	70%
		Adventure	13	65%	7	35%
	Final	*Speech*	17	85%	3	15%
		Research	15	75%	5	25%
		March	16	80%	4	20%

A specific number of errors are made by students when articulating the post alveolar consonant /tʃ/ in three distinct word positions, as evidenced by the data distribution analysis. In the initial position, 19 students (95%) correctly pronounced the word "check," while 1 student (5%) pronounced it inaccurately. The word "chapter" was correctly pronounced by 17 of the 20 students, representing 85% of the total. However, 3 students, representing 15%, pronounced it erroneously. The word "child" was correctly articulated by 18 of the 20 students, while 2 (10%) mispronounced it.

Transitioning to the medial position, 12 students (60%) correctly pronounced the word "nature," while 8 students (40%) pronounced it erroneously. The word "literature" was said correctly by 6 students (30%), while 14 students (70%) pronounced it incorrectly. The word "adventure" was correctly pronounced by 13 students (65%), while 7 students (35%) mispronounced it.

In terms of the final position, fifteen percent of students mispronounced the word "speech," whereas seventeen students (85%) pronounced it correctly. Fifteen students (or 75% of the total) got the word "research" correct, while five (or 25% of the total) got it incorrect. Of the 20 students, 16 (or 80%) got the word "adventure" correct, while 4 (20%) got it incorrect.

Table 2 . Articulation of /ʃ/ sound

Post Alveolar Consonant	Consonant Position	List of Words	Correct		Incorrect	
			Number	Percentage	Number	Percentage
/ʃ/	Initial	*Sure*	19	95%	1	5%
		Shoe	18	90%	2	10%
		Sharp	16	80%	4	20%
	Medial	*Emotion*	18	90%	2	10%
		Nation	17	85%	3	15%
		Machine	18	90%	2	10%
	Final	*Crash*	16	80%	4	20%
		Cash	14	70%	6	30%
		Push	12	60%	8	40%

Table 2 displays the percentage of students that made errors when pronouncing the Post Alveolar consonant /ʃ/ in three distinct consonant locations. Starting with the word "sure" in the initial place, one student (5% of the total) said it incorrectly, while nineteen students (95%) got it correct. The majority of the students, 18 out of 20, pronounced the word "shoe" correctly. Sixteen students, or 60% of the total, got the spelling of "sharp" correct, while four, or 40%, got the pronunciation incorrect.

When it comes to the middle position, the following percentages of students were able to correctly pronounce the words that are listed below: Eighteen (90%) were able to correctly pronounce "emotion," while two (10%) were unable to do so; seventeen (85%) were able to correctly pronounce "nation," while three (15%) did so erroneously; eighteen (90%) were able to correctly pronounce "machine," while two (10%) were not yet able to do so.

Then in final position, four students (20%) mispronounced the word "crash," and sixteen students (80%) pronounced it correctly. Moreover, six students (30%) mispronounced the word "cash," while fourteen students (70%) did so correctly. The word "push" was mispronounced by eight students (40%) and correctly by the remaining twelve students (60%).

Table 3 Articulation of /ʒ/ sound

Post Alveolar Consonant	Consonant Position	List of Words	Correct		Incorrect	
			Number	Percentage	Number	Percentage
/ʒ/	Initial	*Genre*	6	30%	14	70%
		Azure	11	70%	6	30%
		Georges	5	25%	15	75%
	Medial	*Vision*	19	95%	1	5%
		Measure	15	75%	5	25%
		Pleasure	17	85%	3	15%
	Final	*Garage*	5	25%	15	75%
		Mirage	5	25%	15	75%

Table 3 displays the percentage of errors that students make when articulating the Post Alveolar consonant /ʒ/ in three distinct consonant positions. Initially, 14 students (70%) pronounced the word "genre" incorrectly in the initial position, while 6 students (30%) did so accurately. Six students (30%) pronounced the word "azure" erroneously while fourteen students (70%) correctly pronounced it. Five students (or 25%) were able to accurately pronounce "Georges," while fifteen students (75%) made an error in its pronunciation.

Nineteen students (or 95% of the total) got the middle position's pronunciation of "vision" correct, while one student (or 5% of the total) got it erroneous. Fifteen students (or 75% of the total) pronounced the word "measure" correct, while five (or 25% of the total) got it erroneous. Also, three students (15%) got the pronunciation of "pleasure" in error, whereas seventeen (85%) got it correct.

Among 20 students, in the final position, 5 (25%) pronounced the word "garage" correctly, while 15 students (75%) pronounced it erroneously. Among the 20 students, only 5 students (25%) spoke the word "mirage" correctly, while the remaining 75% pronounced it incorrectly.

Table 4 Articulation of /ʤ/ sound

Post Alveolar Consonant	Consonant Position	List of Words	Correct		Incorrect	
			Number	Percentage	Number	Percentage
/ʤ/	Initial	*Just*	20	100%	0	0%
		Giant	17	85%	3	15%
		Jaw	20	100%	0	0%
	Medial	*Major*	12	60%	8	40%
		Lodging	15	75%	5	25%
		Ledge	17	70%	6	30%
	Final	*Large*	18	90%	2	10%
		Judge	16	80%	4	20%
		Age	15	75%	5	25%

In Table 4, from the data distribution analysis, it appears that students make a specific number of errors when articulating the post alveolar consonant /ʤ/ in three distinct word positions. The word "just" was correctly articulated by all students (100%) in the initial position. The word "giant" was correctly pronounced by 17 of the 20 students (85%), while 3 students (15%) pronounced it incorrectly. The word "jaw" was correctly articulated by all students (100%).

Switching to the medial position, there were a total of 12 students, which accounts for sixty percent of the total, who correctly pronounced the word "major," while eight students, which accounts for forty percent of the total, said it in error. Fifteen of the twenty students, or seventy-five percent, said the word "lodging" correctly, whereas five of the students, or twenty-five percent, said it erroneous the word "ledge" was correctly spoken by 14 of the twenty students, which is 70 percent, whereas six of the students, which is 30 percent, mispronounced it.

When it came to the final position, there were 18 students who correctly pronounced the word "large" (which accounts for 90% of the total), whereas there were two students who said it erroneously (10% of the total). Out of the twenty students, sixteen students, or eighty percent, correctly pronounced the word "judge," whereas four students, or twenty percent, pronounced it wrong. Seventy-five percent of the twenty students correctly pronounced the word "age,"

whereas five students, or twenty-five percent, mispronounced it.

After doing calculations and analysing the data shown in Table 1, Table 2, Table 3, and Table 4, it is clear that a substantial proportion of students have the capacity to articulate words containing post alveolar consonants.

Table 1 demonstrates numerous occurrences of mispronunciations at the initial, medial, and final positions of the /tʃ/ sound. Students frequently substitute the aspirated /tʃ/ sound with the unaspirated /tʃ/ sound, which may be observed in words such as "check," "chapter," and "chair." The initial position of the aspirated consonant /tʃ/ is indeed an unusual sound for Indonesian students. Consequently, they frequently substitute that sound with the unaspirated /tʃ/ sound. Some children exhibit a tendency to substitute the /tʃ/ sound with the /t/ pronunciation in the medial position, as seen by words such as "nature", "literature", and "adventure". Ultimately, some students have a tendency to substitute the /tʃ/ sound with the /t/ pronunciation in words such as "speech", "research", and "march".

Table 1 shows instances of mispronunciation, where students repeatedly fail to adhere to English pronunciation norms. For example, the word "Literature" should be pronounced as /ˈlɪtrətʃər/, but some students incorrectly pronounce it as /ˈlɪtratur/. This suggests that students opt to omit consonants in words that are deemed challenging to say in a consecutive and rapid manner. To correctly pronounce /tʃ/, students should position the apex of their tongue immediately behind the firm ridge located in the anterior part of the roof of the mouth. Exhale forcefully via the mouth. Completely halt the flow of air initially, and thereafter allow it to be released. Upon release, the air should generate friction between the apex of your tongue and the palate. Nevertheless, students temporarily obstruct the airflow by placing the tip of the tongue against the alveolar ridge while the lateral edges of the tongue make contact with the upper molars. The sound becomes aspirated with the release of air.

Numerous mispronunciations occur in the initial, medial, and final positions of the /ʃ/ sound, as indicated by the data in Table 2. In the words "sure," "shoe," and "sharp," students have a propensity to substitute the /ʃ/ pronunciation for the /s/ sound. Indonesian students are undoubtedly unfamiliar with the consonant /ʃ/ in the initial position. In the meantime, they frequently replace that sound with the /s/ sound. In the medial position, certain students have a propensity to substitute the /ʃ/ pronunciation for the /s/ sound, as evidenced by the words "emotion," "nation," and "machine." In the final position, certain students have a propensity to substitute the /ʃ/ pronunciation for the /s/ sound, as evidenced by the words "crash," "cash," and "push."

In Table 2, mispronunciations occur due to the fact that the pronunciation of the word "sharp" is not in accordance with the English pronunciation rules. For example, some students pronounce it as /ˈʃʌ:p/, while others pronounce it as /sʌ:p/. This suggests that students opt to omit consonants in words that are deemed challenging to enunciate sequentially and rapidly. Students should position the tip of their tongue at the front of the top of their mouth in order to pronounce /ʃ/ accurately. Afterward, the pupils should propel air between the tip of the tongue and the top of the mouth, avoiding the vibration of the vocal cords. Nevertheless, students position the tip of their tongue just behind the front teeth, in close proximity to the roof of the mouth but not touching it. The sides of the tongue are elevated to contact the roof of the mouth, thereby creating a passage for air to flow down the centre of the tongue. The sides of the tongue also rest against the sides of the molars.

Table 3 reveals a significant number of mispronunciations in the beginning, middle, and end of the /ʒ/ sound. Students often replace the /s/ sound with the /ʒ/ pronunciation, as shown in terms like "genre", "azure", and "georges". As a result, they often replace that sound with the /s/ sound. Some students tend to replace the /s/ sound with the /ʒ/ pronunciation in the middle position of words like "vision", "pleasure", and "measure". At the end of words, certain pupils often replace the /s/ sound with the /ʒ/ pronunciation, as exemplified by words like "garage" and "mirage".

In Table 3, mispronunciations are seen due to students' failure to adhere to English pronunciation norms. For instance, the word "measure" should be pronounced as /mɛʒə/, but some students pronounce it based on the letter sounds, namely /mɛsə/. This suggests that students opt to omit consonants in words that are perceived as challenging to say in a consecutive and rapid manner. To correctly pronounce /ʒ/, students position the apex of their tongue at the anterior region of the hard palate. Next, generate vibrations in the vocal cords while directing airflow between the roof of the mouth and the tip of the tongue. Nevertheless, students position the apex of their tongue slightly behind the anterior teeth, in close proximity to the palate without making contact. The lateral edges of the tongue are elevated to make contact with the hard palate, creating a central pathway for airflow. The lateral surfaces of the tongue also make contact with the adjacent teeth.

Table 4 illustrates that there are multiple instances of mispronunciations in the initial, middle, and final positions of the /dʒ/ sound. Students often have a proclivity to replace the /g/ sound with the /dʒ/ pronunciation, as exemplified in the word "giant". Some students tend to replace the /s/ sound with the /dʒ/ pronunciation in the middle position of words such as "vision", "pleasure", and "measure". At the end of words, certain pupils often replace the /s/ sound with the /dʒ/ pronunciation, as observed in words like "garage" and "mirage".

In Table 4, mispronunciations occur due to the fact that the pronunciation of the word "large" is not in accordance with the English pronunciation rules. For example, some students pronounce it as /lɑ:dʒ/, while others pronounce it as /lɑ:t /. This suggests that students opt to omit consonants in words that are deemed challenging to enunciate sequentially and rapidly. To correctly pronounce /dʒ/, students should raise their tongue until its tip touches the roof of the mouth, positioned just behind the upper teeth. The posterior portion of the tongue remains in its original position. Then, the uvula prevents air from passing through the nostrils. Consequently, the tongue prevents the air from entering the mouth, and when the tongue is lowered, it is abruptly expelled. Nevertheless, students gently separate their lips and place the tip of their tongue on the ridge, which is located just behind the upper front teeth. The tongue rapidly touches its position and is subsequently released with a surge of air or "explosion" from the mouth each time the sound is to be produced.

On the other hand, this research coincided with the research conducted by Lestari et al. (2020), which indicated that certain students mispronounce the post-alveolar sound, particularly the /ʃ/ sound. The researcher discovered that the pupils' mispronunciation is a result of the influence of their mother tongue. Their pronunciation was significantly affected by a Javanese accent. Additionally, the present inquiry is consistent with the inquiry conducted by Islamiyah (2012). She conducted an investigation into the errors in English pronunciation that were made by English learners. She employed the

mixed method in her research. She initiated with the qualitative data, and subsequently employed the quantitative data to determine the percentage of each data point. The findings of her investigation indicated that the majority of students committed errors in the pronunciation of English sounds that were not present in their native language, including the sounds /ae/, /ʃ/, /θ/, /ð/, and /ʒ/. Furthermore, this research is inextricably linked to the research conducted by Adila and Refnaldi (2019). They discovered that students' speaking performance contained six types of consonant errors: Alveolar (38.18%), Interdental (34.65%), Post Alveolar (12.20%), Labiodental (11.81%), Velar (1.79%), and Bilabial (1.38%). He also identified the causes of these errors, which include the influence of the maternal tongue (81.25%), the lack of use of English in their daily lives (66.67%), unchallenging lessons (56.25%), being passive learners (59.37%), and a lack of confidence while performing (62.50%). In addition, this research goes hand in hand with Rafael, (2019). Her research finding showed there are nine types of errors pronunciation made by the subjects. The first error is the subjects substituted a vowel /æ/ and six consonants /kj/,/tʃ/,/ʃ/,/dʒ/ and /ʒ/ with Indonesian sounds. The second error is the subjects substituted some English vowels into Indonesian vowel. The third error is word cognate's cases. The fourth is language interference. The fifth is pronouncing the silent consonant /h/. The sixth error is Deleting or omitting some consonants that appeared at the end of some English words. The seventh error is the subjects pronounced the silent consonant /t/ in the word "often". The eighth error is the subjects added the consonant /r/ at the word, that word doesn't require the consonant /r/. The last error is some subjects seemed to generalize the pronunciation of the past tense morpheme which is ended by a bound morpheme /ed/

Conclusions

The researcher examined the students' difficulty in articulating the consonants /ʧ/, /ʃ/, /ʒ/, and /ʤ/ in this research. Twenty participants were actively involved in this research, contributing data through questionnaire responses and recordings. The researcher quantified the proportion of errors in the pronunciation of English consonants. It has been determined that the errors are present in the pronunciation of /ʒ/ (47%), /tʃ/ (27%), /dʒ/ (23%), and /ʃ/ (18%).

References

Adila, S., & Refnaldi, R. (2019). Pronunciation errors made by senior high school student in speaking performance. *Journal of English Language Teaching*, *8*(3), 305–316.

Alimenaj, Z. M. (2014). English Phonological Problem Encountered by Albanian Learners. *European Scientific Journal*, *10*(8), 159–164.

Andini, P., & Zaitun, Z. (2022). The Effectiveness of learning pronunciation through English content by English With Lucy on YouTube. *Jurnal Studi Guru Dan*, *5*(2), 201–206. https://doi.org/https://doi.org/10.30605/jsgp.5.2.2022.1542

Dalton, C., & Seidlhofer, B. (1994). *Pronunciation in the Scheme for Teacher Education*. Oxford University Press.

Hassan, E. M. I. (2014). Pronunciation problems: A case study of English Language Students at Sudan University of Science and Technology. *English Language and Literature Studies*, *4*(4), 31–44.

Islamiyah, M. (2012). Error analysis on English sound produced by English learners: The influence of transfer. *Leksika*, *6*(1), 1–9.

Kobilova, N. R. (2022). Importance of pronunciation in English language communication. *Academic Research in Educational Sciences*, *3*(6), 592–596.

Lestari, D. D., Suryani, F. B., & Nuraeningsih, N. (2020). Pronunciation errors made by EFL students in speech performance. *Prominent*, *3*(2), 320–331.

Marianne, C.-M., Brinton, D. M., & Goodwin, J. M. (2010). *Teaching Pronunciation*. Cambridge University Press.

Na'ama, A. (2011). An analysis of errors made by Yemeni University Students in the English Consonant- Cluster System. *Damascus University Journal*, *27*(3), 145–161.

Rafael, A. M. D. (2019). An analysis on pronunciation errors made By first semester students of English Department STKIP CBN. *Loquen:English Studies Journal*, *12*(1), 1–10.