Fluidity and variation in lexical stress placement in Ghanaian English Discourse: A case for systematicity in communication in world Englishes

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Abstract

Lexical stress is recognized in the literature as an important feature in English interactions. For instance, Hahn (2004) and Field (2005) argue that misplaced stress may lead to comprehensibility and ultimately, communication problems. In spite of this acclaimed importance, Jenkins (2000) excludes lexical stress from the Lingua Franca Core (LFC), a set of features that speakers of English as a Lingua Franca should focus on because it does not hinder intelligibility in English communication. This study investigates lexical stress placement by speakers of Ghanaian English. Data consisting of 13 hours of English conversations from 200 Ghanaian university students were analyzed both auditorily and acoustically. Results suggest that similar to outer and expanding Englishes, Ghanaians show fluidity and variation in lexcial stress placement. From the results, it is argued that stress placement appears to be systematic in both outer and expanding circle Englishes, and this does not appear to negatively affect intelligibility in communication in world Englishes. The paper also concludes that it is crucial for all speakers of English to become accustomed to one another's stress patterning in order to sound intelligible and comprehensible in communicating in world Englishes.

Keywords: Variability, fluidity, lexical stress, Ghanaian English, World Englishes

Introduction

In English interactions, speakers employ different pronunciation features and cues within the context of interaction in order to communicate the meaning that they wish to convey to their interlocutors. One of such features is lexical stress. Lexical stress (or word stress) is a very prominent feature in interactions involving speakers of English. English is a lexical stress language (Cutler, 2012), as such, words with more than one syllable will exhibit some differences in their relative salience. This means that while some of the syllables may receive stress, others may not be stressed. Unlike in some languages (e.g. Akan, Finnish, Hungarian, or Polish), English words have varied stress across syllables, rather than having fixed positions. For example, in a word like PHOtograph, the first syllable has been stressed, while in phoTOgraphy, it is the second syllable that is stressed. Due to its variability,

stress in English may be phonemic, serving to distinguish meaning in words that are identical (cf. Honbolygo & Csépe, 2013; Kijak, 2009; Tremblay, 2007, 2008). For instance, the word *contest* may belong to two separate word classes depending on where the stress is placed. Thus, the placement of stress on one of the syllables in each case determines its meaning. This is exemplified in example (1):

1. a) CONtest "noun"
   b) conTEST "verb"

The differences in the two words in (1) also suggest that lexical stress placement in English enables listeners to understand the nature of English syllables (Arciuli & Cupples, 2006), and as a result has the tendency to affect both intelligibility and comprehensibility. In fact, research (e.g. Field, 2005; Hahn, 2004) suggests that if lexical stress is misplaced, it may lead to miscommunication among speakers of English. This is because it has been found to be extremely crucial in intelligibility, especially in L2 English. Although lexical stress is said to be crucial for intelligibility, there is divided opinion over the exact extent of its effect. For example, while there are studies that argue that misplacing lexical stress impact negatively on intelligibility (e.g. Anderson-Hsieh, Johnson, & Koehler, 1992; Bond, 2005; Van Donselaar, Koster, & Cutler, 2005; Zielinski, 2008), there are others which claim that stress misplacement has little or no effect on intelligibility (e.g. Cooper, Cutler, & Wales, 2002). For instance, Lepage and Busà (2014) found that incorrect stress placement and vowel reduction affected intelligibility among their French and Italian learners of English. The authors observed that intelligibility was hugely affected with a combination of misplaced lexical stress and a change in vowel quality. In another study, Field (2005) also argues that incorrect stress placement in words is likely to lead to serious communication problems for both native and non-native listeners.

While the present study recognizes that there may be a relationship between lexical stress placement and intelligibility, this is not its focus. Specifically, it examines lexical stress placement by speakers of Ghanaian English in everyday natural conversations. Overall, results suggest that speakers in this variety of English tend to show a lot of variability and fluidity in the way they assign lexical stress. For instance, in one and the same word, the first syllable is stressed as in *TEAcher*, and there are also instances where the second syllable is stressed as in *teaCHER.* As the results show, Ghanaian speakers of English show both similarities with and differences from the way inner circle speakers (Kachru, 1986) assign lexical stress. It is based on these findings that the present study advocates that speakers of English might have to understand one another's stress patterns in order to find their speech intelligible during interactions in English as an international language (EIL). The next section describes the concept of lexical stress in English, with a

discussion of some studies on its placement in some non-native Englishes. The third section discusses the method employed in the selection of participants, data collection, and data analysis to obtain the results. This is followed by the fourth section with a discussion of the results while the fifth and final section presents the conclusion of the study.

Lexical stress in English

Stress is a very significant prosodic feature in English in that it has many functions, which all contribute to the rhythm of one's speech and also contributes to meaning making in utterances. In all the languages of the world, stress is cued by certain features. These features can be morphological, syntactical, or phonological (Büring, 2009; Göskel & Özsoy, 2003). For example, Laver (1994) notes that "the phonetic manifestation of stress varies from language to language with some (such as English) exploring all four parameters of pitch, loudness, duration and quality" (p. 511). In addition to Laver, Ladefoged and Johnson (2011) also observe that stress in English is cued by intensity, vowel quality, and pitch. While there is no intention to wade into the issues surrounding how many features English use in cuing stress, it is recognized that phonologically, a syllable can be stressed, usually, with one or a combination of any two, three or all of the four features identified by Laver (1994). To relate these features to stress, Matthews (2007) defines stress as a "phonological feature by which a syllable is heard as more prominent than others" (p. 383). There is abundance of studies that have examined the acoustic correlates of stress in the literature (Sluijter & Heuven, 1997; Sluijter, Heuven, & Pacilly, 1997). It is important to emphasize here that the present study does not rely on the measures obtained for the acoustic cues; the cues are only referred to where necessary, but not the values obtained. A distinction here is also made between stress and prominence. Stress here refers to lexical stress (or word stress) while prominence refers to sentence (or phrasal stress) or nuclear stress. The present study focuses on lexical stress and so sentence stress is not discussed.

Lexical stress performs different functions in English as well as in all other languages. For example, Grosjean and Gee (1987) note that stressed syllables contribute to word segmentation. This is because speakers will rely on the combination of strong and weak syllables to create divisions at certain points within the stream of speech, thereby segmenting the words into their respective words and syllables. They further intimate that listeners also use the stressed syllables for lexical search; that is, to activate the set of all candidates that contain that syllable and then use the feedback to contribute to the identification of weak syllables. Because of this function, Field (2005) claims that if stress is wrongly distributed, a listener who uses it to locate words within a connected speech may encounter problems doing so. Another function of stress is that it aids in determining the profiles of words. That is, speakers can look at the stressed syllable in a word and determine which word

class it belongs to. An example is the difference between words such as imPORT and IMport, conVERT and CONvert, or INsult and inSULT. With these, it is easier for one to separate the verbs (imPORT, conVERT, inSULT) from the nouns (IMport, CONvert, INsult). Lexical stress also serves a contrastive function in that it helps both speakers and listeners to distinguish between words that are semantically distinct (Friederici, Friedrich, & Christophe, 2007; Honbolygo & Csépe, 2013; Kijak, 2009).

From the functions outlined, it is clear that lexical stress is crucial in English interactions. However, research suggests that not all English speakers use this feature as might be expected, for instance, by inner circle listeners, and this might pose problems as far as speech intelligibility is concerned. For example, Low (2000) investigated the use of stress placement among Singapore English speakers and compared with that of British English speakers. From her findings, she observed that her participants did not differ significantly from their British counterparts. She however observed that there were differences noted for stress placement in compounds and noun phrases. That is, while Singaporeans chose to stress the second syllable in compounds and noun phrases, the British English speakers marked stress as might be expected. Using 90 undergraduate Americans as listeners, Hahn (2004) played the recordings of one Korean international teaching assistant reading a text with (a) the correct stress, (b) the stress incorrectly placed, and (c) the stress completely absent. From her results, Hahn concludes that "when listening to speech with correct primary stress, the participants recalled significantly more content and evaluated the speaker significantly more favorably than when primary stress was aberrant or missing" (p. 201). Finally, Lepage and Busà (2014) examined stress placement among Canadian French and Italian speakers of English. Specifically, they sought to determine how incorrect stress placement alone or with vowel reduction impacts the intelligibility of the English spoken by these two groups. Using native speakers as listeners, the results obtained suggested that both incorrect stress and vowel quality negatively affected the intelligibility of Canadian French-accented and Italian-accented English. They concluded that although stress misplacement was detrimental to intelligibility, incorrect vowel reduction appeared to be more detrimental. In all these studies (and some other studies), one notices that the results were compared with the patterns exhibited by inner circle speakers, thus, making them appear as the *judges* of what is *right* and what is *wrong*. This way, the outer circle (Canadian French and Singapore) or expanding circle (Italian and Korean) (Kachru, 1986) speakers were seen not to conform to the *norm* because some of their patterns were different.

There are also studies that have focused solely on only outer circle or expanding circle contexts. An example is Simo Bobda (2010), who examined the strategies used by Cameroonians and Nigerians to cope with the complexity of English word stress. From his data, he found that stress placement is similar among these two groups and concluded that some strategies such as backward stressing, and noun-verb stress alternation are a

reflection of the speakers' knowledge of some general rules in English, and others like noun-verb alternation, final obstruent verbal stress, and affix stress property, are automatically generated by the indigenized varieties of the English of these speakers. With these, he argued that both speakers and listeners did not appear to have any communication problems during interactions. In another study, Mahmood, Zahid, and Sattar (2011) conducted a study on the acoustic correlates of lexical stress in Pakistani English. They recorded 20 graduate students whose first language is Punjabi and subjected the data to acoustic analysis. Their analysis revealed that Pakistani English speakers do not follow native pronunciation patterns, but rather, their production appears to be influenced by their native languages. From their findings, they concluded that Pakistani English is a separate variety just like other varieties such as Australian English or Sri Lankan English. The patterns of stress placement exhibited in the studies reviewed suggest that there is systematicity and consistency in the way speakers mark lexical stress in their English pronunciation.

Although studies abound on the way some outer and expanding circle English speakers place lexical stress, there is no known study on the way speakers of Ghanaian English do this. The present study is the first of its kind in Ghanaian English and thus reveals the patterns of lexical stress placement and shows that there is variability and fluidity in the way they do it. Such a study is crucial in the sense that it contributes to the understanding of the pronunciation features of Ghanaian English. In addition, the study adds a new dimension, that is, the fluidity with which speakers of this variety assign stress, to the on-going discussion of the way lexical stress is marked in English contexts outside the inner circle, and consequently fills a gap in the literature, particularly by expanding existing knowledge on how this pronunciation feature is used. Finally, it is relevant to the knowledge of Englishes in that it proves that there is systematicity in the way speakers of world Englishes use lexical stress and so they are not likely to encounter intelligibility problems. This study is guided by the following research questions:

1. What are the patterns shown in the way speakers of Ghanaian English assign lexical stress, and how are they compared to results from other studies on non-native English varieties?
2. Based on the findings, how are these patterns likely to affect communication in world Englishes?

Methodology

Participants

The data analyzed for this study come from a corpus of 100,000 words. This corpus is made up of conversations recorded from 200 university students from a public university in Ghana comprising 100 males and 100 females with

ages ranging between 18 and 40 years. These participants were chosen because of their experience with the English language. That is, they had received instruction in English from primary school to the university level and so they were better at using it both in writing and speech than those at the lower levels. One such area of use is in discussions, class group and pair work, and in reading. All participants indicated that their English proficiency levels ranged between intermediate and high. The students represented all the major Ghanaian languages studied in school which constitutes about 96% of the entire Ghanaian population (Ghana Statistical Service GSS 2012). As such, they can be considered to be a representative of all educated Ghanaians. The Ghanaian languages represented here are Akan, Ewe, GaDangme, Gonja, Dagbani, Dagaare, Gurene, Nzema, and Kasem. All the participants indicated that they re fluent in their respective languages. During the recruitment process, most of the students were identified informally by verbal means while a few were contacted by email messages. The choice of participants was to ensure that only students offering Ghanaian languages were recruited. It should be noted that no English or French students were included in order to prevent them transferring their knowledge of English prosody into their conversations. After the purpose of the study was communicated to them, the participants signed consent forms to take part voluntarily without coercion or the promise of any reward.

Data collection

After giving their consent, the students were divided into groups according to their languages. In order to capture as much information from every participant, each group comprised five students, resulting in 40 groups for all 200 students. Each group sat round a conference table for the recording process. Once settled, each group was given a discussion prompt that borders on an important and controversial national issue of interest to both students and teachers. After they read through the prompt, a Crown Sound Grabber II PZM Condenser Microphone connected to an Olympus digital voice recorder was placed in the middle of the conference table for the recording. In order to ensure confidentiality and non-interference, only the participants were left in the room. The room was very quiet and this was to ensure that the microphone captured only the voices of the participants. The quietness of the room also ensured that the recordings obtained were of high quality. Each recording session lasted 20 minutes and this gave a total of 13 hours and 20 minutes of data.

Data analysis

The recordings were first transcribed orthographically. In this instance, they were played back to facilitate the orthographic transcription. After this, all prominent syllables were marked. The data were transferred onto a

computerized speech laboratory (CSL) for acoustic analysis. It is acknowledged that tone unit boundaries are not easy to identify (Couper-Kuhlen & Selting, 1996). This is because as Tench (1996) notes, it is our perception of how we semantically and syntactically organize information that serves as a cue to the demarcation of a stream of speech into units. There are different prosodic cues that may signal tone units, for example, Du Bois, Schuetze-Coburn, Paolino, & Cumming (1992) list: a) coherent contour, b) [pitch] reset, c) pause (typically between two units), d) anacrusis, and e) [syllable] lengthening. Using one or a combination of some of the features identified by Du Bois, Schuetze-Coburn, Paolino, and Cumming (1992), tone units were identified demarcated. After this, duration, intensity, and pitch (or fundamental frequency) values for the stressed syllables were measured, while pause durations were also marked for all tone units.

To ensure inter-rater reliability, 20% of the total transcripts was checked and re-checked rigorously by a trained phonetician of more than 15 years. For the purposes of the present study, the test comprised of the proper identification of tone units and properly-marked stressed syllables. Transcriber agreement was 82% for all items and this figure can be said to be very good because it is usually difficult even among trained phoneticians to establish a firm agreement especially in marking intonation. Where there were any real disagreements, they were resolved after discussions were held.

Results and discussion

The analysis revealed that there were fluidity and variability in the way speakers assigned lexical stress. As would be shown, these do not only happen in monosyllabic words, but also in di- and polysyllabic words. In the following sections, I illustrate the assignment of lexical stress in different words in this variety of English.

Full word stress

The data analysis revealed that there were some words made up of more than one syllable that received full stress. This means that instead of having one of their syllables only stressed, speakers stress the whole word. Examples to illustrate this are as follows:

2. Sp 5: // even even even look at the TEACHERS //
3. Sp 4: // with er those who RECOMMENDED that the four year should go //
4. Sp 2: // as far as the STUDENTS //
5. Sp 1: // so er the PERFORMANCE //
6. Sp 2: // there will be ern ANOTHER //
7. Sp 3: // na- na- i ALWAYS look at them //

Examples 2-7 represent instances where speakers marked stress on full words, without selecting one syllable to mark the stress on. It is not clear why this was possible, but it can be speculated that it may be due to the syllable structure of their languages. In Ghana, just like most West African languages, the languages are syllable-timed, that is, all syllables within a word are assigned the same amount of time (duration, amplitude, pitch, and vowel quality) in their production. In fact, when the acoustic cues were measured, the results revealed that all the syllables received the same amount of duration, amplitude, similar pitch levels, and all the vowels were produced as full vowels with no reduction. This way, it can be argued that speakers produced the words as if they were monosyllabic words, since they form a group of words that receive stress in full words.

Disyllabic words

First syllable stress

In disyllabic words, speakers showed fluidity in the way they mark stress in words. The fluidity is shown in the way they stress one syllable in some instances and shift it onto another in other instances. Examples 8-17 show instances where speakers marked stress on the first syllable of the word.

8. Sp 5: // and then some TEAchers' quarters //
9. Sp 2: // she didn't PERform well so she should go //
10. Sp 3: // you'll come and write the Exams //
11. Sp 1: // certain COURses //
12. Sp 5: // it means the money is a PROblem //
13. Sp 1: // i think you will be able to ask STUdents //
14. Sp 3: // you are able to CAPture //
15. Sp 2: // the PREssure on you //
16. Sp 1: // is that what we SEE in PRACtice //
17. Sp 4: // ii have u-h a staff MEMber //

Examples 8-17 show clearly that in the set of words presented, the first syllables are stressed irrespective of where it is supposed to be, especially as might be expected in inner circle Englishes. Measurements of the duration, amplitude, vowel quality, and pitch, again, revealed the following: in the case of examples 8 and 12, pitch and vowel quality were the determinants of the stress with the duration and amplitude not having any difference when compared with the second syllables. In examples 9, 10, and 11, there was a combination of higher pitch, duration, and vowel quality were used to show the difference between the stressed syllables and the unstressed ones.

Second syllable stress

In examples 18-27, speakers marked stress on the second syllable of the words in examples 11-20. This is illustrated as follows:

18. Sp 2: // you see when you're talking about teaCHERS //
19. Sp 2: // you'll SEE that students perFORM //
20. Sp 2: // to pass your eXAMS //
21. Sp 5: // let's also look at teachers and courSES being Offered in the various schools //
22. Sp 1: // is money shouldn't be a proBLEM //
23. Sp 4: // the teacher knows that stuDENTS are always like that //
24. Sp 3: // you will capTURE everything //
25. Sp 5: // they always put preSSURE on you //
26. Sp 1: // is that what we see in pracTICE //
27. Sp 2: // you have a staff memBER //

Examples 18-27 also show that the second syllables in the words were assigned stress irrespective of which syllables might be expected to be stressed. Similarly to the previous set, the acoustic cues duration, amplitude, and pitch were measured and the results showed that in comparison with the first syllable in each case, the second syllable had a combination of higher pitch and duration as the features that were used to cue stress. In both cases of stressed and unstressed syllables, vowel quality and amplitude did not show any difference. That is, duration measures were the same for both syllables in each word and their vowels were also produced as full vowels. In the analysis, it was observed that some speakers repeated their utterances with stress on the first syllable of a word at one time and on the second at another time. In fact, sometimes, the same speaker showed variability in the way they stressed the syllables. Instances are found in examples 9 and 19, 14 and 24, and 16 and 26. It should also be noted that apart from those who produced the same words with shifts in the stress, where same speakers appear in the examples, they are not the same people. For instance, speakers 5 in example 8 and speaker 5 in 15 are two different people and sometimes even belong to two different languages. It so happened that they are labeled with the same speaker in their respective transcripts.

Polysyllabic words

The data analysis revealed that it is not only in disyllabic words that speakers showed fluidity in the placement of stress, but also in polysyllabic words. In this case, the variability is seen in the way the stress is shifted from one syllable onto another. The assignment of stress in polysyllabic words is presented according to the number of syllables in the words. Accordingly, three-syllable words are presented first. This is followed with the discussion of four-syllable words, and finally, five-syllable words are discussed.

Three-syllable words

First syllable stress

The analysis showed that speakers have different ways of stressing syllables in three-syllable words. For example, the same word may receive stress on the first, second, or third syllable. In examples 28-32, some instances where the first syllable is stressed are shown:

28. Sp 1: // so that's why i'm saying that you have to CONsider those factors //
29. Sp 2: // it was the FOUNdation that gave me some money for my education //
30. Sp 4: // the PERformance differ from school to school //
31. Sp 3: // the teachers are always think the students DIfficult to teach //
32. Sp 1: // she later said that the work was COMpleted.

In these examples, the acoustic cues, pitch, duration, and amplitude were measured in order to determine which particular cue(s) is responsible for the stress. Examples 29, 30, and 31 had higher pitch being the feature that cued stress while the stress on examples 28 and 32 were cued by higher amplitude. In all cases, vowels were produced as full vowels.

Second syllable stress

In the same words above, speakers stressed the second syllables. This is exemplified in 33-37.

33. Sp 1: // we are going to er conSIder //
34. Sp 5: // so that the founDAtion will be laid properly //
35. Sp 4: // cause of er poor perFORmance ///
36. Sp 3: // yeah they are important but not that diFFIcult compared to the //
37. Sp 2: // if you know that [hh] if i comPLEted //

Final syllable stress

There were words, including some of those shown in 33-37, in which speakers stressed the third syllable. Some of these are illustrated in examples 38-47 as follows:

38. Sp 2: // consiDER the conditions //
39. Sp 2: // after we LAY the foundaTION //
40. Sp 1: // perforMANCE because er //
41. Sp 3: // some headmasters find it diffiCULT to //
42. Sp 1: // so when those people compleTED //
43. Sp 4: // because of the duraTION //
44. Sp 3: // sometimes you HAVE to get a aa head who is like dictaTOR //
45. Sp 1: // is actuaLLY let's come to the point when we are //
46. Sp 3: // can't you hear they say if you think education is expensive try
ignoRANCE //
47. Sp 3: // you were er like a grasshoPPER //

In this last batch of three-syllable words, speakers shift the stress onto the third syllable irrespective of where it actually might be expected to be in inner circle Englishes. The acoustic measurements indicated higher pitch was used to cue stressed for all the syllables while all vowels (whether in stressed or unstressed syllables) were produced as full vowels.

Four-syllable words

The four-syllable words also showed that speakers sometimes stressed on the first, second, third or fourth syllable.

First syllable stress

Examples 48-52 are some instances where speakers stressed the first syllables of four-syllable words.

48. Sp 2: // INfrastructure //
49. Sp 4: // i've just told you that we did not get any UNderstanding in the
subjects //
50. Sp 2: // you said teachers should INtensify the way they teach you the core subjects //
51. Sp 5: // the heads did not know how to Accommodate us at all //
52. Sp 2: // while the COmmunity schools do the four years //

Second syllable stress

Speakers stressed the second syllables of four-syllable words as can be found in examples 53-57 follows:

53. sp 2: // the speed at which they are using will be will have to be inTENsified //
54. Sp 1: // er we don't have infrastructure deVELopment //
55. sp 4: // it is about the oRIENtation //
56. Sp 1: // the adVANtages of passing through the four years //
57. Sp 3: // when the three year was imPLEmented //

Third syllable stress

Stress on the third syllables of four-syllable words is shown on some words in examples 58-62.

58. sp 4: // they have to be given a lot orienTAtion //
59. Sp 3: // infraSTRUCture i still stand by it //
60. Sp 1: // you don't know the disadVANtages in failing mathematics //
61. Sp 2: // your concenTRAtion will be on the electives //
62. Sp 5: // you you don't know my teacher was a respecTAble man //

Fourth syllable stress

Stress on the fourth syllables (which are also the final syllables) of four-syllable words is shown on some words in examples 63-67.

63. Sp 3: // our headmaster in a way found it very difficult to accommoDATE people //
64. Sp 1: // maybe the infrastrucTURE the //
65. Sp 1: // there was infrastructure developMENT //
66. Sp 1: // uh in terms of proficienCY //
67. Sp 3: // you know the acadeMICS //

Five-syllable words

There were few five-syllable words in which speakers showed fluidity and variability in the way they marked lexical stress. In these words, it was observed that only the second, fourth, and fifth syllables were stressed. These are show in examples 68-72 respectively.

Second syllable stress

68. Sp 1: // problems aCCOmmodation and //
69. Sp 3: // the teachers were only giving hyPOthetical situations during our
time //

Fourth syllable stress

70. Sp 1: // and you KEEP on procrastiNAting //
71. Sp 5: // what people don't know is that a teacher has to be exceptioNALly brilliant //

Fifth syllable stress

72. Sp 3: // hmm about the the what what er er accommodaTION //

After the acoustic cues (pitch, duration, amplitude) were measured, and similarly to three- and four-syllable words, it was found that higher pitch was the only feature that cued stress. In addition, vowels in both stressed and unstressed positions were produced as full vowels.

The examples shown in all instances suggest that there is some flexibility in stressing in Ghanaian English, and that speakers vary the way they shift the stress in words, showing fluidity. The examples also show that it is not only one person or just a few people who shift stress in words, but rather, almost all the speakers do. Thus, it can be argued that this phenomenon may be general, rather than idiosyncratic. Studies on Ghanaian English (e.g. Adjaye, 2005; Koranteng, 2006) also revealed that this variation exists. In both studies, as well as the present one, one finding is clear: there are ways in which speakers stress words similarly to what might be expected in native contexts (for instance, examples 8, 19, 32, 52) and other ways in which they do this differently (for instance, examples 2-7, 43). These patterns of marking lexical stress may not be unique to Ghanaian English, but similar to many nativized as well as learner varieties of English. This is seen in the works of Peng and Ann (2001), Low (2000), and Deterding (2007, 2011). For example, Peng and Ann (2001) studied the speech of speakers of English from Singapore, Nigeria, and Spain. Their findings revealed that there were distinct differences in the way these speakers marked lexical stress in comparison with British and American Englishes. It is interesting to note that their results also revealed that irrespective of the first language of their participants, stress assignment was similar in all three national varieties. Udofot (2003) presented a reading task and a free speaking task to 60 speakers of Nigerian English and one speaker of British English. Results suggested that the Nigerians stressed more syllables than their British counterpart. Finally, Wiltshire and Moon (2003) compared the phonetic realizations of prominence between 20 speakers of Indian English and 10 speakers of American English. Their results showed that stress placement and their phonetic realizations in Indian English were markedly different from that of the Americans.

The discussion in this section suggests that there is variation in the way speakers of Ghanaian English and other outer circle Englishes assign lexical stress, and this variation also leads to fluidity. That is, the pattern can be changed at any time and this is not likely to have any effect on intelligibility in spoken English. This is because there was no point in time within the conversations where a listener stopped a speaker and asked him or her to either clarify something or repeat an utterance for better understanding. The results also suggest that Ghanaians are not likely to encounter any communication problems when they interact with other speakers of English.

The role of lexical stress in communicating in World Englishes

The findings of the present study, as well as two previous studies on Ghanaian English pronunciation, point to the fact that speakers of Ghanaian English might be said to have a common way of stressing both simple and compound words. For example, Adjaye (2005) and Koranteng (2006) observe that Ghanaians apply what they call "Forward Stress Shift" (p. 40) to the initial syllable of some multi-syllabic words. That is, there is the tendency for the stress to fall on a syllable later than it would normally be in the case of the native speaker. Adjaye for example uses words such as aPPREciate and conSOlidate in British English and argues that Ghanaians move the stress in each word to the front (or forward), so there is appreciATE and consoliDATE in Ghanaian English. In the present study, speakers are seen to apply forward stress shift, but then it is not in all cases that they do this. In fact, it can be argued that there are instances where there is also a shift to the first syllable of the word even though the native speaker may assign stress differently. In words such as INfrastructure and PERformance, the stress is shifted onto the first syllable instead of the second or third as might be expected. Thus, the examples shown suggest that Ghanaians do not have one way of stressing words, but that there are different ways of doing it.

The patterns of stressing in the Ghanaian variety of English have implications for communicating in world Englishes and English as an international language. This is because as English speakers, including Ghanaians, interact with one another, they are expected to at least find one another's speech intelligible. Being intelligible also involves utilizing all pronunciation features; both segmental and prosodic, and the importance of lexical stress cannot be overemphasized in this regard. For example, because of the amount of time Ghanaians take to produce weak forms as full forms, it may create an impression of emphasis, and this has the potential of communicating unintended meaning (Koranteng, 2006), especially if their listeners are inner circle speakers. This suggestion may be valid if Ghanaians communicate with inner circle speakers. This is because inner circle speakers pay particular attention to stressed syllables in utterances (Celce-Murcia, Brinton, & Goodwin, 1996; Harmer, 2001) and so they tend to store vocabulary items according to word stress patterns (Rogerson-Revell, 2011). It

is necessary to point out that Ghanaians rarely come across inner circle speakers in their daily communication, as the majority of such interactions only take place between Ghanaians and in few cases with their West African neighbours. Research (e. g. Hahn, 2004; Roach, 2000) has shown that speakers of English outside of the inner circle contexts find it difficult to learn to place lexical stress correctly. In the present study, the speakers cannot be said to *incorrectly* assign stress; they can only be said to have some similar ways with and some different ways from inner circle speakers in assigning lexical stress. It is for this reason that Jenkins (2000) recommends that lexical stress should be excluded from the core features of the lingua franca core (LFC) in the meantime, stressing that it may be either unimportant for intelligibility, difficult to teach or both.

In this regard, Field (2005) examined the role of lexical stress on intelligibility among both native and non-native speakers of English. From his results, he contends that while incorrect lexical stress in isolated words seems to affect intelligibility, it might be significantly higher when lexical stress shifted to another syllable without a change in vowel quality or when it was shifted rightwards compared to the left. He, therefore, warns that lexical stress misplacement can severely hinder the intelligibility of the speaker, be it native or non-native. In contrast to Field's study is Deterding (2011) who investigated the features that can cause communication breakdowns among speakers of English in East Asia. His findings revealed that there was variation in the way his participants marked lexical stress. Based on that, he concluded that "clearly, we have no evidence from these data of variation in lexical stress causing misunderstandings" (p. 94). Deterding's study also revealed that even when lexical stress was misplaced, there was no problem with intelligibility among the speakers. In another study, Luchini & Kennedy (2013) examined the speech of Hindi and Spanish speakers of English and found that "the only time lexical misplacement caused intelligibility among the speakers was when the word also carried nuclear stress" (p. 85).

From these three studies discussed, one may speculate three patterns: One, a shift in lexical stress accompanied with a change in vowel quality may affect intelligibility, Two, a shift in lexical stress alone is not likely to cause intelligibility problems, and Three, a shift in lexical stress accompanied with a shift in nuclear stress may cause intelligibility problems. While Field's findings involved both native and non-native speakers, Deterding's and Luchini & Kennedy's studies involved only non-native speakers (from outer and expanding circles). One common finding among all three studies is that there was a shift in lexical stress placement, the only difference is that there was an additional feature identified in the studies of Field and that of Luchini & Kennedy. With respect to lexical and nuclear stress shift, Jenkins (2000) argues that there appears a relationship between intelligibility and nuclear stress shift in her data. She notes that "intelligibility was rarely impaired by misplacement of lexical stress" and where such occurred, it was "because of the subsequent misplacement of nuclear stress" (p. 41). To this end, Jenkins

(2000) recognizes the importance of nuclear stress placement in ELF interactions, and that is why she proposes its inclusion in her LFC, stressing that its incorrect placement may cause serious misinterpretation and ultimately, misunderstanding between ELF interlocutors.

The fact that there was no time within the conversations where speakers were stopped means that even though speakers may shift lexical stress, this is not likely to cause problems in their everyday English interactions. This can be extended to interactions between Ghanaians and other speakers of English, especially those outside the inner circle. In the context of English as an international language (EIL), it has been established that speakers outside the inner circle far outnumber those in the inner circle (Graddol, 1997). Thus, it is possible to suggest that the majority of interactions may not involve any inner circle speakers. And, even if they are involved, it is those who tend to shift stress who form the majority. And, whether there is a shift or not, it is not likely to contribute to any negative effect on communication. The commonalities that exist in stress placement in Ghanaian English and other outer or expanding circle Englishes show that this is a systematic phenomenon. It therefore goes to say that if you share a common feature with other people, using that feature, in this case, lexical stress placement, is likely to enhance intelligibility, rather than hinder it.

Conclusion

The present study aimed at showing that there is variability and fluidity in the way Ghanaians assign lexical stress. Conversations recorded from 200 university students were analyzed using auditory and acoustic means, making it the most comprehensive study so far on the placement of lexical stress in any outer or expanding circle English variety. The results, as already indicated, showed that while speakers stress some words similarly to what might be expected by inner circle speakers, they also stress some differently. Although there are ways in which Ghanaians sometimes differ from inner circle speakers in the way they mark lexical stress, this does not appear to negatively affect the intelligibility of their speech. One of the main tenets of communicating in English as either an international language or as a lingua franca (ELF) is that both speakers and listeners would find one another's speech intelligible (e.g. Jenkins, 2000). Research on intelligibility in English has usually been done with native speakers being the judges of non-native speakers' speech. However, in EIL, or ELF, all users have equal stake and responsibility in making sure they sound intelligible. This also entails making a conscious effort, especially if you are the listener, to get your interlocutor's utterance. The speaker, whether native or non-native, should not bear the sole responsibility in making sure that his/her words are clear; the listener also needs to listen *well* because intelligibility is not a one-way, but rather, a two-way affair. It is important for listeners to rely on many cues, not just on the words or on certain particular features in an interaction. Where possible, one

can rely on the context of interaction to be able to fully decipher the words and ultimately, comprehend the speech of the speaker.

In conclusion, English speakers come from different countries and different continents, who may sometimes sound similar and other times sound different from one another. Listeners are therefore bound to perceive some similarities and differences in some pronunciation features. In order to enjoy communicating with one another, all speakers will have to adapt to one another's pronunciation patterns, including the way they mark stress. And, for listeners who might come into contact with Ghanaians and for that matter other outer and expanding circle speakers, they have to become accustomed to their stress placement. To do this, it is important for listeners, no matter which circle of English they belong to, to understand the systematic stress patterning of their speakers, for, this is the only way they can achieve intelligibility, which will in turn ensure comprehensibility in communicating in world Englishes.

Note:
[1]Stress is indicated with CAPS.

References

Adjaye, S. A. (2005). *Ghanaian English pronunciation*. New York: The Edwin Mellen Press.

Anderson-Hsieh, J., Johnson, R., & Koehler, K. (1992).The relationship between native speaker judgments of nonnative pronunciation and deviance in segmentals, prosody, and syllable structure.*Cognition,45*(3), 529-555.

Bond, Z. S. (2005). Slips of the ear. In D. B. Pisoni & R. E. Remez (Eds), *The Handbook of Speech Perception* (pp. 290-310). Oxford: Blackwell Publishing Ltd.

Büring, D. (2009). Towards a typology of focus realization. In M. Zimmermann & C. Féry (Eds.), *Information structure* (pp. 177-205). Oxford: Oxford University Press.

Celce-Murcia, M., Brinton, D., & Goodwin, J. (1996). *Teaching pronunciation: A reference for teachers of English to speakers of other languages*. Cambridge: Cambridge University Press.

Cooper, N., Cutler, A., & Wales, R. (2002). Constraints of lexical stress on lexical access in English: Evidence from native and non-native listeners. *Language and Speech, 45*(3),207-228.

Cutler, A. (2012). Native listening: The flexibility dimension. *Dutch Journal of Applied Linguistics, 1*(2), 169-187.

Couper-Kuhlen, E., & Selting, M. (1996). *Prosody in conversation: Interactional studies*. Cambridge: Cambridge University Press.

Deterding, D. (2007). *Singapore English*. Edinburgh: Edinburgh University Press.

Deterding, D. (2011). English language teaching and the lingua franca core in East Asia. In *Proceedings of the 17th International Congress of Phonetic Sciences*, (pp. 92-95). Hong Kong.

Du Bois, J. W., Schuetze-Coburn, S., Paolino, D., & Cumming, S. (1992). *Discourse transcription.* In S. A. Thompson (Ed.), *Santa Barbara papers in linguistics* (vol. 4). Department of Linguistics, University of California, Santa Barbara.

Field, J. (2005). Intelligibility and the listener: The role of lexical stress. *TESOL Quarterly*,*39*(3), 399-423.

Friederici, A. F., Friedrich, M., & Christophe, A. (2007). Brain responses in 4-month-old infants are already language specific. *Current Biology, 17*(14), 1208-1211.

Ghana Statistical Service. (2012). *2010 population and housing census*: *Final report*.

Göskel, A., & Özsoy, S. A. (2003). dA: A focus/topic associated clitic in Turkish. *Lingua* 1143-1167.

Graddol, D. (1997). *The future of English*? British Council.

Grosjean, F., & Gee, J. P. (1987). Prosodic structure and spoken word recognition. *Cognition*, *25*(1-2), 135-155.

Hahn, L. (2004). Primary stress and intelligibility: Research to motivate the teaching of suprasegmentals. *TESOL Quarterly, 38*(2),201-233.

Harmer, J. (2001). *The practice of English language teaching* (3rd Ed.). Essex: Longman Press.

Honbolygo, F., & Csépe, V. (2013). Saliency or template? ERP evidence for long term representation of word stress. *International Journal of Psychophysiology*, 87(2), 65-172

Jenkins, J. (2000). *The phonology of English as an international language*. Oxford: Oxford University Press.

Kachru, B. B. (1986). *The alchemy of English: The spread, functions, and models of* n*onnative Englishes*. Oxford: Pergamon Press.

Kijak, A. M. (2009). How stressful is L2 stress? A cross-linguistic study of L2 perception and production of metrical systems. (Doctoral Dissertation). University of Utrecht.

Koranteng, L. A. (2006). *Ghanaian English: A description of its sound system and*
phonological features. (Doctoral Thesis). University of Ghana.

Ladefoged, P., & Johnson, K. (2011). *A Course in phonetics* (6th Ed). San Diego, CA: Harcourt Brace Jovanovich

Laver, J. (1994). Principles of phonetics. Cambridge: Cambridge University Press.

LePage, A., & Busà, M. G. (2014). Intelligibility of English L2: The effects of lack of vowel reduction and incorrect word stress placement in the speech of French and Italian learners. *Concordia Working Papers in Applied Linguistics, 5*, 387-400.

Low, E. L. (2000). Is lexical stress placement different in Singapore English

and British English? In D. Deterding, A. Brown & E. L. Low (Eds.), *The English Language in Singapore: research on pronunciation* (pp. 22-34). Singapore: Singapore Association for Applied Linguistics.

Luchini, P. L., & Kennedy, S. (2013). Exploring sources of phonological unintelligibility in spontaneous speech. *International Journal of English and Literature*, *4*(3), 79-88.

Mahmood, A., Zahid, S., & Sattar, A. (2011). A study of acoustic correlates of stress in Pakistani English. *International Journal of Academic Research*, *3*(5), 232-236.

Matthews, P. H. (2007). *The concise Oxford dictionary of linguistics* (2nd ed.).Oxford University Press.

Peng, L., & Ann, J. (2001). Stress and duration in three varieties of English. *World Englishes*,*20*(1), 1-27.

Roach, P. (2000). *English phonetics and phonology: A practical course* (3rd ed.).
Cambridge: Cambridge University Press.

Rogerson-Revell, P. (2011). *English phonology and pronunciation teaching*. London:Bloomsbury.

Simo Bobda, A. (2008). Predictability of word stress in African English: Evidence from Cameroon English and Nigerian English. In A. Simo Bobda (Ed.), *Explorations into language use in Africa* (pp.161-81). Frankfurt: Peter Lang.

Sluijter A. M. C., & Heuven V. J. (1996). Spectral balance as an acoustic correlate of linguistic stress. *Journal of the Acoustical Society of America*, *4*, 2471-2485.

Sluijter A. M. C., Heuven V. J., & Pacilly J. J. A. (1997). Spectral balance as a cue in the perception of linguistic stress. *Journal of the Acoustical Society of America*, *1*, 503-513.

Tench, P. (1996). *The intonation systems of English*. London: Cassell.

Tremblay, A. (2007). *Bridging the gap between theoretical linguistics and psycholinguistics in L2 Phonology: Acquisition and processing of word stress by French Canadian L2 learners of English.* (Doctoral Dissertation). University of Hawai'i.

Tremblay, A. (2008). Is second language lexical access prosodically constrained? Processing of word stress by French Canadian second language learners of English. *Applied Psycholinguistics*, *29*, 553-584.

Udofot, I. (2003). Stress and rhythm in the Nigerian accent of English: A preliminary investigation. *English World-Wide*, *24*(2), 201-220.

Van Donselaar, W., Koster, M., & Cutler, A. (2005). Exploring the role of lexical stress in lexical recognition. *The Quarterly Journal of Experimental Psychology*, *58*(2), 251-273.

Wiltshire, C., & Moon, M. (2003). Phonetic stress in Indian English vs. American English. *World Englishes*, 22(3), 291-303.

Zielinski, B. W. (2008). The listener: No longer the silent partner in reduced intelligibility. *System*, *36*(1), 69-84.

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