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The Intelligibility of Korean-Accented English in the Lingua Franca Context*

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This study aimed to establish an empirical basis for prioritizing English as a Lingua Franca (ELF) instruction by evaluating the importance of "intelligibility" in communication with accented English speakers. It specifically examined the claims surrounding the Lingua Franca Core (LFC) features as the minimum requirements for intelligibility in ELF contexts. The experiment focused on the intelligibility of Korean-accented English (KoE) and general American English (AmE) to Korean-Speaking Learners (KSLs) and Japanese-Speaking Learners (JSLs). The findings indicated that AmE was more intelligible to both non-native English speaker groups. In contrast, KoE's intelligibility was hindered by non-LFC features such as the pronunciation of the dark /l/ sound and specific vowel qualities. These results challenge the LFC proposal and suggest the need for a modified set of LFC features in ELF teaching and learning. The implications of this study are significant for English language education, highlighting the necessity of considering different accents and non-LFC features in ELF communication. By incorporating these aspects into instruction, teachers can better prepare learners for real-world interactions in diverse linguistic contexts. This approach enhances learners' confidence and proficiency in understanding and being understood by individuals from various linguistic backgrounds, fostering successful intercultural exchanges.

[intelligibility/Korean-accented English/English as a lingua franca/pronunciation teaching/accent familiarity]

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I. INTRODUCTION

English as a lingua franca (ELF) refers to "any use of English among speakers of different first languages for whom English is the communicative medium of choice, and often the only option" (Seidlhofer, 2011, p. 7). For non-native speakers in ELF interactions, rather than changing pronunciation to sound like native English speakers, being able to speak intelligibly or at an understandable level with foreign accents has come to be considered an important element in establishing successful communication (Levis, 2018). Jenkins (2000) specified the Lingua Franca Core (LFC) proposal in her seminal work with a list of pronunciation features required for retaining intelligibility in ELF interactions, which have been supported with positive evidence in their pedagogical efficacy (Rahimi & Ruzrokh, 2016). However, not all results suggested that any foreign accent can be intelligible in compliance with LFC assumptions. The phonological features of South Asian varieties of English agree with or support the LFC features/proposal only to a certain extent (Deterding & Kirkpatrick, 2006; Deterding & Mohamad, 2016). Despite this, there is still insufficient data for examining LFC features in the speech of different varieties of English. As Jenkins et al. (2011, p. 289) put it, there is "a certain degree of typicality in the more salient features that occur" in the speech of ELF speakers. Therefore, this study seeks to highlight the LFC features that are most likely to reduce the intelligibility of the variety of an expanding circle country, Korean-accented English.

This study aims to provide an empirical basis for listing priority in foreign language (L2) pronunciation teaching in Korea. It is based on Jenkins' LFC proposal to expand the scope to include ELF communication between English language learners in Asia. Given the lack of studies that test the intelligibility of an NNS' variety of English to other NNS listeners, we compared the results of non-native English speakers (NNSs) more than those of native English speakers (NSs). The one who shares a first language (L1), Korean-speaking learners of English (KSLs), and the other who shows several similarities in English educational context with Korea, Japanese-speaking learners of English (JSLs). Both Korea and Japan reveal strong commitment to academic performance under the centralized education systems. Learning English as a foreign language from elementary to secondary school, the focus of English instruction begins with speaking and listening skills in the elementary level and shifts to build strong grammar, reading, and vocabulary skills in preparation for written assessments (Ho, 2006; Yamada, 2022). The average TOEIC listening comprehension scores for the two countries is over 300 (376 in Korea, 315 in Japan respectively), equivalent to B1 level of Common European Framework for reference for languages (CEFR) (Educational Testing Service [ETS], 2019, 2021). Additionally, students in both countries were reported to manifest a similar accent familiarity toward AmE possibly due to their main sources of language exposure in classroom learning (Chung & Bong, 2017; Matsuura, 2007). Targeting

to KSLs and JSLs in consideration of their educational closeness, the intelligibility of KoE is compared to the degree that every listener recognizes their speech at the word- and utterance-levels correctly (Smith & Nelson, 2006), and problematic features are specified in light of the LFC proposal to draw out what should be prioritized in the ELT context in Korea.

II. LITERATURE REVIEW

1. LFC and Non-LFC Related Features

Jenkins (2000) analyzed pronunciations causing misunderstandings in ELF conversations between Japanese and Swiss-German, and created LFC features with the phonological features that are necessary for achieving intelligibility: (1) all consonants, except dental fricatives and dark 'l'; (2) word-initial and word-medial consonant clusters; (3) difference in vowel length; and (4) tonic stress. She also suggested other features that are least likely to influence intelligibility, and were unproblematic in communication (hereafter referred to as Non-LFC features): (5) dental fricative and dark /l/; (6) word-final clusters; (7) vowel quality; and (8) word stress. The list of LFC and non-LFC classes are shown in Table 1.

TABLE 1
LFC Proposals (Jenkins, 2000)

	LFC features		Non-LFC features
1	Consonants	5	Dental fricative and dark /l/
2	Consonant clusters	6	Word-final clusters
3	Vowel length	7	Vowel quality
4	Tonic stress	8	Word stress

The list of pronunciation essentials (Lingua franca core features; LFC features) by Jenkins (2000) seems controversial. Several studies have advocated for LFC features. Rahimi and Ruzrokh (2016) found a significant pedagogical effect of LFC-based instruction on English pronunciation intelligibility and attitudes for lower-intermediate level high-school students in Iran. Pronunciation training using the LFC-based syllabus for six months helped Iranian students improve recognition and production intelligibility when compared to the control group. Matsumoto (2011) provided evidence that LFC features are minimally required to achieve intelligibility. Using accommodation strategy, language learners can change pronunciation essentials to keep the conversation flowing while maintaining their accents in less important phonological features. These studies have concurred with Jenkins (2000) and have suggested that LFC features should be prioritized in teaching and learning English pronunciation.

In the Asian context, these LFC features have been either partially or fully supported in several studies. Deterding (2013) expanded the varieties of English to South and East Asian countries and identified 183 tokens of misunderstanding between L2 speakers. One reason for this is that pronunciation is a crucial factor that hampers intelligibility and the phonological features that hamper intelligibility more or less overlap Jenkins' (2000) LFC. Deterding and Kirkpatrick (2006) pointed out that speakers in Southeast Asia are likely to use full vowels consistently, resulting in the obscuration of the vowel length contrast. This corroborates the LFC proposal that vowel length contrasts constitute a key feature that needs to be preserved. Sewell (2015) asked 91 listeners in Hong Kong to transcribe the English of Hong Kong broadcasters and found that most pronunciation problems that became apparent pertained to consonantal variations. This accords with the LFC proposal, in which conflations with other consonant sounds can cause misunderstandings. However, in Deterding and Mohamad (2016), some of the non-LFC features played an important role in the intelligibility of South Asian English varieties. Vowel qualities and voicing dental fricatives reduced the intelligibility of five English varieties in Asia. Yet, the LFC proposal in Jenkins (2000) was derived from 40 tokens. Several studies seem to be inconsistent with LFC features.

2. Features Affecting the Level of KoE Intelligibility

Just as several studies have found that LFC features may or may not explain the intelligibility of utterances by speakers of Asian English sufficiently, studies that focused on KoE have produced inconclusive findings vis-a-vis LFC features. Some researchers have suggested that of the four collective features in the LFC proposal, two involving consonant sounds must be preserved if the intelligibility of KoE is to be improved, in keeping with the original proposal by Jenkins (2000). Similar to the LFC proposal, two consonant-related features, namely Consonants and Consonant Clusters, seem necessary in producing something close to near-native/native-like production. For Korean speakers, target words including voiced consonants produced by KSLs are likely to be less successfully recognized, which can be attributed to the absence of voiced consonants in Korean (Chang, 2007; Choi et al., 2016; Kang, 2008; Shin, 2015). Chung et al. (2016) suggested that coda voicing effects were not distinctly observed in KoE, which led to a decrease in its intelligibility. Aside from voicing contrasts, target words including rhotic /ɹ/ have been reported to hinder KoE intelligibility as the Korean lateral has two allophonic realizations /l/ and /ɾ/ (Chung, 2011; Kim, 2015; Shin, 2015). The second formant of the Korean lateral has a higher frequency when compared to the English lateral, which makes conflations between liquid sounds in KoE more difficult to recognize (Park & Jang, 2016). Owing to a few consonant clusters in the L1, epenthetic realizations regardless of word position were suggested to cause lower

intelligibility in KoE (Barrass et al., 2020; Chung, 2021; Chung & Bong, 2019, 2021, 2022). Heo and Park (2012) showed that consonant deletion and erroneous syllable assimilation would affect the intelligibility of KoE, implying that consonant clusters cannot be simplified. In keeping with the LFC proposal, voiced consonants, liquid contrasts, and consonant clusters have been considered important features that have a strong effect on the intelligibility of KoE. Positive evidence supporting a non-LFC feature has been suggested. According to the Korean Orthography of Loanwords by the National Institute of Korean Language (2017), two interdental fricatives in English can be replaced with /s/, and /t/ in Korean. As most substitutions for interdental fricatives are considered conceivable (Jenkins, 2000), those replacements would not cause reduced intelligibility of KoE.

Whereas some studies have supported the claim that the consonant-related LFC features (consonants and consonant cluster) affect KoE intelligibility positively, the findings of previous studies seem inconsistent vis-a-vis the remaining two LFC features: vowel length and tonic stress. Vowel length seems critical in KoE, which confirms the efficacy of the LFC proposal. KSLs are likely to confuse tense-lax counterparts or approximate vowels as Korean does not have a tense-lax distinction (Carey, 2004; Kim, 2010; Shin, 2015). However, the quality of vowels in KoE is important in determining the intelligibility of KoE, which contradicts the LFC proposal. There are fewer Korean vowels than English ones (Kim, 2010; Lee & Cho, 2020; Shin, 2015) and this has led a couple of studies (Barrass et al., 2020; Chung & Bong, 2022) to find that several front (i.e., [i], [ɪ], [ɛ], and [æ]) and two back vowels (i.e., [ɜ:], [a]) spoken by KSLs are less intelligible, as those are difficult or less easy to identify. As vowel qualities were considered to fall outside of the core features, somewhat different findings from the LFC proposal were demonstrated in earlier studies. LFC features in Jenkins (2000) exclude word stress, which is depicted as a *gray area*, and is less important than focus intonation in determining intelligibility. Instead, the proper placement of nuclear stress has been highlighted in the LFC proposal (Jenkins, 2000). However, Korean has no lexical stress (Jeon, 2015), which results in the importance of lexical and tonic stress in L2 for the intelligibility of KoE (Chung & Bong, 2022). In this sense, evidence supporting and contradicting two LFC features, namely vowel lengths and tonic stress, were obtained in previous studies on KoE. Given the ambivalent results on valid LFC features in KoE speech, it seems that comparing KoE intelligibility with intelligibility of a native English variety can help us redefine LFC features in a manner that makes them more robust, should intelligibility be tested on various non-native listener groups. Therefore, drawing on the LFC features illustrated by Jenkins (2000), this study seeks to examine KoE intelligibility by comparing listening performances of both NNS listener groups to single out useful LFC features for KSLs. In the current study, the intelligibility of KoE is explored with attention to JSLs and KSLs, whose countries are close neighbors, addressing the following research questions:

1. Is KoE less intelligible than general AmE to non-native English listener groups?
2. What kinds of LFC features affect the intelligibility of KoE among NNSs?

III. METHODOLOGY

1. Participants

A total of 124 JSLs and KSLs of English in Japan and Korea, respectively, participated. The sample comprised 55 undergraduates in Japan and 69 in South Korea. All participants were aged 18 years and above and had no known hearing difficulties. Their English proficiency levels were measured based on their grammar test score in the Oxford Placement Test 1 (OPT1) (Allan, 2004). There were statistically significant differences in English grammatical competence between JSLs and KSLs [t (122) = -6.402, p = .000]. The average score of JSLs was 61.4 out of 100 (SD = 8.319), whereas that of KSLs was 10.5 points lower, with a mean score of 50.9 (SD = 9.626). To control for possible effects of the differences, the English grammatical competence was included as a covariate in the subsequent analysis. Table 2 presents the background information of the participants in each experiment.

TABLE 2
Demographic Characteristics of Participants

		Gender		Age	OPT1	
	Number of subjects (%)	Male (%)	Female (%)	Range	Mean	Range
JSLs	55 (44.3)	19 (34.5)	36 (65.5)	17-21	61.4	36-79
KSLs	69 (55.7)	43 (62.3)	26 (37.7)	19-26	50.9	28-67
Total	124 (100)	62 (50.0)	62 (50.0)	17-26	56.2	28-79

Note. Japanese-speaking learners of English (JSL); Korean-speaking learners of English (KSLs); Oxford Placement Test Score (OPT1)

2. Audio Stimuli for Listening Test

Two sets of audio recordings were obtained. One was recorded by a native English speaker from Oregon, the United Staes of America (representing a variety of AmE), and the other by a native Korean speaker, a non-native English speaker from South Korea, representing a variety of KoE. The speaker of KoE has resided in South Korea for the majority of her life, but has spent two years in English speaking countries. Whereas different English varieties were used as a speaker variable, speakers shared common elements with individual differences. Both speakers were female, had extensive teaching experience, with both having over a decade of teaching experience in South Korea. Each speaker was asked to read 100 sentences from a script in a listening test as part of OPT1 (Allan, 2004) after receiving

approval to retest from the author. Recording took place in a quiet office, and the recordings were saved in 16-bit wav-format, 22kHz. The audio lengths for native and non-native speakers were 8 minutes 28 seconds and 8 minutes 25 seconds, respectively. Both sets of audio recordings were designed to test the intelligibility of AmE and KoE, and were employed in a listening test, that is, 'the intelligibility test of AmE', and 'the Intelligibility test of KoE' in the experimental study.

3. Procedure

The intelligibility test comprised a binary-choice listening test with 100 items and was conducted in 2017-2018 in Japan and South Korea. The test battery was adapted from the OPT 1 (Allan, 2004). A two-alternative forced-choice task using minimal pair words was conducted to reveal the sounds in KoE that are difficult to identify when compared to a native English variety, AmE. Different audio types, either AmE or KoE, were given to half the participants in each country. Specifically, 26 JSLs and 33 KSLs were provided with audio recordings in AmE, while 29 JSLs and 36 KSLs were provided with audio recordings in KoE. The participants listened to the audio once and marked their answers.

4. Data Analysis

To quantify the intelligibility of KoE and compare its level with native English accent (AmE), it was necessary to exclude outliers in the data. The following criteria were applied and the number of items was narrowed down to 70: (1) only target words of common nouns, except proper nouns (e.g., Dennis, Penny's), and (2) difficulty level of target words, less than B2 in CEFR. The 70 target words in the intelligibility test were coded 1 and 0 for a correct and incorrect answer, respectively. The distinctive features of those 70 minimal pair options were grouped according to the LFC proposal by Jenkins (2000). Analysis of covariance (ANCOVA) was performed to compare the mean rates between varieties of English and linguistic background of listeners. This analysis also accounted for adjustment effects related to syntactic category or grammatical feature differences between the test-taking groups.

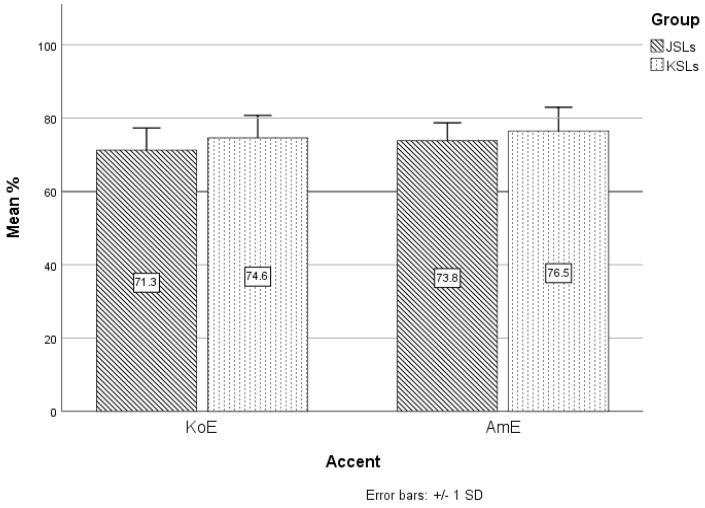
IV. RESULTS AND DISCUSSIONS

1. Comparison by Accent

To address the first research question, the mean correct rates on the binary-choice

listening test (intelligibility test) in KoE and AmE speech were compared. The mean correct rates for both English varieties were above the accepted threshold (> 60%) based on several previous studies on intelligible speech (Monsen, 1981; Smith & Nelson, 2006): Those of KoE intelligibility was 73.1% (*SD* = 6.269); and AmE was 2.2% higher, 75.3% (*SD* = 5.919), which showed a statistical difference, $F(1, 121) = 4.276$, $p < .05$. The overall scores suggest that speech both in KoE and AmE may not necessarily cause problems for the two groups of non-native speakers of English, JSLs and KSLs, in recognition or comprehension. However, KoE appeared less intelligible than AmE to both groups.

FIGURE 1
Mean Correct Percent of Intelligibility Test by Listeners' Groups



The 70 items in Experiment I (forced-choice listening test) were grouped into 8 classes comprising 4 each of LFC and non-LFC features illustrated by Jenkins (2000). Of the 70 items, 56 items contain the four classes of LFC features: 32 items in which confusions arose from consonant minimal pairs were grouped into [1] Consonants; 4 pairs classified into [2] Clusters in which misrecognition caused by pairs with consonant clusters in word-initial and word-medial positions; 15 vowel length difference pairs included in [3] Vowel lengths; 5 items that have a tonic stress difference included in [4] Tonic stress. The rest 14 items embrace the class of non-LFC features: [5] Dental fricatives, dark /l/ included 2 items; [6] Clusters in final consisted of 2 items; [7] Vowel quality involved 9 items in which contributing factor was vowel sounds; and [8] Word stress included 1 item which shown word stress contrast between the target word and its distractor.

Table 3 summarizes the mean accurate recognition rates of correct words either with LFC or non-LFC features in the intelligibility tests of KoE and AmE. Based on the accents,

statistically significant differences were found after controlling for the effect of the test-takers' English proficiency grammatical competence, F (9, 113) = 7.215, p < .001; Wilk's Λ = 0.635, partial η^2 = .63. The two varieties of English had statistically significant effects in four classes of LFC and non-LFC features: the LFC classes [I] Consonants, [II] Consonant Clusters, and [IV] Tonic Stress, and surprisingly, [V] Dental fricatives, which are classified as non-LFC features. There was no significant difference between KoE and AmE in the LFC class, [III] Vowel Length.

TABLE 3
Means and Standard Deviation, and Inferential Statistical Analysis of Listening Test in KoE and AmE for Non-native English-Speaking Groups

Factor	KoE (*M*±*SD*)	AmE (*M*±*SD*)	*F*	*p*	*Partial* η^2
[1] Consonants	73.0±8.584	77.1±6.075	9.2	0.003**	0.07
[2] Clusters	86.9±16.000	80.9±15.632	4.27	0.041*	0.03
[3] Vowel length	81.9±9.770	80.2±9.745	0.9	0.343	0.01
[4] Tonic stress	78.4±14.564	73.9±16.296	3.98	0.048	0.03
[5] Dental fricatives, dark /l/	32.3±28.547	65.3±29.732	38.94	0.000***	0.24
[6] Coda clusters	81.5±28.735	79.7±29.535	0.19	0.658	0
[7] Vowel quality	55.2±17.455	60.5±17.048	3.38	0.068	0.03
[8] Word stress	84.6±36.361	76.3±42.907	1.21	0.273	0.01
Total	73.1±6.269	75.3±5.919	4.27	0.041*	0.03

*p < .05, **p < .01, ***p < .001
Note. df = 1, 121; KoE (*N*= 65); AmE (*N* = 59); LFC factors [1-4]; Non-LFC factors [5-8]

In the first LFC feature, [1] Consonants, target words were recognized with mean correct rates of 73% and 77.1% in KoE and AmE, respectively, showing a statistical difference [F (1, 121) = 9.202; p < .01], indicating that consonant sounds in AmE were significantly more intelligible to both JSLs and KSLs. These results match those found in previous studies, indicating that voiced consonants and liquids can be problematic in facilitating intelligibility as they do not exist in Korean inventories (Chang, 2007; Choi et al., 2016; Kang, 2008; Shin, 2015).

The next LFC feature, [2] Clusters, also showed a significant difference [F (1, 121) = 4.276; p < .05] between two accents. KoE was notably more intelligible to the two non-native listener groups. The results revealed that the intelligibility of the consonant clusters spoken in KoE was 5.9% points higher than those in AmE (p = .041). Rare consonant clusters in Korean predicted epenthetic realizations, which can cause lower levels of intelligibility of KoE (Barrass et al., 2020; Chung & Bong, 2019, 2021). This study showed that consonant clusters in KoE are not likely to hamper intelligibility when they are perceived by non-native listeners.

In the case of the other two features, AmE was notably intelligible than KoE; [4] Tonic stress [F (1, 121) = 3.982; p < .05]; and [5] Dental fricatives, dark /l/ [F (1, 121) = 38.949; p

< .001]. These results were expected given the absence of lexical stress (Jeon, 2015), and dark /l/ (Chung, 2011; Kim, 2015; Shin, 2015) and the common replacement of interdental fricatives by [s] and [d] (National Institute of Korean Language, 2017) in Korean. [5] Dental fricatives, dark /l/ feature showed the greatest significant effect of all (partial η^2 = .24), implying that the target words in [5] Dental fricatives, dark /l/ feature were found to be the major determiner of the intelligibility of the two varieties of English, KoE and AmE. The results in this study suggest that in light of KoE, it may not be adequate to eliminate dental fricatives, dark /l/ from the LFC features targeting KSLs.

2. Comparison by Listener Groups

To answer the second research question, performances on the listening test by two non-native listener groups were compared for each variety of English in terms of intelligibility. Table 4 presents the mean recognition rates in AmE by JSLs and KSLs according to LFC and non-LFC features.

TABLE 4
Means and Standard Deviation, and Inferential Statistical Analysis of Listening Test in AmE for Non-native English-Speaking Groups

	AmE (*M*±*SD*)				
Factor	JSLs	KSLs	*F*	*p*	*Partial* η^2
[1] Consonants	76.8±5.875	77.3±6.312	0.14	0.707	0
[2] Clusters	76.0±16.554	84.8±13.890	0.7	0.406	0.01
[3] Vowel length	78.5±10.208	81.6±9.284	0.77	0.383	0.01
[4] Tonic stress	75.4±11.741	72.7±19.247	0	1	0
[5] Dental fricatives, dark /l/	63.5±26.675	66.7±32.275	1.02	0.318	0.02
[6] Coda clusters	84.6±27.456	75.8±30.926	1.02	0.318	0.02
[7] Vowel quality	54.3±15.179	65.3±17.069	2.83	0.098	0.05
[8] Word stress	69.2±47.068	81.8±39.167	0.1	0.755	0
Total	73.8±4.862	76.5±6.469	1.57	0.215	0.03

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$
Note. df = 1, 56; JSLs (*N* = 26); KSLs (*N* = 33); LFC factors [1-4]; Non-LFC factors [5-8]

JSLs and KSLs found AmE intelligible across the seven classes representing LFC and non-LFC traits as they achieved over 60% of the mean rates. However, the [7] Vowel quality feature appeared somewhat difficult for JSLs as their mean rates were slightly less than 60% (54.3 ± 15.179), inconsistent with the LFC proposal by Jenkins (2000). No statistical differences were found for the seven other features, indicating that Japanese and Korean undergraduates recognized the words in AmE at a similar level despite having statistically different English grammatical proficiency levels. Results of this kind suggest that the accent familiarity of listeners, aside from the learners' proficiency level, would impact the level of

intelligibility with respect to at least the binary-choice task. The most intelligible feature was [2] Clusters with the highest mean rates (M = 80.9, SD = 15.632), when compared to other features; [3] Vowel length (M = 80.2, SD = 9.745); [6] Clusters in final position (M = 79.7, SD = 29.535); [1] Consonants (M = 77.1, SD = 6.075); [8] Word stress (M = 76.3, SD = 42.907); [4] Tonic stress (M = 73.9, SD = 16.296); [5] Dental fricative, dark /l/ (M = 65.3, SD = 29.732); and [7] Vowel qualities (M = 59.8, SD = 16.124).

Table 5 presents the difference in the mean recognition rates and standard deviation from the KoE intelligibility test between two listener groups in light of eight features of LFC and non-LFC qualities. When JSLs and KSLs were asked to identify sounds in KoE, mixed results were drawn. Both JSLs and KSLs found two non-LFC features difficult to recognize in contrast to the LFC proposed by Jenkins (2000). KoE speech was equally difficult to recognize for both groups when the target words contained [5] Dental fricatives, dark /l/ [F (1, 62) = 1.072; $p > .05$; partial η^2 = .02] and [7] Vowel quality [F (1, 62) = 0.544; $p > .05$; partial η^2 = .01] features. These findings show that these two non-LFC features may be a greater problem for KSLs when compared to other LFC features that are considered less problematic in terms of intelligibility.

TABLE 5
Means and Standard Deviation, and Inferential Statistical Analysis of Listening Test in KoE for Non-native English-Speaking Groups

	KoE (M±SD)				
Factor	JSLs	KSLs	F	p	*Partial* η^2
[1] Consonants	69.3±8.057	76.0±7.899	11.532	0.001**	0.16
[2] Clusters	91.4±13.816	83.3±16.903	2.131	0.149	0.03
[3] Vowel length	81.4±8.797	82.4±10.589	0.248	0.621	0
[4] Tonic stress	80.0±16.036	78.9±13.475	0.274	0.603	0
[5] Dental fricatives, dark /l/	29.3±34.114	34.7±23.359	1.072	0.304	0.02
[6] Coda clusters	93.1±17.547	72.2±32.611	5.816	0.019*	0.09
[7] Vowel quality	52.1±21.228	57.7±13.496	0.544	0.463	0.01
[8] Word stress	72.4±45.486	94.4±23.231	5.485	0.022*	0.08
Total	71.3±6.036	74.6±6.129	4.86	0.031*	0.07

*$p < .05$, **$p < .01$, ***$p < .001$
Note. df = 1, 62; JSLs (N = 29); KSLs (N = 36); LFC factors [1-4]; Non-LFC factors [5-8]

Three features highlighted the difference between the two listener groups. Of these, two were better recognized by KSLs than by JSLs. [1] Consonant feature increased the mean rates for KSLs significantly, such that KoE intelligibility for KSLs had 6.7% higher mean rates when compared to those for JSLs with the partial eta squared value [F (1, 62) = 11.53, $p < .001$, partial η^2 = .16]. [8] Word stress showed the benefits of enhancing KoE intelligibility for KSLs (94.4 ± 23.231) than for JSLs (72.4 ± 45.486), with a significant difference [F (1, 62) = 5.485, $p < .05$, partial η^2 = .08]. Finally, there was one feature, namely

[6] Clusters in final position, which JSLs found more intelligible than did KSLs. The mean score of the feature by JSLs was 20.9% higher than that of KSLs, and the difference turned out to be statistically significant [F (1, 62) = 5.816, $p < .05$, partial $\eta^2 = .09$]. Evidence showed that JSLs better identified consonant clusters in the word-final, -initial, and -medial positions, as there was a trend with 8.1% higher scores by JSLs in the [2] Clusters feature.

Taken together, these results from the comparison between listener groups based on the LFC features indicate possible effects of sharing L1 between the speaker and listener on the intelligibility of KoE. However, even if the advantages of sharing L1 were revealed, the features were not particularly less intelligible to the other group, suggesting a weak influence of sharing L1 on KoE intelligibility. KoE was considerably better identified by KSLs when the target words involved [1] consonant sounds and [8] word stress. JSLs also found the words with the same two features intelligible (> 60%).

Two non-LFC features in KoE were less intelligible than those of a native English variety, AmE (Table 3), which calls for attention in the pronunciation training for KSLs. When the two features were compared between both groups, the benefits of sharing L1 was not presented; in other words, the two NNS groups found the two features equally difficult to identify. Therefore, in contrast to the original LFC proposal, the two non-LFC features, [5] dental fricatives, dark/l/ and [7] vowel quality, are likely to merit greater attention in setting the goal in L2 learning and teaching in Korea.

V. CONCLUSION

This study was designed to broaden the scope of investigation beyond the LFC features identified by Jenkins (2000) to list the features that affect KoE intelligibility. It provides additional evidence with respect to the LFC proposal by Jenkins (2000) in the East Asian context. The findings suggest the ambivalent effects of LFC features. KoE is less intelligible when compared to AmE based on the overall mean rates for both non-native listener groups, JSLs and KSLs. However, both non-LFC features, which were suggested to be minor contributors to intelligibility in Jenkins (2000), appeared to give rise to misrecognitions in the current study, which may impede the intelligibility of KoE. It was found in a couple of features that a linguistic background shared between the speaker and listener helped achieve a higher score in the intelligibility test. These results suggest that in consideration of using KoE in ELF communication, the two classes of non-LFC features, namely those related to dental fricatives and dark /l/ and vowel qualities, should be trained to follow the pronunciation patterns of NSs.

Although this study has identified the LFC and non-LFC features that are worth considering in the Korean ELT context, it has a limitation in terms of the selection of the

participants. As both speakers of KoE and AmE have been teaching English for over a decade, it may be different from the random native English speakers and English language learners, less containing representative levels of their varieties of English. Thus, to establish how listeners truly perceived a sound of KoE, less trained on English language would gain more ground.

A further investigation of intelligibility may be advanced by an analysis of diverse factors. A crucial consideration pertains to the variability of the LFC feature set across diverse contexts and speakers. Furthermore, it is imperative to acknowledge the significance of non-LFC features, as they play a crucial role in enhancing the intelligibility of KoE and other linguistic varieties. An important facet that warrants consideration is the impact of AI applications on the intelligibility of KoE and other variations of the English language, as well as their efficacy as facilitators of pronunciation instruction and acquisition. The multifaceted nature of these aspects presents a significant opportunity to gain valuable insights into the intelligibility in ELF communication. This, in turn, can potentially make a meaningful contribution towards the enhancement of more efficient approaches towards teaching English pronunciation to both learners and instructors alike.

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