icesre 5 fosil

by Icesre 5 Fosil Icesre 5 Fosil

Conference Paper

Fossilization Analysis on Segmental and Suprasegmental Features of EFL Learners (Javanese-English): A Comparative Study

Sukma Nur Ardini[1*], Sunarya[2], Andi Priyolistiyanto[3], Vo Hung Cuong[4]

[1]English Education Department, Universitas PGRI Semarang, Indonesia
[2]Javanese Education Department, Universitas PGRI Semarang, Indonesia
[3]Information Engineering Education Department, Universitas PGRI Semarang, Indonesia
[4]Vietnam Korea University of Information and Communication Technology - The University of Danang, Viet Nam

ORCID ID
Sukma Nur Ardini: https://orcid.org/0000-0001-9746-9005

Abstract.
EFL learners (Javanese-English) have the same background in that their mother tongue is Javanese. Although students of the English Education Study Program (hereafter PBI) have experienced English learning for years, their pronunciation remains suboptimal. The aims of the study were to compare the fossilization of the students majoring English Education Study Program and Javanese Education Study Program (hereafter PBSD) in Universitas PGRI Semarang, focusing on segmental and suprasegmental features and to describe their perception of fossilization. Descriptive qualitative methods were employed with percentages to show the comparison clearly. The data from 57 respondents were collected using a test of pronouncing academic vocabulary and a questionnaire. The vowels, diphthongs, and consonants were categorized as Segmental Features data, while the pitch and intensity of typical suprasegmental features were detected through a voice spectrogram software named PRAAT. The results showed that PBSD students have higher fossilization than PBI with the percentage of vowels (73.88% > 46.86%), diphthongs (73.71% > 42.55%), and consonants (87.86% > 39.87%). Meanwhile, EFL learners have typical segmental features in pitch and intensity, which are different from native speakers. The pitch of native speakers was 201.5 Hz, while PBI's was 208.5 Hz and PBSD's was 220.3 Hz. The results showed that the native speaker's intensity obtained 74,35714286, while PBI's was 66,35714286, and PBSD's was 66,71428571. The results also showed that PBSD students had more difficulty with pronunciation. Therefore, it can be concluded that PBSD has a higher level of fossilization compared to PBI on segmental and suprasegmental features, even though they got the same mother tongue background since PBI students have been learning English for years and they have already familiar with the words. The findings of the current study will be proceeded by the researchers to design a concept of Javanese fossilization.

Keywords: fossilization; segmental; suprasegmental; EFL; Javanese-English

🔓 OPEN ACCESS

1. Introduction

English is known as a language that needs to be mastered in order to be able to compete at the world level. Known as a foreign language, English has become the most crucial subject which is taught at every educational level in Indonesia. Learning English means the learners must be able to understand several aspects.

Pronunciation has the same important role as other skills to be learned, such as listening, speaking, reading, and writing. Fraser (1) stated that pronunciation is the most important role in learning a language. Some problems of EFL learners' pronunciation were found, particularly Javanese-English learners which have the same background of Javanese mother tongue. Besides, English is one of the languages that have the most difficult pronunciation in the world, especially for English as Foreign Language (EFL) learners (2). Since Javanese learners need to acquire English in their educational level, Siqoyah (3) claimed that the first language (L1) will interfere with foreign language (FL) or second language (L2) in the process of language acquisition. Learners' cognitive skills in their first language will interfere with their pronunciation of the foreign language in the form of words or phrases (5). This problem causes meaning making not functioning in the right way. Furthermore, the fact shows that the phenomenon is students are still making pronunciation errors even in simple English words (6). As a result, EFL learners have language acquisition error what is so called fossilization. Therefore, pronunciation is very important to be learned so as not to experience the wrong meaning in English conversation (7).

The previous studies presented the results of the types and error analysis of phonological interference in English pronunciation uttered by EFL learners (Javanese-English). The language interference can be understood as a process when one language has an impact on another language and when the individual is experiencing language transfer (8). Moreover, Corder (9) stated that errors are a result of interference in learning a second language from the habits of the first language. Besides, the first who raised the fossilization idea was Selinker. He recorded that 95 percent of L2 learners are failed to reach the same pronunciation level as the real L1 speakers. Such phenomenon was defined as fossilization by Selinker (10). Kirkpatrick (11) also considered those inaccurate pronunciations as one of the characteristics of English which affects intelligibility and was mainly caused by idiosyncratic pronunciation of each individual speaker of English. Siqoyah (3) described the analysis of segmental aspects of assimilation of vowel, diphthong, and consonant, insertion of vowel and diphthong and consonant; and deletion of the consonant. The study explained 99

errors in segmental and suprasegmental aspects. The error of students' fossilization on segmental and suprasegmental features were fully discussed in the study. Meanwhile, the suprasegmental aspects were analyzed by using manual analysis by the researchers. Furthermore, another study came from Kayyis & Sari (12) which defined Javanese students committed errors in long vowel, voiced consonants, stressing words at the first, middle, and last, and falling and rising intonation. The study only focused on the analysis of students' segmental features of vowels and consonants.

Moreover, Senowarsito & Ardini (5) presented that the fossilization analysis of Javanese students commonly occurred in continuous speech rather than isolated words when they pronounced vowels, diphthongs, and consonants. The study did not discuss the suprasegmental aspects which is also important in analyzing students' pronunciation considering that suprasegmental aspects are also included in pronunciation components.

The previous research discussed above showed that there was students' fossilization on segmental and suprasegmental features done by Javanese students. On the other hand, those studies implied that the researchers only focused on discussing the segmental features without presenting the suprasegmental features as pronunciation components. As stated by Sahulata (13) that suprasegmental is an element of the sound system that gives a characteristic language quality. Furthermore, those studies only used the students of English Education Study Program to know students' fossilization in their foreign language. In this current research, the researchers employed the comparison analysis of students of English Education Study Program (hereafter PBI) and students of Javanese Education Study Program (hereafter PBSD) on segmental and suprasegmental features. The results, then, are analyzed to know which students have higher fossilization.

Related to the issues that have been outlined earlier, this current research aims to compare the fossilization of the students majoring English Education Study Program (hereafter PBI) and Javanese Education Study Program (hereafter PBSD) in Universitas PGRI Semarang, Central Java, Indonesia, focusing on segmental and suprasegmental features, and to describe their perception about fossilization.

2. Method

This research employed descriptive qualitative design to analyze the data. Qualitative is an approach to exploring human phenomena (14). This paper concerns a comparative study of fossilization analysis on segmental and suprasegmental features done by EFL

learners (Javanese-English). The participants came from the sixth semester of PBI and PBSD students in Universitas PGRI Semarang. The total numbers of participants were 57 participants which were divided into 33 PBI participants and 24 PBSD participants. This research was done by collecting a test of pronouncing academic vocabularies and students' questionnaires. The questionnaire was used to get more detailed information about students' perception about fossilization. All of the data were recorded and analyzed by the researchers descriptively which was employed with percentage to show clearly the comparison. Furthermore, the data analysis focused on the words which were produced in single words and sentences. Single words were to analyze the students' fossilization on segmental features on vowels, diphthongs, and consonants. Meanwhile, the sentences were used to analyze students' fossilization on suprasegmental features on pitch and intensity. The typical segmental features were detected through voice spectrogram software named PRAAT.

3. Result and Discussion

3.1. Segmental Features Analysis

Segmental features consist of vowels, diphthongs, and consonants. Those were analyzed to know the fossilization uttered by EFL learners particularly on PBI and PBSD students. Furthermore, after obtaining the result of segmental features fossilization between PBI and PBSD, the results were compared to know the comparison of fossilization between PBI and PBSD students.

The result presents the EFL learners (Javanese-English) fossilization on vowels commonly occured in /ɒ/, /æ/, /i:/, and /ʌ/ sounds. The results described as follows:

The result outlined that PBI students have high fossilization on /ə/ and /æ/ sounds which were done by 23 and 24 respondents. It presented that PBI students pronounced /ˈmɛθ əd/ to /ˈmɛθ od/, and /ˈæf ɛkt/ to /ˈaf ɛkt/. Meanwhile, PBSD students have error in /ə/, /i:/, /æ/, dan /ɛ/ sounds. It presented that PBSD students pronounced /əˈvɔɪd/ to /aˈvɔɪd/, /ˈliːgəl/ to /ˈlegəl/, /ˈæn Iˌaɪz/ to /ˈan Iˌaɪz/, /ˈmɛʒə/ to /ˈmiʒə/.

To make EFL learners' pronunciation value in percentage, the researchers decided the higher the percentage, the more students made errors. Here is the percentage of PBI students' fossilization on vowels: (/ə/ 85.1%), (/i:/ 59.2%), (/æ/ 88.8%), (/i/ 7.4%), (/ɛ/ 33.3%), and (/ʌ/ 7.4%). The mean of PBI students' fossilization on vowel obtains 46.86%. On the other hand, the fossilization results of PBSD students were: (/ə/ 94.4%), (/i:/ 94.4%), (/æ/ 94.4%), (/i/ 44.4%), (/ɛ/ 94.4%), and (/ʌ/ 33.3%). Furthermore,
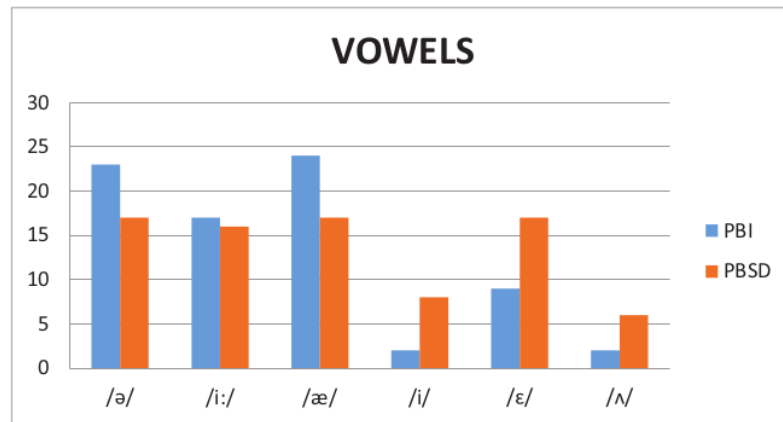
Figure 1: Students' Fossilization on Vowels.

the mean result of PBSD students' fossilization on vowel achieved 73.88%. Comparing from those results, it can be seen that students of PBSD has higher percentage than PBI students. It can be implied that PBSD has higher fossilization of vowels than PBI.

Furthermore, the result of diphthong fossilization on PBI and PBSD students commonly occured in /aɪ/, /eə/, /ʊə/ and /aʊ/. The results outline as follows:
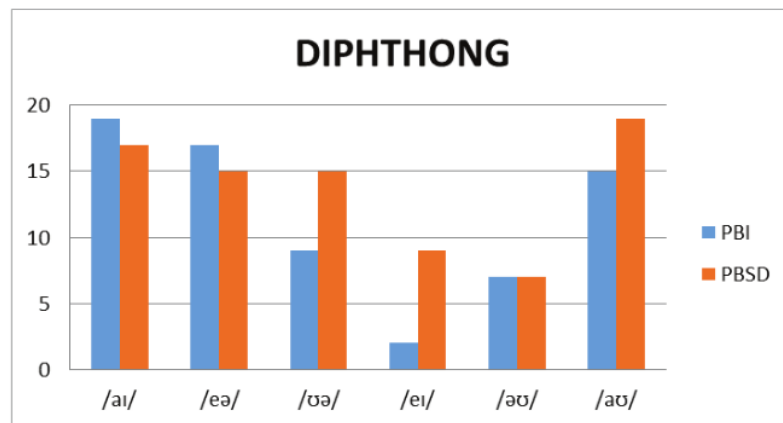

Figure 2: Students' Fossilization on Diphthongs.

Figure 2 shows that PBI students have commonly error in /aɪ/, /eə/, dan /aʊ/ sounds. It presented that PBI students pronounced /aɪˈdɛntɪfaɪ/ to /ɪˈdɛntɪfaɪ/, /ˈeərɪə/ to /ˈarɪə/, /daʊn/ to /don/. Whereas, PBSD students have a lot of error in /aɪ/, /eə/, /ʊə/, dan /aʊ/. Those showed that PBSD students pronounced /əˈsaɪn/ to /əˈsɪn/, /ˈeərɪə/ to /ˈarɪə/, /məˈnjʊə/ to /məˈnjʊ, /daʊn/ to /don/.

To make the EFL learners' pronunciation value in percentage, the researchers decided the higher the percentage, the more students made errors. The percentage result presents that PBI students' fossilization on diphthongs are: (/aɪ/ 70.3%), (/eə/ 62.9%), (/ʊə/ 33.3%), (/eɪ/ 7.4%), (/əʊ/ 35.9%), and (/aʊ/ 55.5%). The mean gained 42.55%. On the other hand, the percentage of PBSD students on diphthongs fossilization was: (/aɪ/ 94.4%), (/eə/ 83.3%), (/ʊə/ 83.3%), (/eɪ/ 50%), (/əʊ/ 30.8%), and (/aʊ/ 100%). The mean of PBI students' fossilization on diphthongs achieved 73.71%. The results showed that PBSD students have higher mean percentage than PBI students which means that PBSD students have higher fossilization on diphthongs than PBI students.
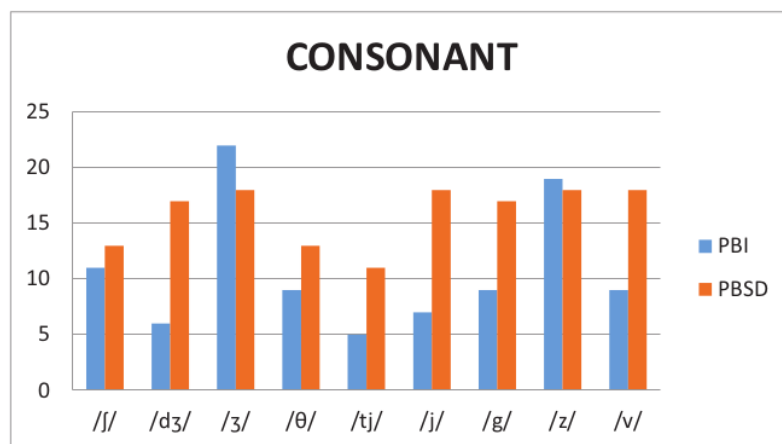

Figure 3: Students' Fossilization on Consonants.

Figure 3 presents PBI students' fossilization on consonant commonly occured in /ʒ/ and /z/ sounds which were done by 22 and 19 PBI students. Those presented that PBI students pronounced /ˈmɛʒə/ to /ˈmɛʃə/ and /ˈæn ˌaɪz/ to /ˈæn ˌaɪs/. Moreover, PBSD students have done a lot of error on /dʒ/, /ʒ/, /j/, /g/, /z/, and /v/ which were done by the most of PBSD students. PBSD students pronounced /ækˈnɒl ɪdʒ/ to /ækˈnɒl ɪd/, /ˈmɛʒə/ to /ˈmɛʃə/, /məˈnjʊə/ to /məˈnʊə/, /ˈsɪŋjʊlə/ to /ˈsɪnjʊlə/, /ˈæn ˌaɪz/ to /ˈæn ˌaɪs/, /əˈvɔɪd/ to /əˈfɔɪd/.

To make the EFL learners' pronunciation value in percentage, the researchers decided that the higher the percentage, the more students made errors. The percentage of PBI students shows: (/ʃ/ 40.7%), (/dʒ/ 22.2%), (/ʒ/ 81.4%), (/θ/ 33.3%), (/tj/ 18.5%), (/j/ 25.9%), (/g/ 33.3%), (/z/ 70.3%), and (/v/ 33.3%). From those percentages, the mean of the percentage was 39.87%. On the other hand, PBSD students percentage gains: : (/ʃ/ 72.2%), (/dʒ/ 94.4%), (/ʒ/ 94.4%), (/θ/ 72.2%), (/tj/ 61.1%), (/j/ 100%),

(/g/ 94.4%), (/z/ 100%), and (/v/ 100%). Mean of the percentage is 87.86%. According to those results, it can be concluded that PBSD students have higher percentage than PBI students. It means PBSD students have higher fossilization on consonants than PBI students.

3.2. Suprasegmental Features Analysis

The analysis results of suprasegmental features done by EFL learners (Javanese-English) were analyzed by using the software application namely PRAAT.[5] This software synthesizes the students' pronunciation in sound waves and it comes along with the value. This value was then extracted in charts and compared with the native speaker's pronunciation value. The researchers analyzed suprasegmental features on pitch and intensity.
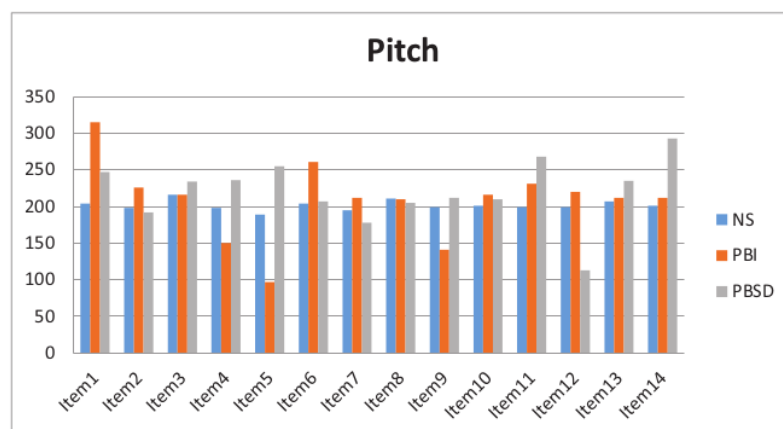

Figure 4: Pitch of Native Speaker (NS), PBI, and PBSD.

Figure 4 presents the pitch gained of each question number which is number 1 to 14 of native speaker, PBI students, and PBSD students. The questions consisted of sentences which had to be pronounced by PBI and PBSD students. The result gained from the comparison of mean pitch.

The comparison of the results on the pitch shows that the native speaker's sound has mean of 201.5 Hz. Furthermore, PBI students indicate that the mean pitch obtained is 208.5 Hz. Meanwhile, PBSD students have mean pitch of 220.3 Hz. From the results of the mean pitch of native speaker, PBI students, and PBSD students, it can be implied that PBI students have a pitch level that is closer to the pitch of the native speaker.

On the other hand, PBSD students tend to have a pitch that exceeds the mean native[4] speaker.

The typical segmental features were detected through voice spectrogram software named PRAAT. The analysis was shown at Figure 5 below.
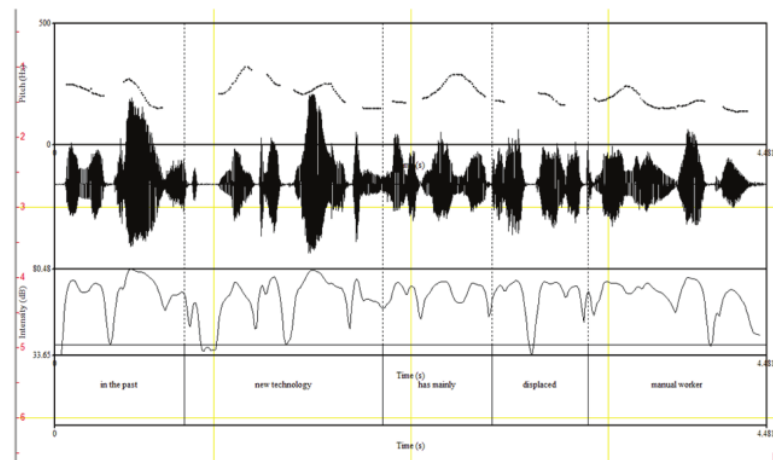

Figure 5: Pitch Analysis using PRAAT.

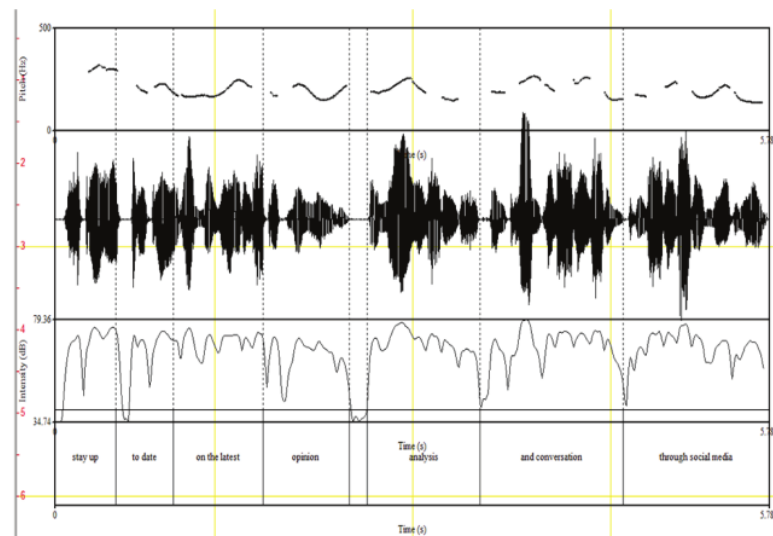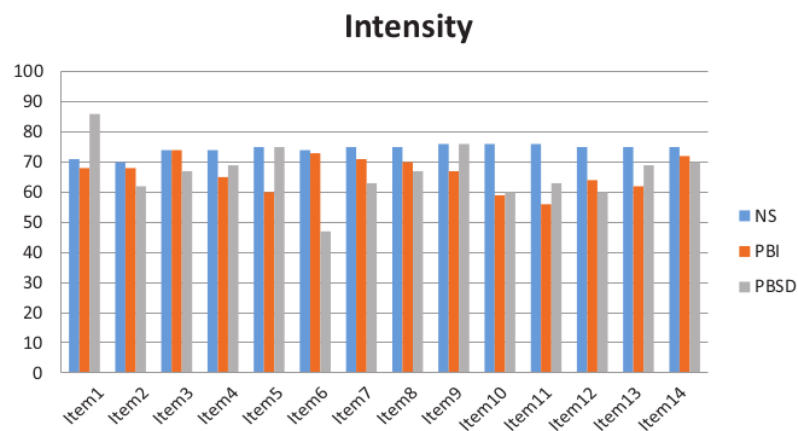The second analysis of suprasegmental features using PRAAT was intensity. Figure 6 shows the analysis of intensity.

Figure 6: Intensity Analysis using PRAAT.

The whole analysis was then analyzed and displayed as Figure 7 below.

Intensity

Figure 7: Intensity of Native Speaker, PBI, and PBSD.

The results of the intensity between the sounds of native speaker, PBI students, and PBSD students showed the mean intensity of native speaker is 74,35714286. The mean intensity obtained by PBI students is 66.35714286. Meanwhile, the mean intensity of the PBSD students is 66,71428571. From these results, it can be concluded that the mean intensity of PBI and PBSD students was closed to the same result. Meanwhile, the mean intensity of native speaker was higher than PBI students and PBSD students. This phenomenon showed that PBI and PBSD respondents obtained the same results in the mean intensity which was lower in value when it was compared to the mean intensity of the native speakers.

According to the analysis result of segmental and suprasegmental features of native speaker, PBI students, and PBSD students, it showed that there were no EFL learners (Javanese-English) pronounced English phonemes and suprasegmental features correctly as native speaker. It presented the fossilization of vowels, diphthongs, and consonants which significantly happened in particular. It was caused by students' unintentionally in pronouncing words or sentences which produced certain sounds as the way of their first language (Javanese). This can be considered as one of the fossilization factors that occurred in EFL learners (Javanese-English).

The comparison result of PBI and PBSD students' fossilization presented that PBSD students have higher fossilization than PBI students. It can be seen from the result of their pronunciation in words and sentences. PBSD students have higher percentage of vowels (73.88% > 46.86%), diphthongs (73.71% > 42.55%), and consonants (87.86% > 39.87%) than PBI which means the most PBSD students pronounced the words

incorrectly. This fossilization comparison result showed that PBI students who have been learning English for years more intensively than PBSD students. It makes PBI students' fossilization less than PBSD students.

Fossilization perception questionnaire indicated some results. Both PBI and PBSD students have understood the concept of fossilization which disadvantages their foreign language acquisition. The level of difficulty experienced by respondents regarding the pronunciation test was PBI students have difficulty at level 2. Meanwhile, PBSD students have difficulty in pronunciation at level 3. The levels provided are 1-5 levels. Number 1 is the lowest level, and number 5 is the highest level of pronunciation difficulty experienced by respondents. PBSD students have a level of difficulty which is higher than PBI students. Furthermore, their fossilization in learning English as foreign language is caused by the environment which is Javanese ethnic. They lack practice using English, and they have a very thick Javanese language in their daily lives. They also think that English pronunciation has different in writing form which makes them think that English is a difficult language to learn as foreign language.

4. Conclusion

The study aimed at investigating the comparison of fossilization of EFL learners (Javanese-English) on segmental and suprasegmental features for students majoring English Education Study Program (PBI) and Javanese Education Study Program (PBSD) in Universitas PGRI Semarang, Central Java, Indonesia, focusing on segmental and suprasegmental features, besides it was to describe their perception about fossilization. In deciding the results, the researchers compared the sounds of native speaker and students. The results gained from the total error of students in each aspect divided by the number of students. The results presented that the fossilization of PBSD students is higher than PBI students. According to the questionnaire which was given to PBI and PBSD students, it stated that PBSD students have more difficulties when pronouncing the test. It is because PBSD students rarely get English material, and they are not familiar with the English words. Meanwhile, PBI students have been learning English for years. It caused PBI students to get a little error when pronouncing the words. Therefore, even though they got the same mother tongue background, PBI students have been learning English for years, and they have already familiar with the words but actually both got the same issue. The findings of the current study will be proceeded by the researchers to design a concept of Javanese fossilization.

Acknowledgements

References

[1] Fraser H. ESL pronunciation teaching: Could it be more effective? Paper presented at the AALA Conference. 656840157Perth656840157DTCE656840157-1481942265Year of publication missing..

[2] Gilakjani AP. English pronunciation instruction: A Literature Review. International Journal of Research in English Education. 2016;1:1--6.

[3] Siqoyah S. Phonological interference of Javanese toward English pronunciation [Doctoral dissertation]. Indonesia: Universitas Islam Negeri Maulana Malik Ibrahim; 2020.

[4] Kemendikbud.go.id. Penguasaan Bahasa Asing, Kunci Unggul ASEAN dalam Kompetisi Global. Kemendikbud.go.id [Internet]. 2020 Dec. Available from: https://www.kemdikbud.go.id/main/blog/2020/12/penguasaan-bahasa-asing-kunci-unggul-asean-dalam-kompetisi-global

[5] Senowarsito, Ardini SN. Phonological fossilization EFL learners: The interference of phonological and orthographic system of L1 javanese. 3L The Southeast Asian Journal of English Language Studies. 2019;25:74--85.

[6] Ardini SN, WI MY, Ouwpoly NL. Error analysis of phonetic fossilization uttered by English department students University of PGRI Semarang. Lensa: Kajian Kebahasaan, Kesusastraan, dan Budaya. 2016;6:1--8.

[7] Ahmad YB. Teaching English pronunciation on suprasegmental on students of English education. SHS Web of Conference. 2018;42.

[8] Archvadze E. The problems of first language interference in the process of teaching second languages. English Education Journal. 2012;6:469--483.

[9] Corder SP. The significance of learner's errors. London: Longman;1967.

[10] Selinker L. 1972: Interlanguage. International Review of Applied Linguistics.10:209--231.

[11] Kirkpatrick A. English as a lingua franca in ASEAN: A multilingual model. Hong Kong: Hong Kong University Press; 2010.

[12] Kayyis R, Sari UPI. The impact of Javanese language pronunciation error: How and why? ELT Lectura: Jurnal Pendidikan. 2017;4:60--69.

[13] Sahulata D. An introduction to sound and sound system of English. Jakarta: Departemen Pendidikan dan Kebudayaan; 1988.

[14] Creswell JW, Creswell JD. Research design: Qualitative, quantitative and mixed methods approaches. 5th ed. University of Nebraska: Lincoln; 2019.

icesre 5 fosil

1 Mega Novita, Nugroho Dwi Saputro, Alok Singh Chauhan, Rahmat Robi Waliyansyah. "Digitalization of Education in the Implementation of Kurikulum Merdeka", KnE Social Sciences, 2022
Publication
2%

2 Submitted to Institut Pemerintahan Dalam Negeri
Student Paper
2%

3 www.neliti.com
Internet Source
2%

4 Istiqomah Wulandari, Iis Nur Rodliyah, Fatimah Fatimah. "Using PRAAT for Analysing Segmental Features of Speech Produced by the Students of English Study Program of Universitas Brawijaya", ELTICS : Journal of English Language Teaching and English Linguistics, 2018
Publication
1%

5 jurnal.uisu.ac.id
Internet Source
1%

6 publikasi.dinus.ac.id
Internet Source

1%

7 1library.net
Internet Source

1%

8 Muhtarom, Sugiyanti, R E Utami, K Indriana. "Metacognitive ability of male students: difference impulsive-reflective cognitive style", Journal of Physics: Conference Series, 2018
Publication

1%

9 Yousef Bani Ahmad. "Teaching English Pronunciation of Suprasegmental Features on Students of English Education", SHS Web of Conferences, 2018
Publication

1%

10 philpapers.org
Internet Source

1%

11 de.slideshare.net
Internet Source

1%

12 Submitted to Universitas PGRI Semarang
Student Paper

<1%

13 ejournal.ukm.my
Internet Source

<1%

14 www.tampagov.net
Internet Source

<1%

15   Tri Gia Nguyen, Trung V. Phan, Hai Hoang Nguyen, Phet Aimtongkham, Chakchai So-In. "An efficient distributed algorithm for target-coverage preservation in wireless sensor networks", Peer-to-Peer Networking and Applications, 2020
Publication
<1%

16   digilib.uinkhas.ac.id
Internet Source
<1%

17   eltlt.org
Internet Source
<1%

18   Entika Fani Prastikawati. "Dyned Programme as Computer Assisted Language Learning (CALL) for University Students: A Perception and Its Impact", International Journal of Emerging Technologies in Learning (iJET), 2019
Publication
<1%

19   knepublishing.com
Internet Source
<1%

20   studentsrepo.um.edu.my
Internet Source
<1%

21   Sukma Nur Ardini, Suwandi ., Senowarsito, .. "Secondary Students' Perceptions on Learning Management System in the Midst of Covid-19 Pandemic", KnE Social Sciences, 2022
Publication
<1%

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		