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Preliminary Data on the Use of Juncture as Marker for Phonetic Recall in an EFL Context

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ABSTRACT

The study of juncture in the perspective of the English as a Foreign Language (EFL) context is limited, particularly to the one associated with the recalling process. This research aims to describe a glimpse of the juncture phenomenon by indicating the phonetic recalling process. An experimental method was applied to conduct the research. An experiment involving stimuli to phonetic knowledge was given to participants in the EFL context. There were twenty students involved in this experimental study. Analysed acoustically, the result of the preliminary data shows that junctures may occur during speech production of the stimuli with the indication of the phonetic recalling process at the syllabic level. This indication might refer to the participants' attempt to re-access the phonetic knowledge stored in the brain. The pause duration might mark the occurrence of junctures, indicating phonetic recalling. It was also revealed that the participants' attitudes towards the English might influence the occurrence of junctures. The study showed that junctures happened before pronouncing the words in monosyllabic words. In contrast, juncture might occur in the first, middle, and last syllable in multisyllabic words. The locations of junctures might relate to the most unfamiliar syllable of the words from the participants' perspective. From this perspective, juncture may also occur in other speakers, not only Sundanese but also other foreign languages, not only English. This preliminary research may serve as a foundation to conduct a relevant study on the other local or regional languages in Indonesia.

Keywords: Acoustic, EFL, juncture, phonetic, recall, Sundanese

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INTRODUCTION

Most Indonesians are multilingual (Halim, 1971). It is a fact that Indonesia consists of diverse ethnic groups, cultures, and languages. Many experts concur that multilingualism is complex (Cenoz, 2013; Halim, 1971; Zarobe & Zarobe, 2015). Briefly, multilingualism refers to one's ability to speak more than two languages (Malechová, 2016; Rasman, 2018). Stein-Smith (2021) states that at least half of Earth's population is bilingual or multilingual. Cenoz (2013), Bolton et al. (2020), Albury (2021), and Chik and Melo-Pfeifer (2023) argue about societal multilingualism concerning the ability of societies to acquire more than one language.

The notions proposed by many experts above may be reflected in Indonesia. A report on languages in Indonesia suggests that Indonesia is compromised by three major languages, namely a national/official language, regional languages, and foreign languages (Riza, 2008). The official language refers to *Bahasa Indonesia*. The regional languages consist of various local languages spoken based on ethnic groups and provincial statuses, such as Javanese in Central Java, East Java, and Yogyakarta; Sundanese in West Java and Banten; and others. Meanwhile, foreign languages may include English, Arabic, Chinese, and others. This condition of multilingualism in Indonesia may lead to a complicated situation.

Every language spoken in Indonesia may serve in its capacity. *Bahasa Indonesia* is used in formal situations such as an office or academic environment. Regional languages serve as means of communication among members of ethnic groups where the languages are spoken.

Meanwhile, a foreign language such as English may serve a different level. It has a special place among *Bahasa Indonesia* and regional languages in Indonesia. English has certain privileges in the linguistic spectrum in Indonesia. It is implicated in the Indonesian educational system, used by many young adults and even at the level of officials. In Indonesia, English is compulsory from middle school to high school and even in the first semester in some universities (Alfarisy, 2021). Thus, English is Indonesia's most spoken foreign language (Zein, 2019).

Many experts support English's status as a foreign language in Indonesia in various research (Cohn & Ravindranath, 2014; Kaharuddin & Ahmad, 2018; Widiati & Cahyono, 2006; Zacharias, 2012). Among other foreign languages, English is considered a priority (Lauder, 2008). It is essential in many aspects, including the economy, international relations, media, education, and communication. This view, unfortunately, has resulted in a contradictory situation of multilingualism in Indonesia. A reversed situation is under consideration. Today, instead of regional languages, many Indonesian children have developed Bahasa Indonesia or English as their first language and regional languages such as Javanese as their second language (Zen, 2018). Therefore, the situation of multilingualism in Indonesia is quite complex. Zein (2019)

states that Indonesia is the second largest country in linguistic diversity, with more than 700 local or regional languages. With this condition, Indonesian people are considered trilingual, with local or regional languages as their mother tongue or first language, *Bahasa Indonesia* as a second language, and English as a foreign language (Lauder, 2008; Riza, 2008; Zein, 2019; Zen, 2018). English as a foreign language is learned, used, and spoken in a non-English speaking country (Peng, 2019).

The attitudes towards language and language usage by the speech community where language speakers belong play an important role. If the speech community considers one language less critical, the rest of its members may have the exact expectations.

The ability to speak more than two languages in a multilingual individual correlates closely with the ability of the brain to store and recall language information. This cognitive ability may relate to executive functions. Executive functions include cognitive processes consisting of three functions: (1) switching, (2) updating, and (3) inhibition (Boumeester et al., 2019). According to them, switching refers to switching more than two tasks (might refer to languages), updating relates to selecting newer and most relevant information, and inhibition concerns the ability to process dominant or automatic responses. These abilities fall within the context of multilingualism.

Bilingual or multilingual individuals have become an exciting subject to explore. Their cognitive ability in language has intrigued many linguistic experts. Baker (2005) believes that two different language systems exist in a bilingual individual. This finding implies that a multisystem of language may also exist in a multilingual individual. In Indonesia, this multisystem of language refers to the trilingual condition of its people, which revolves around the mother tongue or first language, which is local or regional languages, Bahasa Indonesia as the second language, and English as the foreign language. Furthermore, in a multilingual community, its members experience cross-linguistic exposure that may influence speech production (Hamid et al., 2022). Using these three languages has intrigued the present writers to conduct a study.

The study that may relate to the existence of a multisystem of language in multilingual individuals is the switch between these different language systems. How a multilingual individual switches from one language to another in a daily context does make it interesting. Priya and Singh (2017) state that the switch between the different language systems may relate to the hierarchy values of the languages. This hierarchy means that the attitude of a language speaker is involved. The switch between different language systems occurs in the brain, where all information on languages is stored. This switch may be reflected on juncture.

Juncture is a phonetic feature during speech production (Crystal, 2008; Trask, 1996). Juncture or pause can be observed in duration. Experts such as Friederici and

Wartenburger (2010) say that this duration type may be reflected in milliseconds. Concerning the switch between different language systems, juncture may be used as a marker of phonetic recall. Phonetic recall may indicate a successful switch between the different systems of language.

Studies focusing on juncture in multilingual individuals in Indonesia seem to be limited, mainly to involving regional languages native speakers in the context of English as a foreign language. Studies conducted by Perwitasari et al. (2016), Risdianto (2017), and Soni (2018) are the closest. They study the Sundanese native speakers in producing English as a foreign language. However, the notion of a juncture in the recalling process has yet to be considered. This condition has led the present writers to study further the use of juncture as a marker for phonetic recall in an EFL context. This study aims to describe the junctures that indicate the phonetic recalling process.

LITERATURE REVIEW

Phonetic Recalling

The concept of multilingualism cannot be separated from the brain's function of storing information regarding cognitive ability. The brain can learn, experience, store, and recall various knowledge and information (Amin & Malik, 2014; Arifuddin, 2013; Friederici & Wartenburger, 2010). One of this diverse knowledge and information is language. Friederici (2011) suggests that different brain regions may be responsible for particular language functions. A relevant notion is considered that even though it refers to different brain regions, the brain's memory is the most crucial subject when talking about language processing in the brain. Pajak et al. (2016) argue that working memory is related to the development of the language learning process. Lin et al. (2015) relate working memory to phonological representations in the brain. Ari et al. (2019) also support it, stating that working memory influences phonetic performance.

Erickson et al. (1977) may relate working memory to short-term memory. In their research, phonetic confusion in short-term storage affects unsuccessful recall. Successful learning, storing, and recalling processes are associated with long-term memory (Amin et al., 2014). Zhang (2019) states that long-term memory intends to store information for a long period. This notion is associated with the importance of the information. Therefore, should knowledge and information on the language be considered significant, they are stored in long-term memory. Arifuddin (2013) and Zhang (2019) specify language storage in long-term memory. This specification refers to the ability to speak, involving pronunciation/speech articulation, which is considered the most complex skill associated with phonetic coding to identify, represent, and produce sound retrieved from memory (Hu et al., 2013). Arifuddin (2013) relates pronunciation or speech production to the experiences stored in memory. He specifies this memory as phonetic memory. Phonetic memory plays an essential role in identifying sounds. Clark and Clark (1977),

as cited in Arifuddin (2013), describe three stages of speech articulation: (1) the auditory stage, referring to speech acceptance acoustically; (2) the phonetic stage, referring to sound identification and storage in phonetic memory, and (3) phonological stage, referring to process associated with the phonological term in which speech processing must be acceptable to its phonotactic principle. These three stages of speech articulation certainly relate to memory recalling when retrieving knowledge and information during speech production.

More research on recalling related to speech production or pronunciation is needed. Pisoni (1973) studies the association between memory and phonetic capability. Markowitsch (1995), in his research, states that the information retrieved/recalled is quite specific as the memory store, while Wade and Mobius (2010) confirm that knowledge and information, when necessary, can be accessed from memory storage. Recall is one of the three fundamental memory processes, along with encoding and retention (Amin & Malik, 2014). They explain that recall is a process of re-accessing information and knowledge. Zhang (2019) proposes a more detailed explanation regarding memory processing.

Recall is a specific process in memory. It involves other processes, such as encoding, consolidation, and storing. These processes work both ways (Figure 1). If humans perceive from the encoding, they will find the storing process in the memory; otherwise, they may reveal the recalling process. All

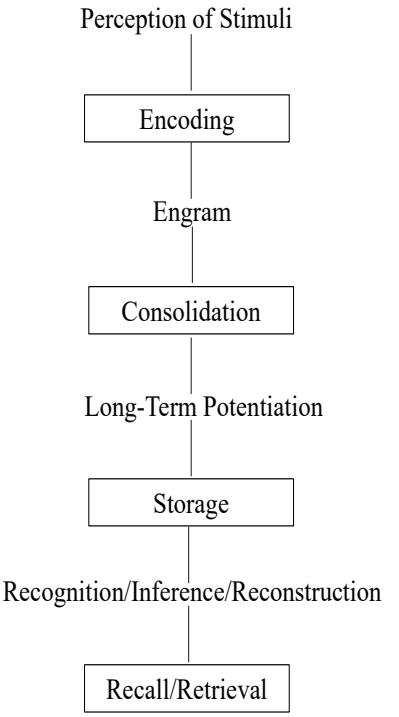

Figure 1. Human memory formation process
Source: Zhang (2019, p. 23)

begins with the perception of stimuli. If it is new, it will be stored. Should it not, the stimuli will trigger the memory to re-access the information relevant to the stimuli. This re-accessing is the recall process itself. The relevant information is the one that has been encoded and stored previously (Zhang, 2019). Thus, certain stimuli trigger certain information and knowledge relevant to them. If the stimuli relate to phonetic and phonological matters, the information and knowledge recalled must also be relevant to phonetic and phonological information and knowledge. This research focuses on phonetic knowledge since it is associated with producing and perceiving speech

sounds (Matthews, 1997). Furthermore, phonetic knowledge contributes more, particularly prosodic information relating to an acoustic signal of speech production and perception (Hawkins, 2003). An exciting notion indicating phonetic knowledge during recalling is a pause or juncture in this research.

Many experts call juncture pausing (Boomer, 1965; Clay & Imlach, 1971; Shimizu & Dantsuji, 1980). Trask (1996) specifies juncture as a boundary signal part of a phonetic feature. In line with Trask (1996), Crystal (2008) also explains that juncture is a phonetic boundary with features, including pitch, duration, and pause. Ibrahim (2008) suggests that juncture may refer to the relationship among sounds in speech production. Meanwhile, Sedeng (2016) specifies this relationship on a grammatical level. However, a specific and more detailed definition is given by Demirezen (2013, 2019). He explains that juncture is borderline, indicating border, transition intra- and inter-words marked by pauses. Its features include prosodic ones such as stress, pitch, and duration.

A juncture marked by pause duration has existed since many years ago. Studies conducted by Hoard (1966), Heselwood et al. (1995), Greenberg et al. (2002), Redford and Randall (2005), and Setter et al. (2014) reveal that pauses indicated by various time durations may signal juncture. Friederici and Wartenburger (2010) suggest that this duration may indicate brain signals within milliseconds (ms). The indication of varied pause duration in juncture may relate to an individual's bilingualism and multilingualism. A study by Baker (2005) finds two phonetic/phonological systems in a bilingual individual, indicating that these two systems interact and may influence language processing in the brain. Priya and Singh (2017) discuss phonological systems in a multilingual society. They are concerned about the hierarchy values underlying the increase and loss of the phonological systems in a multilingual society. The pause duration may indicate a switch between the two systems. Such a notion that juncture is signalled by pause duration in multilingual individuals has intrigued the present writers to conduct further research. Moreover, this juncture may indicate a recalling process in the brain while re-accessing different phonetic systems.

METHOD

This research used an experimental method with qualitative description analysis. It was a method conducted on a group or more involving a specific treatment that might affect the result of the study (Creswell, 2014). The research involved twenty students with specific backgrounds regarding English as a foreign language.

Participants

At the beginning of the study, the present writers asked thirty students to participate in this experiment. However, there were only twenty students who were willing to participate. This group of twenty students with specified backgrounds was selected.

They were Sundanese native speakers, born and raised in the Sundanese-speaking region of West Java. When the experiment was conducted, the participants studied the Sundanese language at the Sundanese Department of the Faculty of Cultural Studies, P University. The participants were selected and classified through an in-person interview, considering their attitude towards English as a foreign language. The purpose of this attitude, considering English as a foreign language, was the variable that might reveal the different phonetic systems when re-accessing during speech production. The twenty participants were 18 to 20 years old during the experiment.

Stimuli

Twenty English words were provided and given to the participants. For the research, these words were selected by their unfamiliarity, the number of syllables of the words, and phonotactic combinations. The unfamiliarity of words is the less frequent use of the words in English as EFL. This unfamiliarity acted as a stimulus for the recalling process from the phonetic knowledge of the participants. Meanwhile, the number of syllables was considered the experimental variable for indicating the juncture between and among syllables. Monosyllabic and multisyllabic words were selected as the stimuli. The phonotactic combination was also considered an experimental variable acting as a stimulus. The Sundanese phonotactic was mainly composed of three combinations: (i) consonant-vocal (CV), (ii) vocal-consonant (VC), and (iii) double consonants (CCVC) (Syahrin, 2014). Therefore, the English words acting as stimuli were considered to have a more complex combination than the Sundanese. Thus, the twenty stimuli words were *myrrh, phlegm, phloem, phlox, phwoah, phylum, tuft, thyme, tyre, zephyr, daguerreotype, diaphanous, euphony, flibbertigibbet, frowsty, kerfuffle, lackadaisical, scrumptious, surreptitious,* and *unperturbed.*

Myrrh was selected because it was composed of consonants only visually, and such a composition existed neither in Sundanese nor *Bahasa Indonesia*. This composition acted as a stimulus for visual perception before pronouncing the word. The words such as *phlegm, phloem, phlox, phwoah, phylum, tuft, zephyr, diaphanous, euphony, flibbertigibbet, frowsty,* and *kerfuffle* were selected due to the sound [f] contained in each word. Regarding phonetic and phonological stereotypes, Sundanese native speakers are known to be unable to produce the sound or consonant [f]. Meanwhile, the words *thyme, tyre, daguerreotype, lackadaisical, scrumptious, surreptitious,* and *unperturbed* were selected because of their unfamiliarity and less frequent use in the EFL context.

Procedure

The research is a phonetic acoustics study. It focuses on the acoustic signal of speech production. The experiment took two weeks of duration. The first week was the data collection process and validation, and the second was the acoustic analysis of the data,

including follow-up in-person interviews for selected participants who showed significant results. First, the participants were brought into a particular chamber. This particular chamber is called a telephone-booth-size chamber in a language lab. The chamber was generally used for pronunciation research as it cancelled noise. They were briefed on the instructions for the research. The data collecting process was conducted one by one participant.

One computer and one Digital Voice Recorder (DVR) were in the chamber. Each participant was instructed to sit before the computer and put the DVR close to their mouth. One by one, the twenty English words were displayed on the computer screen, and the participants were asked to pronounce the words. After the pronunciation data were collected, they were validated. The present writers asked Dr. M to validate the data collected from the participants. Dr. M is an English phonetics and phonology lecturer at the same university where the present writers experimented. After validation, the data was uploaded into PRAAT software to be analysed acoustically. The acoustic analysis focused on the spectrogram of fundamental frequency (F0) and duration of the data. Each data of the English word pronunciation was analysed thoroughly at the syllabic level. Each syllabic of every word was checked and analysed in its spectrogram of the fundamental frequency (F0) and duration. The PRAAT software would automatically show the spectrogram of the frequency fundamental (F0) and total duration on the selected syllables. After the data analysis, a follow-up interview was conducted with several participants who showed promising data regarding their attitudes towards the English language.

RESULTS AND DISCUSSION

The Presence and Duration of Junctures

Tables 1 and 2 are the results of the phonetic analysis on PRAAT regarding the pronunciation of the stimuli by the participants. The acoustic analysis emphasises the pause duration at the syllabic level of the words. Table 1 shows twenty English words as the stimuli of the experimental study, along with the number of participants involved. These participants are referred to numerically (e.g., P1 as Participant 1, P2 as Participant 2).

Table 1 contains the analysis result of junctures during the experiment of participants producing English words. Twenty participants were asked to pronounce twenty English words selected through their unfamiliarity, the number of syllables, and phonotactic constraints. The result showed that out of 400 attempts to pronounce the stimuli words, there were at least 108 successful speech productions. The sums of junctures by both stimulus and participant are also shown in the table. Please note that these successful productions were at the syllabic level because the research focused on junctures at the syllabic level. Thus, the presences shown in Table 1 are the successful junctures at the syllabic level marked by successful speech or sound production of the following syllables.

Table 1
Analysis of junctures' presence during pronouncing English words

Words	Junctures presence by participants (P)																				Sum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Myrrh	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	√	-	2
Phlegm	-	-	-	-	√	-	-	-	√	√	√	-	√	√	√	-	-	-	√	-	8
Phloem	-	√	-	-	√	-	-	-	√	√	√	√	√	√	√	√	-	-	-	-	10
Phlox	-	√	-	-	√	-	√	-	√	√	√	√	√	√	√	√	-	-	√	-	12
Phwoah	-	-	-	-	-	-	-	-	√	√	√	√	-	√	√	-	-	-	√	-	7
Phylum	√	-	-	-	-	-	-	-	√	√	√	√	-	√	√	-	-	-	-	-	7
Tuft	√	-	-	-	-	-	-	-	√	-	-	-	√	-	-	-	-	-	-	-	3
Thyme	√	√	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Tyre	√	√	-	-	-	-	-	-	-	-	-	-	-	-	√	-	-	-	-	-	3
Zephyr	√	√	-	-	√	-	-	-	√	-	-	-	-	-	-	√	-	-	-	-	5
Daguerreotype	-	-	-	√	-	-	√	-	√	√	-	√	√	-	-	-	√	-	-	√	8
Diaphanous	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Euphony	-	-	-	-	-	-	√	-	-	-	√	√	√	-	-	-	-	-	-	-	4
Flibbertigibbet	-	√	-	-	√	-	-	√	√	-	√	√	√	√	√	-	-	-	-	-	9
Frowsty	√	√	-	√	√	√	-	√	√	√	-	√	√	-	-	√	-	-	-	-	11
Kerfuffle	√	√	-	√	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-	4
Lackadaisical	√	-	-	-	-	-	-	-	-	-	-	√	√	-	-	-	-	-	-	-	3
Scrumptious	-	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-	1
Surreptitious	√	-	-	√	-	-	-	-	-	-	-	√	-	√	-	-	-	-	-	-	4
unperturbed	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Sum	10	8	0	5	8	1	3	2	10	8	7	11	9	7	7	4	1	0	4	1	

Meanwhile, the ones that do not show the presence of junctures mostly fail to produce the correct sounds. The duration of the successful junctures in Table 1 is described in Table 2.

Table 2 shows the duration of successful junctures in milliseconds (ms). The data shown are at the syllabic level. The successful junctures in the middle or end of the words or the last syllable are marked by the successful sounds produced. For example, in the word 'Daguerreotype,' most of the successful junctures occurred in the last syllable of the word, that was (-type); thus, in Table 2, it was marked by [-taɪp] followed by the duration of the juncture. The unmarked ones were the successful junctures that occurred at the beginning of the words or in the first syllable. Table 2 shows that the duration of successful junctures varies from the shortest (17.2 ms) to the longest (1314.2 ms). These durations differ due to various stimuli and the participant's ability to recall and produce sounds. Perhaps several examples of the stimuli analysis may better explain what happened during the speech or sound productions.

Table 2
The duration of junctures in milliseconds (ms)

Words	Details of junctures in duration (millisecond/ms)
Myrrh	P5: 324.5; P19: 114.8;
Phlegm	P5: 78.2; P9: 68; P10: 80.8; P11: 122.7; P13: 73.5; P14: 155; P15: 78.5; P19: 83.2;
Phloem	P2: 81.9; P5: 89.5; P9: 110; P10: 105.6; P11: 100.6; P12: 151.2; P13: 132; P14:131.1; P14: 159.4; P16: 55.1;
Phlox	P2: 51.3; P5: 81.2; P7: 44.9; P9: 115.2; P10: 76.3; P11: 150.3; P12: 299.6: P13: 65.5; P14: 117.1; P15: 188.2; P16: 72; P19: 129.3;
Phwoah	P9: 113.6; P10: 83.7; P11: 160.7; P12: 183.7; P14: 158.9; P15: 108.9; P19: 65;
Phylum	P1: 47.7; P9: 81.1; P10: 79.6; P11: 118.5; P12: 113.6; P14: 105.7; P15: 80.7;
Tuft	P1: 26.5; P9: 17.2; P13: 63.4;
Thyme	P1: 143.8; P2: 93; P5: 165.4;
Tyre	P1: 79.6; P2: 60.5; P15: 171.6;
Zephyr	P1: f 136.5; P9: f 110.3; P16: f 56.9;
Daguerreotype	P4: taɪp 543.2; P7 taɪp 231; P9: taɪp 110.8; P10: 71.9; P12: taɪp 124.8; P13: taɪp 164.1; P17: taɪp 288.8; P20: taɪp 1314.2;
Diaphanous	P1: f 206.8;
Euphony	P7: f 175; P11: f 176.8; P12: f 142.4; P13: f 135.9;
Flibbertigibbet	P2: 143.8; P5: 170.2; P8: 192.4; P9: 113,6; P11: 161.3; P12: 242.3; P13: 165.8; P14: 211; P15: 101.2;

Table 2 *(Continue)*

Words	Details of junctures in duration (millisecond/ms)
Frowsty	P1: 97.4; P2:56.4; P4: 103.3; P5: 114; P6: ti 718.6; P8: 130.8; P9: 105.2; P10: 76.8; P12: 274.2; P13: 100.1; P16: 84.8;
Kerfuffle	P1: f^1 48.2; f^2 44.6; P2: f^1 75.3; f^2 25.9; P4: f^1 109; f^2 61.7; P12 f^1 118.3; f^2 214.3;
Lackadaisical	P1: zɪ 105.5; kl 64.5; P12 deɪ 85.2; kl 146; P13: 1178.4;
Scrumptious	P10: 348.4;
Surreptitious	P1: tɪʃəs 267.2; P4: tɪʃəs 465.8; P12: tɪʃəs 421.1; P14: tɪʃəs 376.1;
unperturbed	P4: tɜːrbd 218.1

Analysis of the Spectrograms

The following spectrograms are the results of several examples of what happened during the experiment on pronouncing the stimuli words. Four examples are representative of the results of the experiment. The words are 'myrrh', 'phloem', 'surreptitious', and 'daguerreotype'. The first example is the word 'myrrh.'

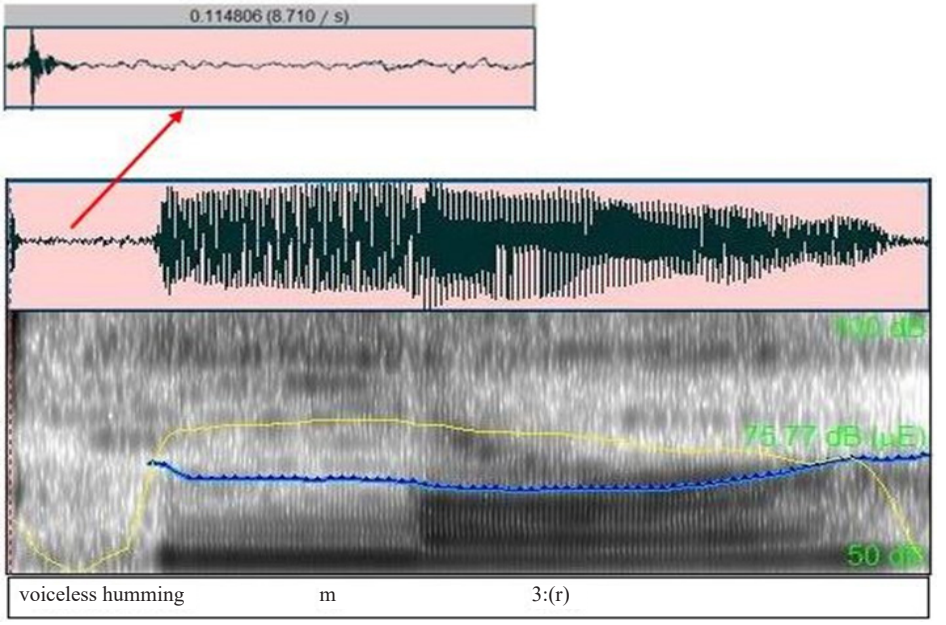

Figure 2. Spectrogram of 'Myrrh' by P19

Figure 2 shows the spectrogram of 'myrrh' produced by Participant 19 (P19). As seen in the spectrogram, a voiceless humming was detected preceding the production of the word. This voiceless humming was considered when the participant re-accessed and recalled the phonetic knowledge, resulting in the correct speech or sound production of the word 'myrrh' [m3:(r)]. This voiceless humming

lasted for 324.5 ms and was considered a successful juncture. The result of the acoustical analysis shown in the spectrogram (Figure 2) is similar to that of 'myrrh' by P5 (Figure 3), considered a successful juncture. A similar feature refers to the voiceless humming preceding the correct sound production of the word 'myrrh.' This feature of voiceless humming was considered a juncture because, at this moment, it was suspected that the participant tried to re-access or recall the phonetic knowledge to produce the correct sound. As a result, it was confirmed that the participant successfully produced the correct sound of 'myrrh' [m3:(r)]. Thus, it is safe to say that a juncture occurred before pronouncing the word.

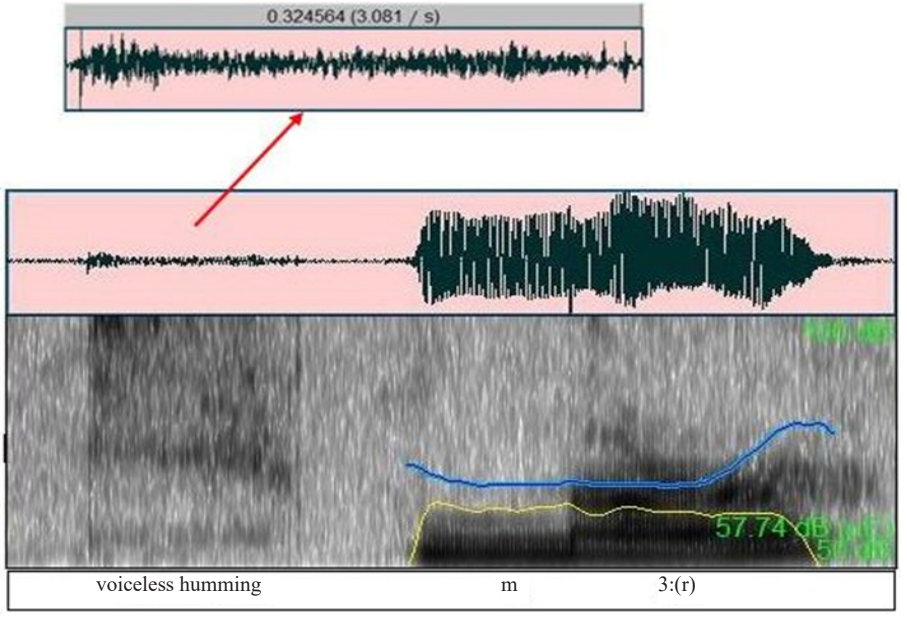

Figure 3. Spectrogram of 'Myrrh' by P5

The word 'myrrh' is selected because no word in Sundanese, even in *Bahasa Indonesia*, is arranged only by the consonant. Therefore, the present writers expected that all participants failed to pronounce the word. Surprisingly, there were two participants, namely, Participant 5 (P5) and Participant 19 (P19), who successfully pronounced and produced the correct sounds [m:3(r)], and the junctures in both participants' data were detected. Data of successful junctures and unsuccessful ones are compared for a better understanding.

Figure 4 describes the spectrograms of 'myrrh' produced by Participants 3 (P3) and 18 (P18). These participants were selected because only these two did not show any juncture in the experiment. During the interview, P3 and P18 considered English less important than Sundanese

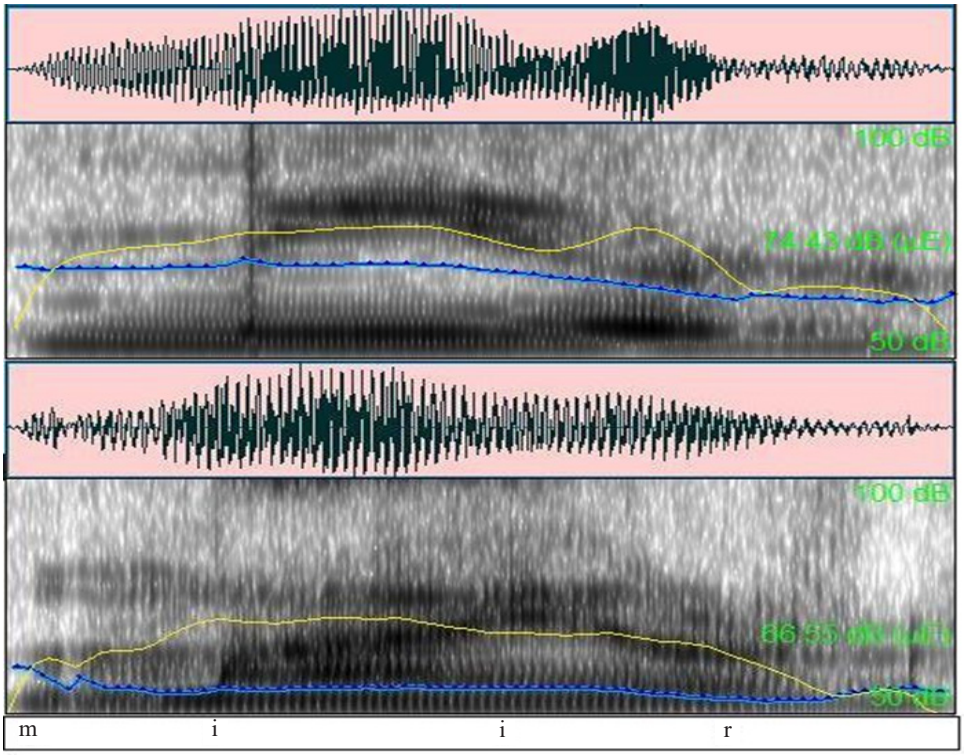

Figure 4. Spectrograms of 'Myrrh' by P3 and P18

or *Bahasa Indonesia*. This attitude may relate to the language ideology of both. Many experts argue that language ideology refers to a speaker's beliefs, feelings, and attitudes towards a certain language (Sheard, 2019). As cited in Sheard (2019), Johnstone proposes that this ideology affects a speaker's use of language, including language choice, register, and even social identity. Therefore, P3 and P18 have not felt obligated to learn or master English since the essential language they consider is Sundanese. As seen above, the forms of the spectrograms are similar and do not indicate the junctures' presence. Both participants pronounced [miir] instead of [m3:(r)].

As explained before, P3 and P18 have not felt obligated to learn or master English because the most important language is Sundanese. This attitude towards the English language differed from the rest of the most successful participants who showed junctures. In a follow-up interview, participants such as P1, P2, P5, P9, P10, P11, P12, P13, P14, P15, and P19 (this participant was considered due to successful pronunciation of *myrrh*) have shown different attitudes from P3 and P18. They considered English an international language used on various levels and occasions. They saw English as a helpful language at some point. Therefore, they have felt the necessity to learn English to a certain degree.

Wibisono et al. (2004) conducted research relating English word familiarity to pronunciation. They revealed four conclusions: (1) familiarity leads to correct pronunciation, (2) familiarity leads to incorrect pronunciation, (3) non-familiar words are pronounced correctly, and (4) non-familiar words are pronounced incorrectly. Of their research, at least two conclusions relate to this study. The first conclusion refers to familiarity leading to correct pronunciation. The more familiar the words are, the better they are pronounced correctly. The second conclusion is that non-familiar words are pronounced correctly. Wibisono et al. (2004) state that this conclusion is drawn simply due to human nature; "… the nature to be more careful when faced to something new" (p. 53). Does this mean it is a coincidence that people can pronounce non-familiar words correctly? A recent study on language familiarity may have the answer. Shinozuka et al. (2021) studied language familiarity and proficiency in the translation process between L1 and English as L2. They experimented on participants with elementary and advanced English proficiency. Their study revealed different brain activation patterns among the participants with varied English proficiency and familiarity. When translating less familiar words, there was greater activation in a specific brain area, namely Broca's area, and the same activation was not detected in familiar words. This activation may relate to people trying to access the language knowledge stored in the brain when treating less familiar words. This notion is similar to this research, where the participants attempted to recall their specific knowledge of English during the experiment pronouncing English words.

As seen in Table 1, the junctures during the experiment mainly occurred in words containing the sound [f]. The present writers expected it due to the phonological stereotype of Sundanese native speakers. Initially, the Sundanese phonological system does not have a consonant [f]. Should it be found in the Sundanese phonological system, it may result from foreign language influence (Sudaryat et al., 2013). Sundanese native speakers are notoriously incapable of pronouncing consonant [f] simultaneously. Instead of pronouncing [f], the Sundanese native speakers tend to produce [p], a plosive-bilabial consonant.

The word 'phloem' was selected as the representative example of the acoustic analysis. During the experiment, the longest juncture relating to pronouncing consonant [f] occurred in the word 'phloem' by Participant 15 (P15). Therefore, the juncture data of this word is reasonably representative of understanding the occurrence of juncture compared to P18's spectrogram, which did not show a successful juncture.

As described in Figure 5, Participant 18 (P18) produced the phloem's spectrogram. The spectrogram shows no juncture detected during the production of the word 'phloem.' The P18 produced the consonant [p] instead of [f] as it was supposed to. Instead of producing a fricative consonant [f], the P18 produced a plosive-bilabial consonant [p]. In the Sundanese speech community,

words containing a sound or consonant [f] are expected to be produced as the sound or consonant [p]. Perhaps this relates to the phonological stereotype of Sundanese native speakers incapable of producing the sound or consonant [f]. Thus, 'phloem' was pronounced [ploem] instead of [flǝʊem]. Fortunately, contrary results were found during the experiment, and one of them was the word production by Participant 15 (P15).

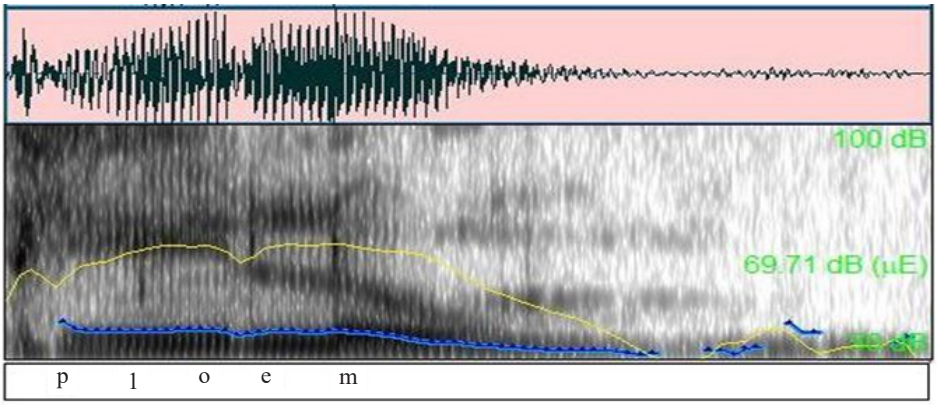

Figure 5. Spectrogram of "Phloem' by P18

Figure 6 below shows the spectrogram of the word phloem produced by Participant 15 (P15). The spectrogram shows a different contour from the one in Figure 5. Preceding the production of the word 'phloem,' a fricative airflow was detected. This fricative airflow might signal the correct sound [f] production in the word 'phloem.' A recalling process was suspected to occur during this timeline of airflow. It lasted for 159.6 ms. P15 successfully produced the sound or consonant [f].

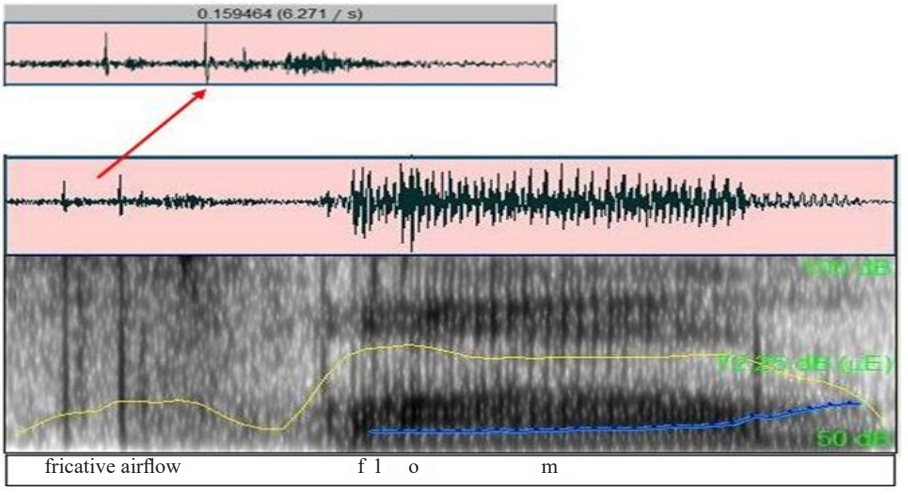

Figure 6. Spectrogram of 'Phloem' by P15

However, even though it was a successful juncture in producing sound or consonant [f], the rest of the word was mispronounced. P15 pronounced the word 'phloem' as [flom] instead of the correct one, [flǝʊem]. Similar contours of the spectrograms were detected while pronouncing the stimuli words containing sound and/ consonant [f] (phlegm, phloem, phlox, phwoah, and phylum). In those spectrograms, fricative airflows preceding the correct sound production of [f] were visible. The words 'myrrh' and 'phloem' represent examples of the junctures that occurred at the beginning of the sound production, or we may say that the juncture occurs in the first syllable of monosyllabic words.

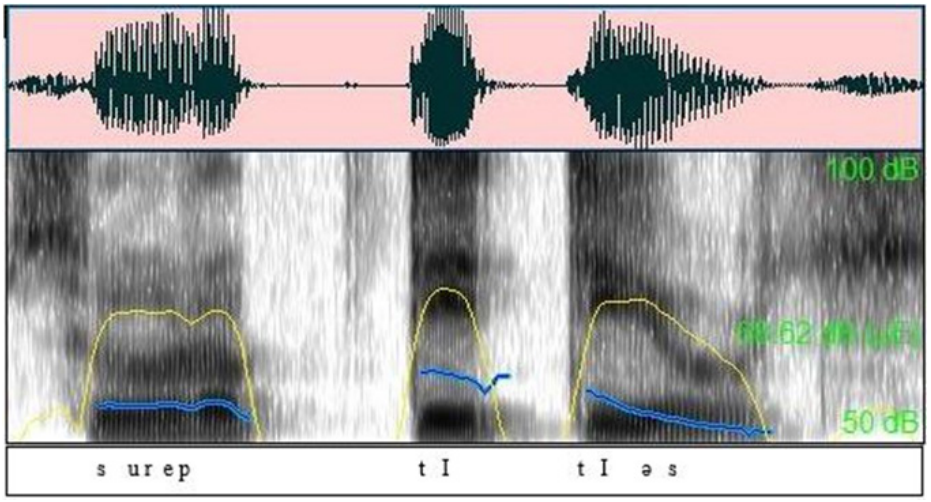

Figure 7. Spectrogram of 'Surreptitious' by P18

The junctures in the middle of the words may be represented by 'surreptitious.' Figure 7 shows the spectrogram of the word 'surreptitious' by Participant 18 (P18). The juncture may be between the second and the third syllables (-ti-) and before the last syllable (-tious). However, the junctures were unsuccessful since both failed to produce the correct sound of the following syllables. These unsuccessful junctures indicate a failed phonetic recalling process. Most of the spectrograms of other participants who failed 'surreptitious' production have similar contours to Figure 7.

The word 'surreptitious' was selected to represent the juncture in the middle of the word because the juncture detected in the word was the longest. Such a juncture is shown in Figure 8. It is the spectrogram of 'surreptitious' production by Participant 4 (P4). It can be observed in Figure 8 that the spectrogram is different from the one in Figure 7. A successful juncture was detected during this word's production experiment by P4. Unlike the spectrogram in Figure 7, the

spectrogram in Figure 8 shows one juncture only, that is, between the second syllable (-rep-) and the third syllable (-ti-). Although there is only one juncture in the whole word's production, it is a successful juncture as the P4 produced the sounds of the last two syllables correctly [-tɪʃəs], and the duration of the juncture was recorded for 465.8 ms. Similar to the case of Figure 7, the contours of the spectrograms containing junctures by other participants in the word 'surreptitious' are almost identical to Figure 8.

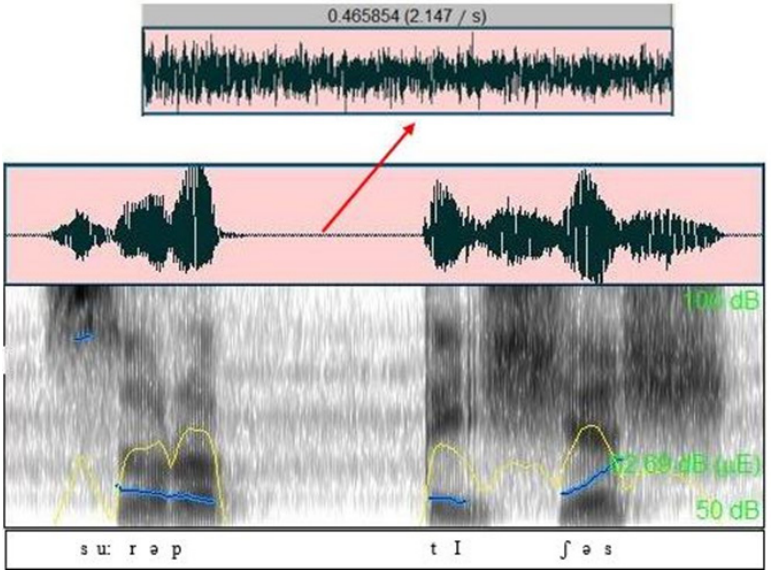

Figure 8. Spectrogram of 'Surreptitious' by P4

The fourth word that may represent a better understanding of juncture is 'daguerreotype.' The juncture detected in this word occurred in the last syllable. The spectrogram analysis without successful juncture is also provided as a previous explanation. Figure 9 shows the spectrogram of the word 'daguerreotype' produced by Participant 18 (P18). It can be observed that the spectrogram shows a juncture in the last syllable of the word (-type). Although a juncture was detected during the experiment, it was unsuccessful, as P18 failed to produce the correct sound of the last syllable. Instead of producing [-taɪp], P18 pronounced [-tip] for the last syllable (-type). Therefore, this research did not include such a juncture since the recalling process was also a failure.

Figure 10 shows the daguerreotype spectrogram produced by Participant 20 (P20). This spectrogram was selected because it was the most suitable one among all spectrograms showing successful junctures. It was also the longest juncture detected during the experiment. As seen, the juncture occurred in the last syllable of the word. It lasted for 1314.2 ms. Even though P20 failed to produce the correct sounds of

the first two syllables (da-guerreo-), the last syllable (-type) was successfully pronounced [taɪp]. A long pause was detected for 1314.2 ms preceding the pronunciation. During this juncture, P20 was suspected of re-accessing or recalling the phonetic knowledge to produce the correct sound of the last syllable. Thus, this juncture may be regarded as a successful juncture indicating the phonetic recalling process.

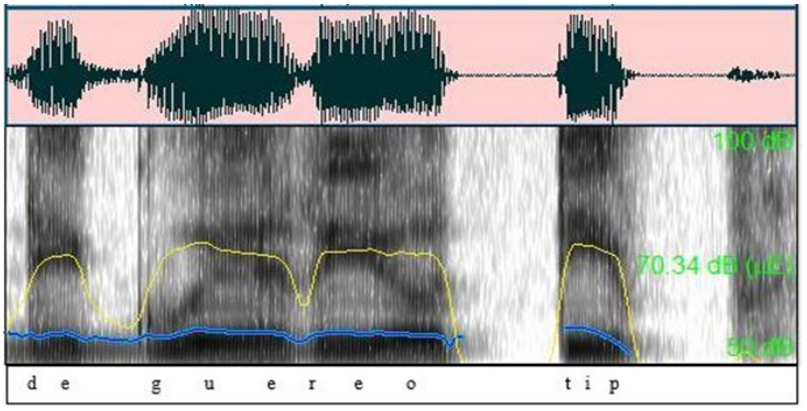

Figure 9. Spectrogram of 'Daguerreotype' by P18

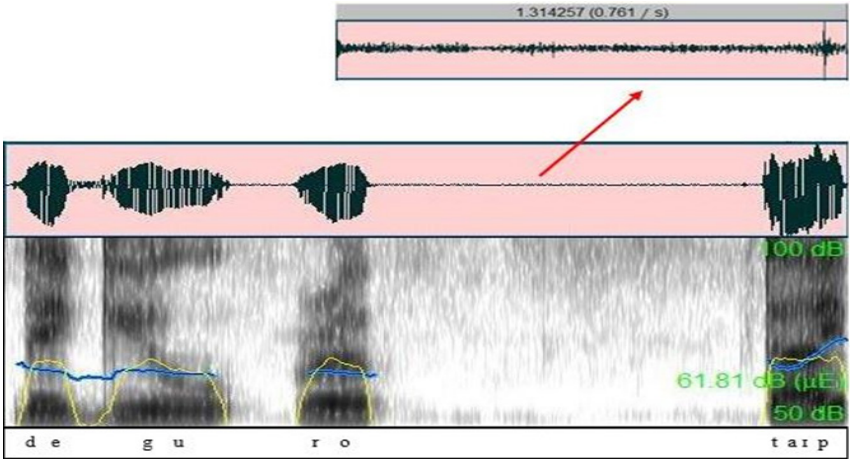

Figure 10. Spectrogram of 'Daguerreotype' by P20

Twenty students were involved in pronouncing twenty unfamiliar English words in this experimental research to detect junctures relating to the phonetic recalling process. The result showed that junctures indicating the phonetic recalling process were detected. These junctures occurred in different locations at the syllabic level of the words. The durations of junctures were also varied, and the locations where the junctures might occur seemed random or unpredictable. However, there was an

indication that junctures might occur in the most unfamiliar syllable of words. In this research, most junctures occurred in words or syllables containing sound or consonant [f].

Perhaps this relates to the fact that the participants (Sundanese native speakers) are well-known to be unable to produce such a sound or consonant since it is not in the original phonological system of the Sundanese language. During a follow-up interview with several participants, this notion confirmed that the sound or consonant [f] was the most anticipated sound to pronounce correctly. Notice that this recalling process might be influenced by the phonological system of the participant's mother tongue. Such a notion is confirmed by many studies conducted on the first language (L1) experience on non-native perception, that this experience may help identify and process unfamiliar language features (Tsukada, 2019).

Furthermore, this experimental research was not designed to reveal why the durations of junctures varied. Successful junctures involve a specific process called recall in the brain, and phonetic knowledge of the participants affects this recalling process. Therefore, each participant may have a different result in the duration of the junctures. This notion must be explored further in future studies.

CONCLUSION

Juncture is a phonetic feature marking the boundary between and among the words. However, it is not limited to the larger unit, such as words. This research shows preliminary data of junctures that may as well occur at the syllabic level. The junctures at the syllabic level may be associated with the recalling process, particularly in the EFL context. This recalling process indicates that the speakers try to re-access the phonetic knowledge and information stored in the brain. Junctures marking the recalling process occur in milliseconds, showing how fast the process is. In this experimental research, the junctures varied from the shortest (17.2 ms) to the longest (1314.2 ms). The participant's attitude towards the English language may influence these variations of junctures. It can be observed that the participants consider English to be an unimportant language and show fewer junctures and even no junctures at all when pronouncing English words. In contrast, those considering English a helpful language show more successful juncture. Furthermore, the phonological stereotype of the participants correlates as well with junctures as most junctures detected relate to this stereotype, which in this research is the stereotype of pronouncing the sound or consonant [f].

This research revealed that in monosyllabic words, junctures occurred preceding the pronunciation of the words. In contrast, junctures may occur in multisyllabic words' first, middle, and last syllables. The locations of junctures might happen in the most unfamiliar syllables of the words. The pause duration feature between the syllables identifies junctures. However, in this research, not all pause

duration features show junctures because successful junctures are marked by the successful pronunciation of the following syllables, confirming the phonetic recalling process. Even though it is only preliminary research, this recalling process marked by junctures may be possible. Its implication suggests that such junctures may occur in other speakers, not only Sundanese but also other foreign languages, not only English.

Implications for Practice

The research has found that junctures in an EFL context may relate to phonetic recall. Furthermore, the junctures marking the phonetic recall occur at the syllabic level and in milliseconds (ms). This finding shows that phonetic recall between two language systems is fast. This research also revealed that speakers' attitudes towards the English language might influence the successful junctures. This finding has also informed us that a positive attitude towards English may lead to successful phonetic recall. Therefore, through this research, a positive attitude towards English may result in better phonetic knowledge and pronunciation of English.

Limitation of Study and Recommendation for Future Research

This study is only a preliminary. It involved twenty students who were asked to pronounce twenty unfamiliar English words in the Sundanese EFL context. The English words were carefully selected based on the Sundanese's phonological stereotype and phonotactic constraints. One hundred eight successful junctures were detected, displayed and described in Table 2. However, the spectrograms of these 108 successful junctures cannot be input all because of limited spaces in this article. Therefore, those who need them may contact the corresponding author if necessary. This study used limited data on participants and pronunciations. Thus, future studies must consider a more extensive data pool and stimuli, not only from the Sundanese native speakers' community but also the other local or regional languages native speakers' communities in Indonesia, as each speech community has a typical characteristic of phonetic and phonological knowledge that is quite interesting to investigate.

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