SOCIAL STRATIFICATION OF GHANAIAN ENGLISH: THE CASE OF RP DENTAL FRICATIVES /θ/ and /ð/

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ABSTRACT

This paper is a socio-phonetic study of two RP phonemes /θ/ and /ð/ produced by sixty participants from a relatively homogenous Akan speaking communities in Ghana. It takes into consideration levels of formality and speakers' socio-educational backgrounds. Adopting both qualitative and quantitative methods for the data sampling and analysis, the paper attempts to probe the general perception that non-native speakers of English constantly substitute the features of their first language (L1) for second language (L2) features. Yankson (1971), for example, believes that this phenomenon is due to lack of L2 features in the L1; 'any L2 sounds that a Ghanaian English lacks, are non-existent in Ghanaian language'. Some writers therefore posit that the lack of L2 features in the L1 poses learning difficulties for L2 acquisition. The general view, therefore, is that a leaner of English will always differ linguistically from a native English speaker. The result of this study partially corroborates this general view. For example, there has been a substitution of the stops [t], [tʰ], [d], [ḍ], and the labiodental fricative [f], for the RP /θ/ and /ð/. Nevertheless, the use of the standard variants, [θ] and [ð], by the speakers for the RP /θ/ and /ð/, and the fact that the choice of these variants is significantly influenced by the socio-educational backgrounds of the speakers, suggest that these previous researches are deficient in methodology; and therefore lack objectivity. This paper thus provides a methodological framework which will help address the lack of objectivity and deficiency in methodology of researches on non-native English speakers. Also, sustainable empirical studies are needed to lead us into more perspectives on Ghanaian English phonological variation.

Contribution/ Originality: This study is one the few studies that try to examine the effects of socio-economic class on language use among non-native speakers of English in the Sub-Saharan countries, especially in Ghana. It thus contributes to variation studies by providing a methodological framework, which in effect, will help address the lack of objectivity and deficiency in methodology of researches on non-native English speakers.

1. INTRODUCTION

The concept of social class is probably one of the main social dimensions that dominates the study of variation. The social class of individual is believed to have had a strong constraint on their linguistic behaviour. The practice of indexing oneself to higher status or class is very pervasive in Europe (for a detailed discussion on class see (Labov, 1963;1966; Eckert, 2005)). Hence, many sociolinguists take social class differentiation as a starting point of which other variables such as age, gender, style, etc. are derived. As is normally the practice, linguists start their studies by grouping individuals into social class on the basis of factors such as education, occupation, income, housing, etc. and then seek to find out how certain linguistic features are used by each group. Gal (1979) made an important observation of how the relation between language shift and individuals' move from the peasant to the industrial economy had influenced their linguistic behaviour. Holmquist (1985) study of Ucieda, a peasant village in the Spanish Pyrenees, also reveals a highly nuanced pattern of variation corresponding to two stages in a move towards the mainstream economy. He observed that the local dialect of Ucieda, which had post-tonic /u/, had subsequently been lowered due to accommodation to Castilian form /o/ and as a result of rural-urban drift. The lowering of the post-tonic /u/, according him, happened as the youth from the traditional but poorest farming community, moved to the industrial community.

Rickford (1986) for instance, questioned the universal applicability of the consensual model of class that has dominated variation studies during his investigation into this behaviour on a sugar plantation in Guyana. In this study, Rickford noted a sharp division in the linguistic behaviours between the Estate Class (those who worked the sugar and lived on the plantation), and the Non-Estate Class (those who worked in the offices and lived off the plantation). Thus, several attempts are being made to give explanations to the different linguistic variations. Yermakova and Yatnikov (1986) strongly believe that the society itself is a special form of activity that is inherent in man and is a sub-total of the individuals, social groups, and relations which evolved among them and which is governed by various social institutions. Sociolinguists believe that there is a great variety of relations in human society, such as kinship, political, religious, moral and economic relations; a family, neighbourhood, a community, a professional group, a village, a town and social class. One way or the other, each person has to be involved in these multifarious social relations (Yermakova and Yatnikov, 1986). They further stated that every society therefore has a structure and the concept of social structure may include classes, social strata and layers, castes, estates, professional groups, ethnic communities, which may include a nation, nationality, tribe, etc., age groups (young or old), etc. This structure, is, therefore, very important since every socio-economic formation of a society is socially stratified according to the dominating mode of production.

Karl Marx's 'Theory of Marxism', however, provides a more authentic scientific explanations of the essence of classes in society (Yermakova and Yatnikov (1986). Lenin (1977) in developing Marx's theory further, defines class as large groups of people differing from each other by the place they occupy in a historically determined system of social production, by their relation to the means of production, by their role in the social organisation of labour, and consequently, by the dimensions of the share of social wealth of which they dispose and the mode of acquiring it.

Each class, therefore, has to be regarded as an offspring of a specific mode of production and this generates antagonism. The antagonistic mode of production accordingly splits societies into classes peculiar to it. He further notes that one's relationship to the means of production, therefore, determines both the role of classes in the social organisation of labour, and their share of social wealth, and the way they receive it. To Lenin (1977) the fundamental criterion by which classes are distinguished is the place they occupy in social production, and consequently, their relation to the means of production.

These groups of persons are the people linguists try to describe quantitatively by means of social class index scores. Michael however approached social stratification through the concepts of 'social rank'. He notes that 'An individual's standing in terms of hierarchy of positions can be called his social rank (see Labov (1966)). As has been claimed, an individual can be ranked on a number of different scales: one's combined social rankings represent their

overall or their general social standing. Michael stated two dimensions of stratifying individuals: those concerning production and those concerning consumption. According to Labov (1966). The productive aspect of social rank (i.e., social class) involves the degree to which an individual possesses wealth, knowledge, power and authority relative to other members of his society. The social class-indices are thus done by ranking individuals to reflect their relative social standings (their relation to the means of production and acquisition of goods and services) such as education, occupation and income. The consumption aspect of social rank (i.e. status), however, involves the individual's expression of their life chances in a particular style of life (see Labov (1966)). This, therefore, has to do with how a person spends his money, where he was educated, how he exerts his will over others (Labov, 1966).

Subsequently, Chambers (1995) derived his class-indices, occupation, from Canadian evaluations, which have lawyers and biological scientists at the top index score of 75.4, while janitors and cleaners were near the bottom 28.22. Labov (1966) in his New York City study used three indicators: education, occupation and income to distinguish ten different classes ranging from low-paid labourers with minimal education through to well-educated professionals and business people. He then grouped them into four strata: lower class, working class, lower-middle class and upper-middle class respectively. Trudgill (1974) in Norwich, however, used a more complex index constructed from occupation, income, education, housing type, locality and father's occupation. He then used the speakers' position on the scales to construct five social classes: lower-working, middle-working, upper-working, lower-middle and middle-middle class.

Following Labov (1966); Haeri (1997) constructed a composite index in her study of gender and class in Cairo, using four indicators namely, parent's occupation, speaker's education, neighbourhood and occupation arranged in order of importance to differentiate four social classes ranging from lower-middle class to upper class. Pederson (1965) in Chicago, on the other hand, expanded the classification system in order to have a more accurate representation of the diversity in the population. He categorized his speakers into 10 and 11 class types based on their education and socioeconomic status respectively, by using a speech sample from 136 participants across these categories. Contrarily, some variationists use either occupation alone, or education alone as an indicator of class.

Macaulay (1977) for example, employed the British Registrar General's rankings in Glasgow as an occupation index. Similarly, research in Arabic-speaking and other Middle East countries typically uses education alone as an indicator because access to elite language codes is directly dependent on education (Abdel-Jawad, 1981;1987). In this study, therefore, only education is used as class indicator of the speakers because in Ghana, English language is acquired mainly through education, and it is thus the best access to the English language code of individuals.

2. METHODOLOGY

Sixty (60) informants were selected from predominantly Akan speaking communities through a snowball sampling method. The informants were put into three groups: Junior High education, Senior High education, and University education. Twenty (20) informants were selected to represent each of the three educational groups. A sample of speech was taken from them through a face-to-face interview (i.e. a sociolinguistic interview). The data collection took about one and a half months-starting from February 2013 and ending in the early part of April. The interview was carefully designed to obtain three speech styles; conversation, passage reading and word-list from the participants. It was conducted by the researcher in person in a face-to-face interaction with the interviewees. The interview was in three parts and lasted for about 15 to 30 minutes. Part one was a short conversation with the interviewee which was based on an interview guide designed to collect information on the background of the participants, and to elicit response which requires words with (th) spelling. Part two was a passage reading style and part three a word-list style. Part one was named Style A and was used to represent natural or free speech, and part two and three named style B and C, represented the most formal speaking styles.

2.1. The Interview Guide

2.1.1. Type of Information

Personal: name, age, parents' name and levels of education.

Linguistic: ethnicity, languages spoken, parents' language, place(s) visited and lived and current residence.

Educational: schools attended, where and levels attained

Proficiency: languages spoken at home

2.1.2. Passage Reading Style (B)

During this stage the participants were asked to read a carefully designed passage of continuous written text, style 'B'. This was meant to test the participants' realisation of the variables in a continuous reading style in a range of linguistic environments: word-initial, medial and final positions. That is, after about 15 minutes of questions and answers, the participants were made to read a continuous written text created by the researcher with the *th* words highly concentrated in it. The passage, 'Birthday Bike,' (see appendix) in two paragraphs was to test the speakers' usage of the dental fricatives in a continuous text.

There are a total of 172 words in the passage-38 of them, constituting 63%, are words realised with voiced dental fricative /ð/, represented with the (dh) diagraph. Out of these, 30 are at word-initial position, 7 at word-medial position and 1 at word-final position, and 22, constituting 36.7%, are words realised with the voiceless dental fricative /θ/, represented with the (th) diagraph. Again, out of the 22, 6 each are at word-initial and medial positions, while 10 are at word final position; 112 distracter items were intermixed with the th and dh words. There are four categories of the (th) and (dh) words: commonly used words, unfamiliar words, nonsense words and words with (th) spellings that are realised naturally with the voiceless alveolar stop [t]. The reason for using these different words is to test whether the pronunciation varies as a result of the speakers' familiarity with the words. The participants were encouraged to read the passage as natural as possible and fast so as to avoid noticing the words with the target variables. The passage was read two times initially as a rehearsal, and then the third reading was recorded, using Zoom Handy4Next digital voice recorder.

2.1.3. Word-List Style C

The third part of the interview, named Style C, however involved reading of a list of words taken from the passage. This was however purposefully designed to elicit a speech style from the participants' pronunciation of the variables in isolation in a more formal context. The word list comprised 46 words in total; 36 have words with the (th) spelling and 10 distracter items (words without th spellings). Of the 36, 15 were realised with the voiced dental fricative /ð; 8 at initial, 6 at medial and 1 at final position, while 21 are realised with voiceless dental fricative /θ/; 5 at initial, 6 at medial and 8 at word final positions respectively. The participants were asked to read the items with a short pause between each word, thus minimising the phonological effects of the preceding and the subsequent words. All the interview sections were recorded using a Zoom Handy4Next digital voice recorder. The mouth-to-microphone distance was about 20 inches with all the utterances low-pass filtered at 44.8 kHz and digitized at a sampling rate of 10 kHz.

3. DATA ANALYSIS

The data were analysed using both auditory and acoustic analysis. This was collaborated with an Analysis of Variance (ANOVA) with the help of SPSS. The auditory and acoustic methods were used to identify the variables, while the ANOVA was used to determine statistical differences among the three speaker groups. After the acoustic coding, the variables were further categorized, in relation to the nature of the variables spoken. This is because the variables displayed several discrete forms which involved more than a binary choice, or an alternation between one form and another. Meaning that the participants did not make a choice between two possibilities, for example, the

alveolar and the velar nasals (n) and (ŋ) as it was the case in Norwich; or variations that involve a binary term involving presence versus absence of a variable as is seen in the realisation of /h/ variable examined by Trudgill (1974) in Norwich and /r/ by Labov (1966). Though discrete variables tend to be distinguished easily, and so coding them is relatively straight forward, the situation is complicated in the present data as the realisation ranged along a continuum-labial through to alveolar. In coding the data, therefore, it was decided that a coding system that distinguished the variables along a continuum be developed since the speakers had access to a broader selection and could locate their articulation at any one of the various points along the continuum; labial to dental to alveolar.

The variables were consequently categorized as fricatives versus stops. So, tokens with qualities similar to fricatives were coded as [θ], [ð] and [f], while those with qualities similar to stops were coded as [t, tʰ, d, d̪]. Numerical values were later assigned to the variables starting from the dentals to the labial fricatives since both sets of fricatives occur at almost the same place (teeth). Thus, the following numeral figures; 1 to 3 were assigned to the fricatives: [θ], [ð] and [f], while 4 to 7 were assigned to the stop variants. That is, both the voiced and the voiceless dental fricatives were scored 1 and 2, voiceless labiodental was scored 3, voiceless unaspirated alveolar stop was scored 4, voiceless aspirated alveolar stop was scored 5, voiced alveolar stop was scored 6, while the voiced dental stop was scored 7. In all five variables: [θ], [f], [t], tʰ] and [d̪] were identified as variants of [θ] pronunciation and six [θ], [ð], [f], [t], tʰ] and [d] as variants of [ð] pronunciation. Unclear pronunciations were excluded from the analysis.

Having identified, defined and categorized the variables, the coded data were later quantified by counting each of the variants for each speaker by using SPSS (Statistical Package for the Social Sciences) *Version 10.0* for statistical calculations and for generation of tables and diagrams. To do this, the qualitative data were assigned with numerical values to transform them into quantitative data. The values assigned to the variables were imputed into the SPSS and were later pulled together with the help of Test Analytics for Surveys (TAfS), a tool for Predictive Analytic Software (PASW) Version 18. Tables were produced directly for each individual variable realised by the various groups of speakers. The scores for each participant were calculated by averaging across the entire data for each variable used by each speaker; the scores were used to represent the speaker's overall usage. The mean scores for the speakers within one group were then compared with the scores across the different groups. Thus, frequencies of occurrence of each variant in the data were determined according to the individual's usage and across speakers. This was necessary because the pronunciations of the speakers can only be known if the statistical average of the usage is identified; although the speakers used a mixture of variables, they could differ across subgroups. This can therefore only be known when the overall frequencies of usage are calculated. Labov (1966) in the same way relied on the frequency of occurrence of the post-vocalic /r/ in the English of New York City English speakers.

4. EDUCATION DIFFERENTIATION

A statistical test was conducted to find out if there were any statistical differences among the three speaker groups. To determine this, each of the seven variants that were realised for the /ð/ and /θ/ were correlated with the socio-educational backgrounds of the speakers. This means that a one-way analysis of variance (ANOVA) was performed, coupled with a post-hoc test using Tukey HSD to find where the actual differences lay. Eta square values were also calculated to quantify the variations, and also to determine the margin of the differences. Before this a descriptive statistics was first used to examine the speakers' frequency of realising the two variables. Each of the seven variants of the two fricatives /ð/ and /θ/ was measured on a discrete scale. The variables were later coded, using a Test Analytics for Surveys (TAfS), a tool of Predictive Analytic Software (PASW) Version 18, which is normally used to code data and analyse verbatim responses to close and open-ended questionnaire. This helped to produce tables directly to facilitate the data interpretation. The results are presented in Table 1.

Table-1. Variation in the use of /ð/ and /θ/ by the three educational groups

Variables	Educational levels	Mean	Std. Dev.
Voiceless dental fricative θ-1	JHS	.48	.47
	SHS	.72	.71
	University	1.62	.66
Voiceless labiodental fricative 3-f	JHS	.38	.17
	SHS	.25	.16
	University	.17	.16
Voiceless unaspirated alveolar stop 4-t	JHS	1.12	.41
	SHS	1.35	.57
	University	.70	.39
Voiceless aspirated alveolar stop 5-tʰ	JHS	1.08	.51
	SHS	.61	.26
	University	.56	.45
Voiced alveolar dental 7-d̪	JHS	.08	.05
	SHS	.11	.02
	University	.09	.05
Voiceless dental fricative 1-θ	JHS	.13	.13
	SHS	.14	.20
	University	.36	.26
Voiced dental fricative 2-ð	JHS	.09	.17
	SHS	.29	.38
	University	.74	.56
Voiceless labiodental fricative 3-f	JHS	.06	.08
	SHS	.07	.08
	University	.03	.07
Voiceless unaspirated alveolar stop 4-t	JHS	.21	.14
	SHS	.22	.14
	University	.19	.16
Voiceless aspirated alveolar stop 5-tʰ	JHS	1.08	.48
	SHS	.64	.25
	University	.56	.42
Voiced alveolar stop 6-d	JHS	1.42	.08
	SHS	1.46	.16
	University	1.26	.32

Source: Field Data, 2013.

The analysis was done first by determining the normality of the data distribution. According to Ary *et al.* (2002) in a normal distribution the mean and the media are approximately equal. The skewness values must have a threshold of -0.5 to 0.5. As shown in Table 1, the skewness values were closer to each other and so were within an acceptable threshold of a normal distribution. The standard deviations were also moderate, indicating the non-dispersion in a widely-spread distribution. The moderateness of the standard deviations of the variables is also an indication of the speakers' common linguistic background (i.e. they come from a moderate homogeneous group, they are all Akans). They are a group with similar characteristics, meaning that the realisations of the variables by the speakers with university, SHS and JHS education in the study area were approximations to a normal distribution. The table below shows multiple comparisons of the three educational groups for /θ/.

To determine the statistical differences in the use of the variants across the three educational groups, a one-way analysis of variance (ANOVA) was performed. The speakers were put into three groups (Group 1: speakers with JHS education; Group 2: speakers with SHS education; Group 3: speakers with university education). The dependent variables were the voiced and voiceless dental fricatives [ð] and [θ]; voiceless labiodental fricative [f], voiceless aspirated and unaspirated alveolar stops [tʰ] and [t]; and voiced alveolar and dental stops [d] and [d̪]. From table 2 we can see that education has a significant effect for all the five variables [θ], [f], [t], [tʰ] used as variants for /θ/ pronunciation, except [d̪].

Table-2. Multiple comparisons of socio-educational background and /θ/

Dependent Variable	Educational Level		Mean Difference (I-J)	F-value	Sig.	Eta square (η²)
	(I)	(J)				
Voiceless dental fricative 1-θ	JHS	SHS	-.24	18.65**	.000	.40
		University	-1.14**			
	SHS	University	-.90**			
Voiceless labiodental fricative 3-f	JHS	SHS	.13*	7.93**	.001	.22
		University	.21**			
	SHS	University	.08			
Voiceless unaspirated alveolar stop 4-t	JHS	SHS	-.23	10.03**	.000	.26
		University	.42*			
	SHS	University	.65**			
Voiceless aspirated alveolar stop 5-tʰ	JHS	SHS	.47**	9.21**	.000	.24
		University	.52**			
	SHS	University	.05			
Voiced alveolar dental ḍ-7	JHS	SHS	-.03	2.16	.12	
		University	-.01			
	SHS	University	.02			

Source: Field Data, 2013.   **p<.01, *p<.05, Eta square (η2)

If we take, for example, the standard variant [θ], we see a strong significant difference at the level of (p< 0.01) for the three speaker groups with a significance difference of [F (2, 57) = 18.65, p = .000] with a large effect size of .40, calculated using eta square. A post-hoc comparison using a Tukey HSD test indicates that the actual statistical difference lies between speakers with tertiary education (university) and those with pre-tertiary education (JHS and SHS). But the difference between speakers with JHS and SHS education is, however, statistically insignificant with the speakers with university education recording the highest scores for this variant. The test has shown that the mean score for the speakers with university education (Mean = 1.62, Std. Dev. = .47) is significantly different from the speakers with SHS (Mean = .72, Std. Dev. = .71) and JHS (Mean = .48, Std. Dev. = .47) education for the standard variant [θ]. A similar thing can be said about the use of the non-standard variants, for example, [tʰ] and [t]. All the three groups vary significantly [F (2, 57) = 9.21, p = .000] for [tʰ], and [F (2, 57) = 10.03, p = .000] for [t] both at the p < 0.01 level. However, the Post-hoc comparisons show that the mean score for the speakers with JHS education (Mean = 1.08, Std. Dev. = .51) significantly differs from those with SHS (Mean = .61, Std. Dev. = .26) and university education (Mean = .56, Std. Dev. = .45) for [tʰ]. Meaning that for [tʰ] variant, the actual significance difference is between the speakers with JHS education; and those with SHS and university education, and that there is no significant variation between speakers in SHS and university groups. The speakers from JHS group recorded the highest score, and there is no significance difference between SHS and university speakers. Again for [t] variant, the test indicates that the mean score for the speakers with SHS education (Mean = 1.35, Std. Dev. = .57) is significantly different from those in the JHS (Mean = 1.12, Std. Dev. = .41) and university (Mean = .70, Std. Dev. = .39) groups. That is, the actual statistical difference is between the speakers with SHS education, and those with JHS and university education for [t] variant. There is however no significant difference between speakers with SHS and JHS education.

The choice of [f] variant, is however, not different from the others above. The test shows that although the three speaker groups differ significantly at [F (2, 57) = 7.93, p = .001], only the mean score of the speakers with JHS education (Mean = .38, Std. Dev. = .17) that differs significantly from the speakers with SHS (Mean = .25, Std. Dev. = .16) and university education (Mean = .17, Std. Dev. = .16), the difference between the speakers with SHS

and university education is insignificant. Here the speakers with JHS education used this variant more than those with SHS and university education respectively. There is however no significant different among the three groups for the use of [d̪] variant. The multiple comparisons of the speakers' education and the use of /ð/ is illustrated in Table 3 below.

Table-3. Multiple comparisons of socio-educational background and /ð/

Dependent Variable	Educational Level		Mean Difference	F-value	Sig.	Eta square (η²)
	(I)	(J)	(I-J)			
Voiceless dental fricative 1-θ	JHS	SHS	-.02	7.76**	.001	.21
		University	-.23**			
	SHS	University	-.21**			
Voiced dental fricative 2-ð	JHS	SHS	-.20	13.69**	.000	.33
		University	-.65*			
	SHS	University	-.45*			
Voiceless labiodental fricative f-3	JHS	SHS	-.02	1.27	.290	
		University	.02			
	SHS	University	.04			
Voiceless unaspirated alveolar stop 4-t	JHS	SHS	-.01	.11	.894	
		University	.01			
	SHS	University	.02			
Voiceless aspirated alveolar stop 5-tʰ	JHS	SHS	.44*	10.30**	.000	.27
		University	.53*			
	SHS	University	.08			
Voiced alveolar stop 6-d	JHS	SHS	-.03	5.12**	.009	.15
		University	.1*			
	SHS	University	.20*			

Source: Field Data, 2013. **p<.01, *p<.05, Eta square (η²)

Table 3 illustrates the pronunciation of the RP voiced dental fricative, /ð/ by Akan speakers of English from the three educational groups. From the table, we can see that education has a statistical effect, also for all the six variables [θ], [ð], [tʰ] and [d] that were realised as the variants of /ð/, except for [f] and [t]. Here we see that the groups differ significantly at [F (2, 57) = 13.69, p = .000] for [θ] and at [F (2, 57) = 13.69, p = .000] for [ð], both at a significant level of p < 0.01. The effect size calculated using eta square, for [θ] was .21, which is large. The post-hoc comparison conducted using Tukey HSD reveals that the speakers with university education (Mean = .36, Std. Dev. = .26) differ significantly from those with SHS (Mean = .14, Std. Dev. = .20) and JHS education (Mean = .13, Std. Dev. = .13) for [θ]. However, the difference between the speakers with JHS and SHS education is statistically insignificant. Meaning that the speakers with university education are the heaviest users of this variant. Similarly, for [ð] variant, the mean score for the speakers with university education (Mean = .74, Std. Dev. = .56) differs significantly from the speakers with SHS (Mean = .29, Std. Dev. = .38) and JHS education (Mean = .09, Std. Dev. = .17). Again, the difference between the speakers with JHS education and SHS education is statistically insignificant, and the speakers with university education obviously used this variant, /ð/ more than those with SHS and JHS education.

The three groups vary significantly at [F (2, 57) = 10.30, p = .000] and [F (2, 57) = 5.12, p = .009], also for the non-standard variants [tʰ] and [d] both at p < 0.01 level. The actual statistical difference for [tʰ] is however between the speakers with JHS education (Mean = 1.08, Std. Dev. = .48), and those with SHS (Mean = .64, Std.

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Dev. = .25) and university education (Mean = .56, Std. Dev. = .42) respectively. There is, however, no significant difference between SHS and university group for [tʰ], and between JHS and SHS for [d] variant. That is, the speakers in the JHS group used it more than those with SHS and university education. The test also shows that the actual statistical difference among the groups for [d] variant is between the speakers with SHS education, and those with JHS and university education. The mean score for the speakers with SHS education (Mean = 1.46, Std. Dev. = .16) is significantly different from those with JHS (Mean = 1.42, Std. Dev. = .08) and university (Mean = 1.26, Std. Dev. = .32) education. This means that the speakers with pre-tertiary education used the non-standard variants more than those with tertiary education. The speakers did not, however, differ significantly in their choice of [f] and [t] variants; meaning that education has no effect for the use of these variants.

This result is similar to what Adjaye (2005) discovered as the variants of the RP /θ/ and /ð/. She, for instance, reported that Ghanaian speakers of English used [ð], [d], [d̥], [v], [f], t], and [d̥] as the variants of /ð/, while [θ], [t], [t̥] [f]], [d] and [v] were used for /θ/. Wells (1982) also noticed a fallen together of [f] and [θ] as one sound in some accents of London Cockney making 'fin' and 'thin' homophonous. In East African English, Schmied (1991) claims that the RP /θ/ and /ð/ tend to be deviated in the direction of /t/ and /d/. For Schmied, using nonstandard variants of RP phonemes is a total deviation from the norm. These results, although seem to suggest that non-native speakers of English differ linguistically from the native speakers, they do not make it clear how they (non-native speakers) differ among themselves.

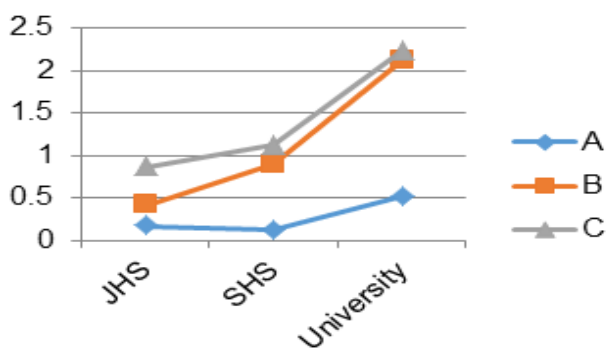## 4.1. Education and Stylistic Variation of /θ/
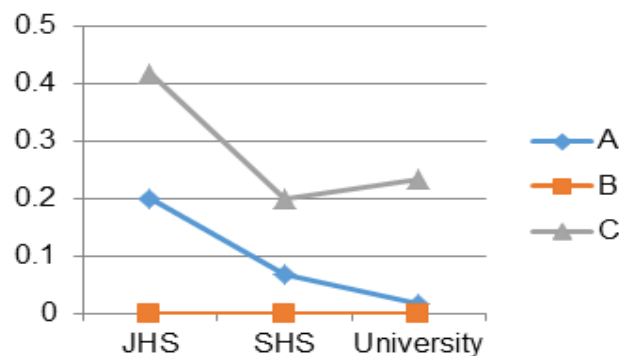

Fig-1. [θ]
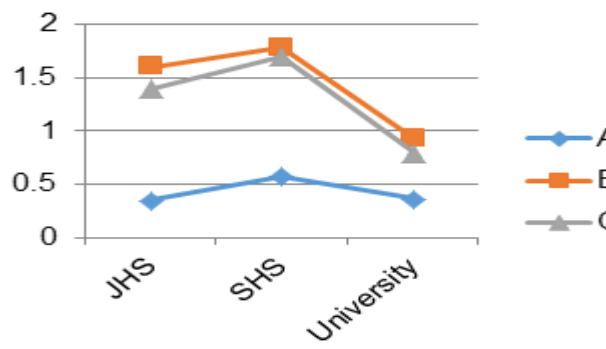
Source: Field Data, 2013

Fig-2. [f]

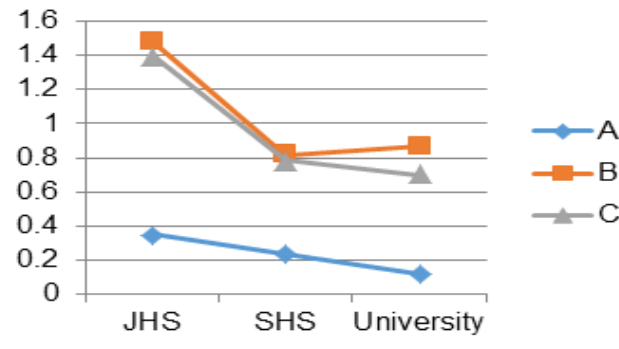**Source:** Field Data, 2013

Fig-3. [t]

Source: Field Data, 2013

Fig-4. [tʰ]

Source: Field Data, 2013

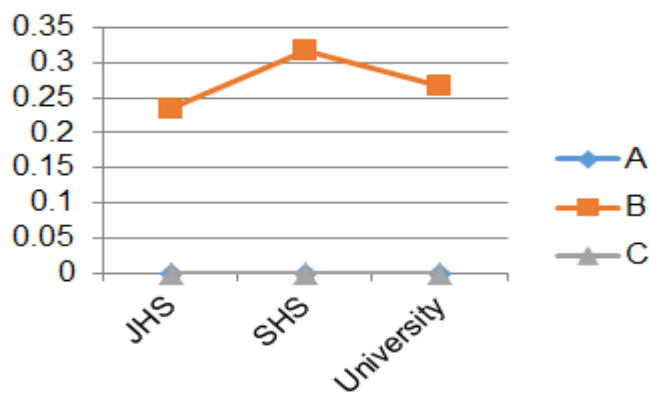**Fig-5.** [ɖ]

Figures 1 to 5 show a stratification of Akan speakers of English according to education and style for the RP voiceless dental fricative /θ/. The vertical axes show the mean scores of each of the five variables used by each of the three educational groups, while the horizontal axes show the level of education of the speakers. The lines, however, show the stylistic levels in which the variables were used. In all the figures, we see a clear separation of the speakers according to their levels of education, and the three stylistic levels: conversation, passage reading and word-list. The uniform direction of the lines with steady changing values for both the standard and the non-standard variants as the lines move from left to right shows a stratification of the speakers on the basis of education and formality. For example, in Fig. 1, we see a steady rise in value for the RP standard [θ] variant in all the styles as the level of education of the speakers increases from JHS though to university. There is, however, a decrease in the use of the non-standard variants [f], [t] and [tʰ] in Figures 2, 3 and 4 as the level of education of the speakers increases from JSH through to university. The voiced dental stop [ɖ] in Fig. 5, was however, used more by speakers with SHS education than speakers with JHS and university education.

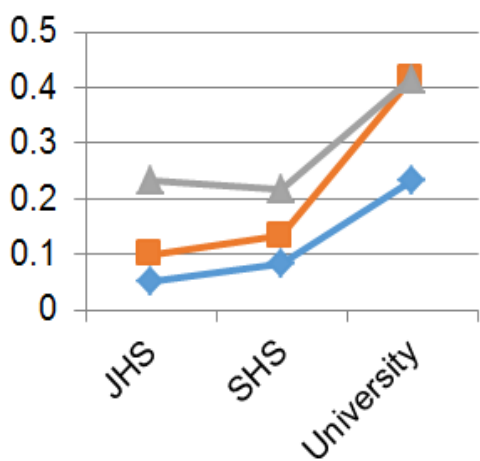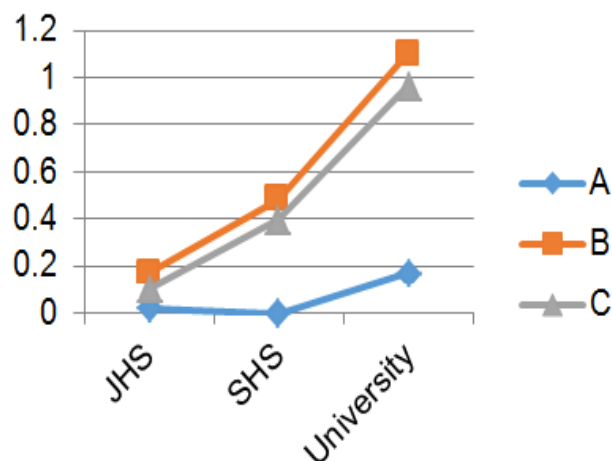## 4.2. Education and Stylistic Variation of /ð/

Fig-6. [θ]
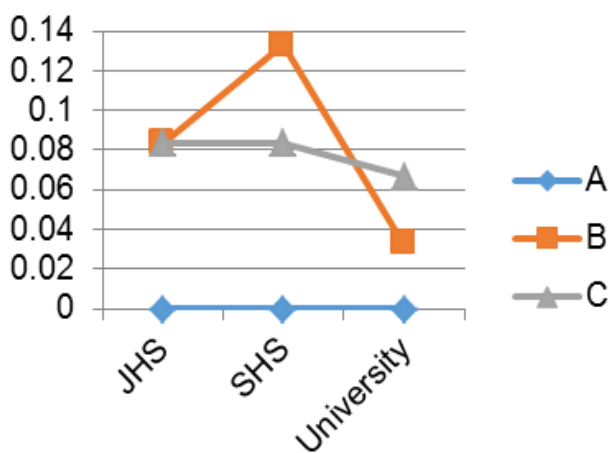
Fig-7. [ð]

Fig-8. [f]
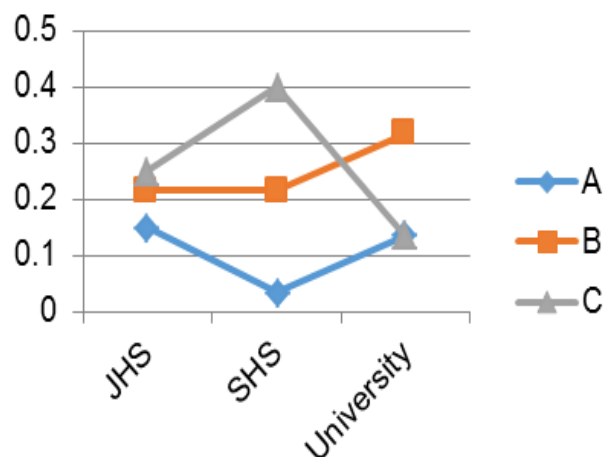
Fig-9. [t]
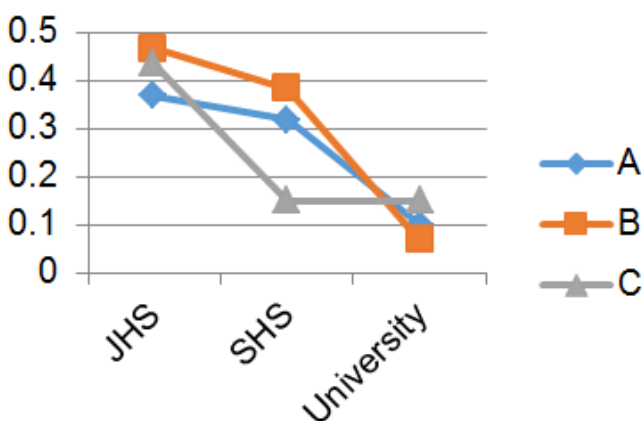
Fig-10. [tʰ]

Fig-11. [d]

Figures 6 to 11 also show both social and stylistic variation of the six variables that were realised as the variants of the voiced dental fricative /ð/. Again, we see a steady rise for both [ð] and [θ] var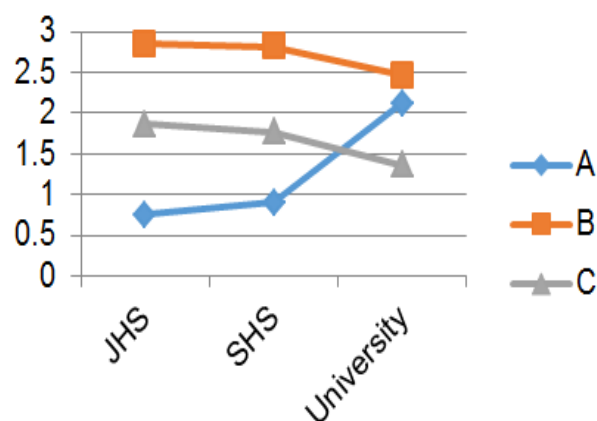iants in all styles: from A through to C, as the level of education of the speakers increases from JHS through to university; and as the level of formality changes from free speech to a more formal speech. Although the use of the nonstandard variants: [tʰ], [d], [f] and [t] appears to decrease as the level of education of the speakers increases from JHS thorough to university, the decrease is not steady across all styles as it is in the case of the [ð] and [θ] variants. There is a sharp unexpected increase in the use of [d] in style A by speakers with university education

The high preference for the RP standard variants [ð] and [θ] by the speakers with higher education shows how speakers consciously re-voice their social class through standard speech. The result therefore confirms Labov (1966) Social Stratification of New York City English, where he noticed a higher preference for the postvocalic /r/, the standard overt prestige variety, by speakers from lower-middle class. Labov is certain that lower middle-class speakers are aware of the social significant of /r/, the marker of upper-class; hence tried to accommodate to the speech pattern of their clients from the upper-middle class. The result, however, contradicts (Trudgill, 1974) where all his informants reportedly increased their usage of the standard variant [ŋ] in a more formal style irrespective of their class and gender, while decreasing the nonstandard variant /n/. Meaning that all Trudgill's informants recognised the prestige overt variety, and thus modified their choice towards them in a more formal style, which is however not the case in this study. There appears to be a high usage for even the nonstandard variants in formal styles, which suggests that the speakers are not so much conscious of the prestige variety, nonetheless, the higher the level of education of the speaker, the closer their speech will be to the standard variety.

5. CONCLUSION

The study has shown that Akan speakers of English have seven variant forms of the two RP voiced and voiceless non-sibilant dental fricatives /ð/ and /θ/. The voiced dental fricative, /ð/, as has been observed, has six variants [θ], [ð], [t], [tʰ], [d] and [f], while the voiceless /θ/ has five variants [θ], [t], [tʰ], [f] and [d̪]. This means that even though the speakers used several different sounds for the two RP phonemes, their use of the standard variants, [θ] and [ð], is a sharp contrast to what has generally been reported about non-native varieties of English. There were also other findings like the deletions of word-final /θ/ and /ð/ when followed by word-initial voiced alveolar stop /d/. For instance, the speakers made a dental closure instead of a narrow constriction for /θ/ and /ð/ either across word boundary as in 'birthday' or across sentence boundary as in '… with the…' Also, none of the speakers was able to realise /ð/ at word-final position with voicing. The word 'brea*the*' which generally, would have had /ð/ in RP, /briːð/ was generally devoiced to /θ/ by all the speakers; thus [brːθ] instead of /brːð/. Meaning that Akan speakers are unlikely to realise the voiced dental fricative /ð/ when it occurs at word-final position. Again, (th) words which are common in public domain were realised with dental fricatives more than those that were unfamiliar to the speakers. The realisation of /θ/ in the word 'think' [θɪŋk], for instance, recorded a higher value than it was in the case of 'Ana*th*ales*th*etic' [ənæθælsθɛtɪk] just as /ð/ in 'dither' [dɪðə] which had only few of /ð/ realisations.

The study also tried to find out whether the socio-educational background of the speakers had any significant effects on the use of the two RP phonemes. Thus, a statistical test (ANOVA) was conducted, and the finding has shown that the choice of each of the variants, mostly [θ], [ð], [tʰ] and [d], has been influenced significantly by the socio-educational backgrounds of the speakers. The mean scores of the speakers with the highest level of education (university education) is generally statistically significant from the mean scores of speakers with low level of education (SHS and JHS) for the two RP standard variants: [θ] and [ð]. The scores for the non-standard variants: [t], [tʰ], [f], [d̪] and [d], are, however, lower for speakers with university education than they are for those with lower level of education. There was also a general preference for [θ] and [ð] in a more formal style by speakers with high level of education than it was for those with low level of education. This, therefore, suggests that speakers with higher level of education are likely to have a preference for the standard variants, while those with low level of education will prefer the nonstandard variants. One can therefore conclude that education has effects on the use of the standard and the nonstandard variants of the two RP phonemes /θ/ and /ð/, and that the RP standard variants are likely to be a marker of education in the Akan variety of Ghanaian English. That is, the higher one's education, the closer their speech will be to the standard variety. It is, however, not clear whether Akan speakers with higher education, will in all occasions consciously exhibit this behaviour towards all RP standard variants. This is because the nonstandard variants, especially [d], appears to be used more by speakers with university education than those with low level of education even in a more careful style where speakers 'supposedly' pay attention to their speech. This appears to confirm Schmied (1991) that the nonstandard pronunciation features are retained even in the speech of the most educated speakers. I therefore recommend that more sustainable empirical studies that will lead us into more perspectives on Ghanaian English phonological variation be done.

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Appendix

A. The Word-List

These, thrifty, through, path, Thames, Anathalesthetic, they, python, the, Arthur, that, Mouth-Death, Macbeth, Macbeth, tooth, thrashed, Dither, together, with, Northern, breathed, breath, **Th**ompson, **Th**omas, Thoth, birthdays, their, brother, three, thirty-three, that, they, though, brother, tithe, them

B. Birthday Bike

Ar*th*ur and *Thoth*'s bir*th*day was coming soon, so their brother was asked to buy them *th*ree hundred and *th*irty-*th*ree bicycles so that they would never walk to school thereof. Though, their brother and mother had lost their job and did not pay their tithe because they did not have much money, Mr **Th**ompson and **Th**omas, their uncle insisted that the bike was bought for them.

One bright and sunny day while these little *th*rifty kids were walking *th*rough the pa*th* by the side of Thames to Ana*th*ales*th*etic School, they saw a big py*th*on boy on a boo*th* bike. The boo*th* bike was too small for the boy. As he was turning around a corner, the bike skidded on a puddle of water and crashed into a **lamp-post**. The boy was a prefect in the Ana*th*ales*th*etic School. Luckily, they recognised him. The boy's name was Mou*th*-Dea*th* Macbe*th*. Mou*th*-Dea*th* Macbe*th*s leg seemed to have been *th*rashed. Dither, the boys decided to pick up the bike together wi*th* the boy to a nearby Northern hospital. Unfortunately, he breathed his last breath.